Addis Ababa University

COLLEGE OF EDUCATION AND BEHAVIORAL STUDIES

DEPARTMENT OF CURRICULUM AND TEACHERS PROFESSIONAL DEVELOPMENT STUDIES

THE EFFECTIVENESS OF FARMER TRAINING CENTERS IN THE ECONOMIC LIFE OF RURAL ADULTS: THE CASE OF OROMIA NATIONAL REGIONAL STATES OF SOUTH WEST SHOA ZONE WONCHI WOREDA

Thesis Submitted to the school of Graduate Studies in Partial Fulfillment of the Requirements for the Degree of Master of Education in Adult and Life Long Learning

By- Bekelech Tesfaye

Nov, 2014
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List of Abbreviations

ADLI	Agricultural Development led Industrialization
BoARD	Bureau of Agriculture and Rural Development
DA	Development Agent
DVV	Deutschen Volkshochschul Verbandes
FTC	Farmer Training Center
FAO	Food and Agricultural Organization
FAL	Functionality Adult Literacy
IIZ/DVV	Institute for International Cooperation of the German Adult Education Association
KG	Kilo Gram
MoA	Ministry of Agriculture
MoE	Ministry of Education
MoARD	Ministry of Agriculture and Rural Development
GDP	Growth and Domestic plan
PA	Peasant Association
TNA	Training Needs Assessment
ToT	Transformation of Technology
SNNPR	Southern Nation and Nationalities peoples region
SMS	Subject Matter Special Experts
SWHISA	Sustainable Water Harvesting and Institutional Strengthening in Amara

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ABSTRUCT

The objective of this study to assess the effectiveness of FTCs training in the economic life of rural adults in Wonchi Woreda in terms of the implementation of FTC training, how adult learning principle and practice are considered, the contribution of FTC training to increase the income level of trained farmers and necessary equipment and materials. For this research the researcher used descriptive survey method. In this study quantitative research methods was employed. In the study both primary and secondary data sources were used. The samples were selected using systematic random sampling method. The techniques of data collection for the study were group focus interview which was prepared for farmers found in four selected FTCs in the Woreda. The questionnaires were distributed for Development agents, subject matter specialists and extension experts were also consulted. The result of the study showed that the training provided in FTC helped the farmers to progress the income level of trained farmers by increasing productivity. The farmers training centers training participation of women is very low. The training at FTC lacks materials used to learn best practices and experimental places. From these major findings it can be concluded that the effectiveness of FTC training in the Wored. Based on the above findings and conclusions the following recommendations are forwarded. To achieve the FTC objective of increasing the income level of trained farmers the training should be supported by practice, need to assign the training required number of DAs. The FTC training access should consider gender equality. Awareness creation has to be made to farmers about the relevance and effectiveness of farmers training at FTCs in different aspects and to generate more information in order to enhance the knowledge, skill and capability of farmers which help the farmers to use new technology and ultimately increase productivity.

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

The Ethiopian economy depends on agriculture and more than 85% of the country population live in rural areas. Rural development is the strategy designed to improve the economic and social life of the people living in rural areas (World bank, 1975). According to the Rural Development Policies and Strategies of Ethiopia (2001), one of the major ways of implementing modern farming methods was through extensive utilization of human labor 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.

Agriculture is the backbone of the Ethiopian economy and the Ethiopian government's strategy of transforming the country is dependent up on improving the productivity of agriculture. In this regard the establishments of FTCs are a cornerstone of the strategy through which new technology and better means of production is learned. According to the Ethiopian sustainable Development and Poverty Reduction program (ESDPRP), 70 % of the adult population is illiterate (MoFED, 2002).

The expansion of a comprehensive adult education system is essential to completing the learning continuum in Ethiopia, which is central to improving the quality of life of every Ethiopian. To this end, the Ministry of Education published in 2008 the National Adult Education Strategy (NAES) of which an integrated approach to Functional Adult Literacy (FAL) is a major focus.

The concept of integrated FAL has been defined in the Master Plan for Adult Education, which the Ministry has developed with support from international but in general terms it

seeks to link writing, reading and numeracy skills to livelihoods and skills training in areas such as agriculture, health, civic, cultural education, etc.

Such an approach requires delivery by various governmental and non-governmental service providers in multiple settings, and also ensured that literacy skills development is meaningful to the learners. Many examples such as, the basic skills or vocational training programs for youth and adults that are based on market demand in specific localities and that are linked to integrated FAL activities and to income generating and business opportunities show establishment of such linkages already exist in Ethiopia (MoE, 2011). However, in rural areas special poor farmer's access to education is still much lower and the quality of non formal education is poor and often irrelevant to change their lives (St.Mary, 2006; CSA, 2006).

Realizing the importance of educated and trained community, the government has formulated rural development policy, strategies, FTCs programs and plans and established about 18 thousand FTCs throughout the country to enhance the knowledge base of farmers and to provide the institutional framework for increasing the efficiency and effectiveness of agricultural advisory services (MoARD, 2006).

All woredas in the country have started constructing FTCs. Some woredas have already constructed the required number of FTCs. On the other hand, the FTCs were expected to serve as extension service and information, places where modular training to farmers from three up to six months to be given and also serve as sources of advice on projects. Local communities are expected to gradually takeover ownership and management responsibility for the functioning of the FTCs (MoARD, 2005; Birhanu and other, 2006).

Strategies set to poverty reduction is provision of equitable and quality basic education and for this targets have been set as education for All (Abdulahi, 2008). Agriculture is one of the best alternatives to change economic life of rural adult and also Agriculture is the most important enterprise, providing employment for more than 85% of the country's population and accounting for more than 40% of the total GDP and 90% of export earnings (Zeleke, 2000; Tsedeke, 2007). The strategy of establishing FTCs

across the country covers about 18, 000 kebeles . Since 2004 large numbers of extension agents have been graduated and assigned to FTCs accordingly (MoARD, 2005).

The Ethiopian rural population suffered from famines in the last many years. Recognizing this fact, the government's response include increasing the number of DAs through providing extensive training in agriculture and through the establishments of farmer training center (FTC) to transfer improved agricultural technologies and give adequate service at a close reach (MoARD,2006). To bring a realistic transformation of Ethiopian agriculture from the current subsistence to a market orientated production system, farmers need to improve their knowledge, skill and attitude. To do so, of the many support Service, agriculture extension plays a critical role, as it contributes to the development of the skill and knowledge of farmers to adopt new and improved technologies (Birhanu, 2006).

The transfer of technology (TOT) model conceptualized agricultural extension is the mechanism for information and technology delivery to farmers (Moris, 1991). The information obtained from Oromia region BoARD, also indicates that about 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. In case of this, the researcher intended to find out the effectiveness of farmer training centers to improve the economic life of rural adults, because the adult non formal education given in FTC `is one of the best strategies to eradicate low literacy rate and also to enhance the income level of trained farmers.

1.2. Statement of the Problem

Education is provided for rural adult in different ways such as informal and non formal and also given in different places to the farmers at school, farmer training center, and work place. In this study, the investigator focuses on the effectiveness of farmer training center to change the economic lives of rural adults because the education given at FTCs is one of the best strategies to eradicate low literacy rate and create modern farmers in rural area, especially adult literacy to enhance their income level (MoA, 2000).

According to the Ethiopian sustainable Development and Poverty Reduction program (ESDPRP), 70% of the adult population is illiterate (MOFED, 2002). Other studies show that only half a million of the labor force of the population has access to or are enrolled in education and training, and that about 25 million adults work in agriculture. Clearly the main sector of employment is lacking basic education, skills and technical knowledge (IIZ /DVV, 2006). On the other hand, Low adult literacy rate, lack of improved agricultural technology and in appropriate training system had been contributed for slow Growth of agriculture (BoARD, SWHISA, 2006 and Teddessa, 2007).

The Ethiopian economy heavily depends on the agricultural sector despite such an immense socio-economic importance, due to many natural and man-made factors, the agriculture performance is very low by many standards. According to the proposal (MoA, 2000), the objective of every farmer training center is to create farmer, who are business oriented, environmentally conscious, can make use of modern technologies and produce quality farm products.

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 training. Wonchi Woreda farmers training center is no more different from other woredas because the delivering system of training is almost similar in other Woredas of the region.

The purpose of this research is to find out the effectiveness of FTC in providing training skill to the farmers which ultimately improve the income level of farmers.

This study tried to see the FTC training implementation in the light of adult and non-formal education principles and practices which other researchers did not studied so far. Within the framework of statement of the problem given, the researcher try to answer the following basic research questions in the FTCs in light of adult and non-formal education principles and practices.

1. To what extent the FTCs training implemented in Wonchi Woreda?
2. What is the contribution of FTC training to improve the trained farmers' income levels?
3. Does the FTC training practice consider principles of adult learning?
4. How are the farmer training centers equipped, assigned human resources and fulfill necessary materials?

1.3. Objective of the Study

1.3.1 General Objective

To assess the effectiveness of farmers training center based training in the economic life of rural adults in Wonchi Woreda.

1.3.2 Specific Objectives

1. To assess the implementation of FTC training
2. To assess the contribution of FTC training in the income levels of farmers
3. To assess the practice of FTC training consider principles of adult learning
4. To assess how the farmer are training centers equipped, assigned human resource and fulfill necessary materials

1.4. Significance of the Study

This study is expected to be made useful information and provides feedback to policy makers and other interested groups about the effectiveness of FTC in improving the economic life of rural adults. The information could also help policy makers and implementers what to be improved. In this regard, assessing the organizational issues and constraints related to farmers training center has significant contribution in pin-pointing areas that need attention for future improvement.

In other words, no comprehensive research has been done in assessing the overall effectiveness of farmers training centers in changing the mindset of the farming community in the study area in particular. Since the study tries to address the problems related to inadequacies of the process at all levels, especially at grass root levels, and as no study was undertaken in the region concerning the issue, it is hoped that this study

will be relevant and will make significance contribution for those who will be interested in conducting similar research.

1.5. Scope of the Study

This study is delimited Oromia Regional State of South West Shoa Zone in Wonchi Wereda. In this study, an effort is made to analyze the effectiveness of farmer training centers in the economic life of rural adults.

1.6. Organization of the Study

This thesis has five chapters. The first chapter deals with the back ground of the study, statement of the problem, objective of the study, and significance of the study and scope of the study. The second chapter provides a review of relevant literatures and basic concepts and theories of effectiveness of farmer training centers are described .Chapter three deals with the description of the study area and discuss the methodology employed for data collection and analysis. The fourth chapter presents the results of the study and their interpretation. The final chapter includes summaries of the major findings, conclusions and recommendations.

CHAPTER TWO

2. REVIEW of RELATED LITERATURE

In this chapter related literature to the theme of the study has been reviewed. This section deals with the concepts which have relevance to the study are defined. In addition, the empirical studies which form the basis for the conceptual framework of the study are also reviewed.

2.1. Definition and Conceptual Frame work

2. 1.1 .The Effectiveness of FTC based Training enhances the Farmer's Knowledge and Farm productivities

Effectiveness refers to a measure of the extent to which a training activity achieves its objectives. Objective is a goal or end which describes what is to be accomplished if the training activity is to be effective. Whereas, relevance is concern with the degree to which the rationale, objectives and expected impact of a training activity are achieved or remain pertinent, valid and significant with regard to long-range objectives or identified priority needs and concerns (FAO, 1991). Kirkpatrick, (2006) suggests such thought and emphasis need to be given in designing trainings to make sure that the programmes are effective and relevant.

An effective training need to be problem oriented, need based, with measurable and achievable learning objectives that show changes in knowledge, skill & attitudes, changes in job performance and outcomes within given time; implemented in conducive adult learning requirements(methods and materials), with continuous follow-up where activities and results are monitored ,reviewed and evaluated for further improvement of the whole system.

For measuring effectiveness of training various approaches are suggested in literature. For instance Mohan, (2000) gives an update on one of the most popular techniques, the Donald Kirkpatrick model, which is one of the most popular methodologies, suggested four criteria to evaluate training programme: (1) reaction, (2) learning, (3) behavior, and (4) results. Each criterion is used to measure the different aspects of a training

programme. Reaction measures how the trainees liked the programme in terms of content, methods, duration, trainers, facilities, and management.

Learning measures the trainees' skills and knowledge which they were able to absorb at the time of training. Behaviors are concerned with the extent to which the trainees were able to apply their knowledge to real field situations. Results are concerned with the tangible impact of the training programme on individuals, their job environment or the organization as a whole.

About 18 thousand FTCs were planned to be established throughout the country (Habtemariam, 2007). One FTC at each PA serves as center of information, extension, demonstration, place where modular trainings are given, source of advice for the transfer of improved technologies, knowledge acquisition, area of linkage between research, extension and technology users and other institutional support services (FDRE, 2001; Berhanu, 2006). The farmers should obtain agricultural skill training both for their enhancement of knowledge and for improving their livelihood (MoI, 2001). These centers were established to raise level of indigenous skill and introduce new knowledge, acquire skills for the development of rural communities, help self employed and community development work and introduce basic technologies.

2.1.2. The Role of FTC to Improve the Economic Life of Rural Adult

The Ethiopian economy heavily depends on the agricultural sector despite such an immense socio-economic importance, due to many natural and man made factors; the performance of agriculture is very low by any standard. On other hand, Low adult literacy rate and in appropriate training system had contributed to slow Growth of agriculture (BoARD, SWHISA, 2006 and Teddessa, 2007) as cite in Wulata 2010.

According to Cornia as quoted in Flynn (2005) 85% of the labor force in rural Ethiopia is engaged in agriculture and three quarters of the population rely on it as their only source of income with the bulk of them being engaged in subsistence farming. This cultivated land holdings are usually only one hectare on average, which is barely large enough to feed the average family of five to six.

Active participation of farmer's in the training is necessary for success in rural development endeavor. 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. So training and education are useful instruments to make the rural people aware and act as subjects in the development process (Bari, 1987).

In the FTC guideline there are two aims mentioned for establishing training centers. The first is creating farmers well equipped with essential knowledge and skills which can enable them to use natural resource wisely, to produce market oriented agricultural products to be aware of market and increase agricultural products. The second is building up the country economy by improving the farmers subsistence living standard through market oriented agricultural production by making use of integrated agricultural knowledge of indigenous and modern technology (MoARD, 1997).

In Ethiopian situation, FTCs have many duties and responsibilities at a given community. Awareness creation of farmers can be made through agricultural package training at FTCs level. Orientation about given technologies, theoretical explanations, skill trainings and other types of meetings can be delivered in FTCs. Agricultural extension services, modular training that enable farmers to get market price information, knowledge sharing, counseling, advising services, permanent exhibition center, socio-economy data and demonstrating different improved agricultural technologies are the major functions that were supported to organize in each FTC (BoARD, 2007; Adebabay , 2008).

The agricultural extension service at the FTCs was expected to play an active role in linking farmers with other institutional support services such as input supply, credit, co-operative promotion, and agricultural produce marketing. To bring realistic transformation in agricultural extension service, farmers must be trained to improve their knowledge, skill and attitude towards deciding in their own affairs, access to information, exposure to improved farming and living practices (Birhanu, 2006).

Moreover, Birhanu (2006) noted that, FTCs are also expected to serve as hubs for the transfer of improved technologies, knowledge and skill development and the provision of other institutional support services. Overall, FTCs are designed to provide extension services required for transforming agriculture from the current subsistence to market-oriented production system. One of the specific policy measures to improve agricultural productivity and promote food security is agricultural extension service.

A key feature of this innovative policy measure is the deployment of extension workers to every rural PA in Ethiopia to facilitate sustained knowledge and skills transfer to smallholder farmers. However, in a situation where many farmers are illiterate, acquiring competence in production, adding value and marketing presents challenges.

They are expected to form an important node between extension and farmers in the agricultural sector (IFPRI, 2007)as cite in Biruk 2010. Specifically FTCs are expected to serve the functioning including regular extension service modular training, center for information on agricultural marketing, type and quality of marketable products with specific standards and prices, weather condition and forecast, demonstration of improved technologies and techniques and Advisory service etc.

Similarly Biruke Tefara said in his thesis currently, Farmer training Centers are designed to provide services of extension, trainings, demonstration, information, advice, etc at grassroots level. Modular training is one of the main functions of the centers.

2.2. Modular Training

Oromia Bureau of Agriculture and Rural Development (OBoARD, 2008) defined the modular training as a short term curriculum-based training in which training course materials are compiled in modules and provided for farmers to enable them acquire knowledge and skill of specific agricultural production methods. The main goal of the modular training is to enable farmers produce quality products and become competent in markets. This could be enhanced through skill-oriented farmers. The training is on specific agricultural production methods for a period of six months (MoARD, 2007). On top of this, the role of extension as Birhanu and others (2006) indicated, is more critical for commercial oriented farmers than for subsistence farmers. When farmers produce primarily for the market (both domestic and export markets), quality and standard of the

produce become much more important than during subsistence production, since competitiveness depends partly on quality of produce. Meeting quality of produce depends heavily on the use of the right technologies and methods of production.

2.2.1. Purpose of Modular Training

In Ethiopian situation, FTCs have many duties and responsibilities at a given community. Awareness creation of farmers can be created through agricultural package training at FTCs level. Orientation about a given technologies, theoretical explanations, skill trainings and other types of meetings can be delivered in FTCs. Agricultural extension services, modular training that enable farmers to get "Green Certificate", market price information, knowledge sharing, counseling, advising services, permanent exhibition center, socio economy data and demonstrating different improved agricultural technologies are the major functions that were supposed to organize in each FTC (BoARD, 2007 and Adebabay , 2008) as cite in Biruk 2010.

On the other hand, the purpose of FTC is to make a linkage with Institutions that give different services for farmers through FTC. And also different institutions in agricultural sector including rural micro-finance credit institutions, cooperatives, research centers, health clinics, schools, private traders and entrepreneurs can contribute to give technical, financial and institutional assistance. Institutions have important roles for farming communities. They deliver rules and regulations that can help to understand the cultural setup of people and strengthen community-based organizations. Institutions can have roles in quality control, pollution regulation, influence human behavior, reduce risk and uncertainty by establishing stable structure and build resilience to shocks that minimize transaction costs and address externalities (Ellis, 1999) as cite in Biruk 2010.

2.2.3. Phases of Farmers Training

2.2.3. 1. Planning Phase

This phase includes the first two broad stages of training: Need assessment and design and preparation of training. Need assessment is essential to determine what you want to achieve and design helps how you will achieve it. It is the curriculum development

process, which includes a series of steps that it followed and will help ensure consistent and effective training efforts Hassen and Amdissa, (1993) as cite in Wulata 2010.

2.2.3.2. Training Need Assessment (TNA)

The first component in developing a training program is finding out about the people to be trained and the type of training they need. This process and the information collected are usually called needs assessment. Needs assessment broadly defined, as a systematic process for establishing priorities and making decisions regarding programme planning, development and operations. It indicates what training should focus on and helps to define the training objectives. It also aids in the selection of the training activities (Swanson and others, 1997).

Beside this, TNA is a systematic way whereby training needs are identified, prioritized and selected for specific actions as part of training programmes and also prescribed to identify the training needs of the participants. Training need is a condition where there is gap between “What is” and what should be” in terms of their knowledge, skills attitudes and behavior for a particular situation or task in which they are involved. The gap is called “a problem” which usually occurs when a difference exists between “desired performance” and “actual performance”. The needs identification process helps the trainers in making sure that they have matched a training programme to a training problem (IRRI, 1990).

Needs assessment, whether it is conducted using local or donor resources, must produce tangible results and directly benefit the people involved in the Non-Formal Education (NFE) activities. If extension workers want to score some success in getting tangible results in development work, they must avoid the temptation of assuming that the people they are trying to serve are incapable of identifying and analyzing their needs and that they must do it for them. Such assumptions run the risk of turning people in to “objects” of development rather than in to active participants in the change process (Moleco and Richard, 1995).

Training is more effective in changing behavior, if it is related to ones actual work situation i.e. a felt problem, or a problem that is in some other way is experienced as

important or relevant. Individuals learn more when they themselves feel a need to improve or change than if they are "told" to learn something or change for reasons that are alien to them Hassen and Amdissa, (1993).

2.2.3.3. Objective and Content Development

This is the most important part in a training program after a need for training has been identified, the objective and content specifies what will be taught and how it will be. It provides the frame work and foundation of training taught. The first phase of curriculum development determines what will be taught that is the training content (Campbell and Barker, 1997; as cited in Tsion, 2008). Setting clear training objectives based on the identified participant need will yield fruitful results in training. If participants do not express a need for training, even after initial needs assessment interactions with the trainers, then there should be no training. Unfortunately, most training situations are devoid of training needs and objectives. Because, such training is, a delight in the number of workshops held in a given time, rather than in the impact of such training. Our belief is that trainers should be concerned more for the quality and outcomes of training interventions than in their number (Rama and others, 1993).

In converting needs into objectives, three areas of performance may be identified: skills, knowledge and attitude. Skills-related objectives indicate what the trainee can do, demonstrate or perform as result of the training. Knowledge-related objectives refer to the participants' ability to identify, define or describe given concepts as a result of the training. Attitude objectives are less easy to measure although it may be useful to make explicit the desired attitudinal change. The trainer and the trainees should understand and agree on the objectives of the training course. It is a useful technique for the trainer to refer to the course objectives at key times in the course to ensure that the trainees recognize how the training is progressing towards achieving the objectives. When participants know what is expected of them they can organize their efforts more effectively (Swanson and others, 1997).

Setting objectives is useful and important for a number of reasons. First, when there is no clearly defined objective, there is no ground for the selection and design of instructional materials and content. Secondly, trainers have to state training objectives

clearly so that they are able to say whether the training has been a success or not. Thirdly, clearly defined objectives provide participants at a given trainer encounter with the means to organize their efforts toward fulfillment of these objectives.

2.2.3.4. Training Methodology

A training programme 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 (Wentling, 1992; as cited in Mahlangu and Sekgota, 2005). Selecting an appropriate training method is perhaps the most important step in training activity once the training contents are identified. It is also good to use a variety of training methods throughout a training to maintain the interest of the trainees. There are a variety of methods and techniques for conveying information to trainees, 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 (Wentling, 1992; as cited in Burton *and* others, 2000; FAO, 1996).

According to FAO (1996) training methods can be grouped under three broad categories: presentation methods, where the trainer plays a leading role (e.g. lectures, demonstrations); interactive methods, where trainees interact among themselves as well as with the trainer (e.g. discussions, role play); exploratory methods, where trainees are involved in specific tasks either in groups or on their own (e.g. case studies, exercises).

According to Paulo Freire, the methodology applied to empower the trainees to learn specific and economic skills, integrated, oral communication is preferred to written communication. Dialogue is the key methodology. Trainees are encouraged to discuss in groups. To create the right mood, soliciting learners is done through brainstorming. Learners are also encouraged to consolidate what they have learnt through questions and answers, exposing them to demonstrations, media and role-plays and through the participation in the analysis of case studies. Trainees are also encouraged to genuinely involve and participate in problems identification, the planning and implementation of

tasks. Participation is central in Functional Adult Learning (FAL) program areas. According to Melesse (1997), participation is critical. Hence, through the vehicle of participation FAL empowers learners to help them develop new attitudes, values and practices towards education in particular and development in general.

2.2.2. Implementation phase

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

2.2.3. Monitoring and Evaluation Phase

Monitoring is an internal activity designed to provide constant feedback on the problem it is facing and the efficiency within which it is being implemented. It is continuous assessment of gathering information on all the aspects of a given duty. Evaluation is a periodic assessment of the relevance, performance, effectiveness and impact of a given activity in the context of its stated objectives which involves comparisons requiring information from outside the project in time, area and population.

To make the training process effective, the stages and the sub- stages of the cycle of training should be treated in the way that makes them productive and fruitful. Analysis of the various aspects of training should be undertaken by organizations, which deals with learning especially extension organizations. If activities of training process lack systematic and periodic efforts of reviewing the results of the program, it runs into the danger of becoming ineffective and unsustainable. Improvement of the program from time to time coping-up with changing conditions becomes difficult and even impossible. Thus, analysis of the program is very important for any future improvement.

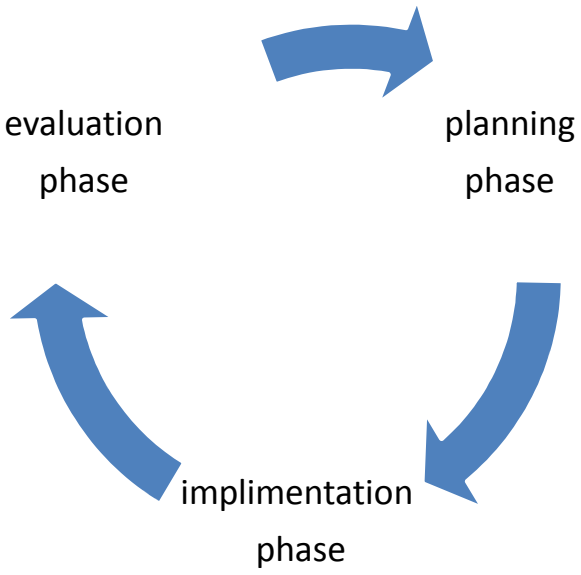

Figure: 2. 1. Training cycle

2.3. Organization of FTC-based Modular Training

According to the directive (MoARD, 2007), offered on implementation of FTC-based modular training, the training programme is organized as areas of training: FTC-based modular training is proposed in three broad areas of Animal sciences, Plant Sciences & Natural Resources Management taking up entire processes from production to marketing.

The training is designed based on a given marketable crops or livestock's commodity with comparative advantages in specific agro-ecological zones of our country. The rural development strategy divides the country into three main agro-ecological zones, which include regions with adequate rainfall, moisture stress areas and pastoral areas.

According to Engel (1989) the communication plans were designed and implemented jointly by extension field supervisors, subject- matter specialists and researchers. The involvement of specialists meant that the plans were backed up by a continuous

production of high quality extension materials, including, slide shows, booklets, brochures, a news letter and latter on a daily-video program providing views on meetings, demonstrations and research recommendations. These materials were designed to ensure easy accesses by peasant producers, women and children. For example, written materials used peasants' vocabulary for technical words. The communication plans significantly increased the number of small Farmers reached by the research- extension institute. For each area of specialization (specific production methods), training courses are designed. Each training course has a curriculum guideline with the goal of specifying the content of training keeping the logical sequence in appropriate theoretical and practical learning and application. Moreover, each course is divided into duties, each duty is sub-divided into tasks, each duty and task has got specific objectives, each task has training contents, duration, methods, aids and evaluation procedures. Course consists of 80% practical and 20% theoretical sessions.

To graduate in Green certification system, each trainee should attend the training two days per week, 6hrs per day 12hrs a week, 48hrs a month, totally 300hrs in six months.

Decisions concerning determination of training time and days should follow as per the agreement with trainees and trainers .The training methods are class room lecture and discussions with the aids of blackboard, flip chart, video show etc. Practical training in workshops wherein both trainers and trainees should practically work, practical demonstration in the field and also field visits and experience-sharing (MARD, 2007).

According to (Elias, 2001) time and experience makes a good facilitator. This is because learning by doing is the best way to learn to arrange of key characteristics that the most effective facilitators have. And also he said these characteristics can be attributed to peoples' personality or can be either learned or improved through experience and practice.

Criteria for trainee selection: According to Non-formal TVET Mapping Survey Report (2008), most non-formal TVET training institutions in Ethiopia employ a combination of criteria to recruit their trainees. Actually, these training centers have their own criteria for selecting their trainees. What is common to all institutions except

the private ones is being poor and having the interest and potential to be self- employed after completion of training programs. It is also mentioned that in farmers training centers, those that are willing and could be models for others are selected and trained.

Monitoring of modular training is conducted continuously by FTC/ PA-level extension unit and woreda level experts to make sure that, the required actions and practices are proceeding according to the plan. FTC level extension unit consists of PA chairman, PA manager, 3 DAs, representatives of women, youth and other two model farmers and are responsible for planning and implementation of PA level development activities including management of FTCs functioning (MoARD, 2007). Thus, woreda level experts Team (SMSs) together with FTC-level extension unit continuously monitor during implementation and provide technical backstopping if the team encounters a difficulty it should be reported to higher levels for flexibility and modifications for better adaptation.

2.4. Education and Training

Over all education and training are complimentary and course of education and scheme of training should be planned jointly to achieve the closest coordination of both processes. According to (Howe, 1985) the term education and training is the same, often used interchangeable making a distinction between training and education is nevertheless very important for curriculum development. Flippo (1961; as cited in Burton and others. 2000) differentiate between educations and training, locating these at the two ends of a continuum of personnel development ranging from a general education to specific training. In addition, extension education is generally the main, if not the only means for farmers' education in developing countries and is a specialized form of the broader concept of adult education (Arnon, 1981).Besides formal training, non-formal and informal learning opportunities are important in enhancing the capacity of farmers. Non-formal training is defined as any form of training for which the content and learning aims have been defined. This usually means training is based on well-defined curricula, either within or without an institution, with or without guidance from a teacher or trainer.

The effect of formal and informal training on farmer's income levels has long been analyzed in economics literature. Specifically, Anderson (1997) suggests that education and training are essential for managing and promoting the changes that bring sustainable development in the lives of farmers. Similarly, Kilpatrick (1997) showed that farm businesses with managers who had participated in more education and training is more profitable. Similarly awareness of possible innovations through mass media and contacts with expert advisers is proved to be leading superior outcomes.

According to different authors training defined as the process of providing knowledge, skills and bringing about desired changes in attitudes in order to improve the competence of people being trained. Van Dersal (1962; cited in Burton and others, 2000) also defined training as the process of teaching, informing, or educating people so that they may become as well qualified as possible to do their job, and (2) they become qualified to perform in positions of greater difficulty and responsibility.

Education or training is the main and supportive instrument for development and knowledge acquisition for a given country's citizen. To increase the productivity of farmers, that fastens the creativity and job creation at the same time social, economical, political participation and improvement of basic education is needed.

2. 5. Education Related to Development

The expansion of education is the main issue to bring sustainable development and increase the farmer's income level. The main contribution of general education to increased agricultural productivity it provides farmers with the basic skills, It improves rationality -making it easier to overcome traditional, social or cultural constraints which hinder progress, It increases inquisitiveness and thereby improves receptivity for new ideas opportunities, and methods. It changes values and aspirations, and there by strengthens the will to economize, and facilitates the adoption of new techniques. Education is a lifelong process and is not confined only to formal schooling. According to 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.

In general the importance of adult education or training for development is indicated by different scholars. According to Yalew (2005), Adult education is pre-requisite for development which is aimed at the balanced growth of the whole man, socially, economically and culturally. In addition, he quoted Rogers (1979:66) forgiving weight to the importance of adult education for development as cited in Ephram (2009).Education is the most important for the development of any countries.

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).

2.6. 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 and recurrent education (Seya, 2005) as cite in Fiseha 2009. The role of adult education in development is multi dimensional.

Indeed, as one of the building blocks of human development, not just a basic right and 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, in particular in Africa and the least developed part of the world. 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 adult) cite by seya (2005).

2.7. Participatory Training and Principle of Adult Learning

Participatory training is an educational process that is based on the assumptions of adult learning, deciding on what they want to learn and the best way to learn. It encourages participants to see themselves as a source of information and knowledge about the real world. It refuses to accept that people do not know anything, recognizes the value of popular knowledge and encourages people to participate in their own learning process. When they are encouraged to work with the knowledge they have from experience, they

can develop strategies together to change their immediate situation. Participants control the process of learning and trainers play the role of facilitators. Thus, this process gives participants a sense of empowerment and they start recognizing their existing knowledge and its value. In doing so, they become more open to and actively share responsibility for seeking new knowledge. This enhances the learning process and feeling of ownership of the knowledge. Thus, participatory training becomes a tool and a strategy for social change when people start valuing the process of collective analysis. So, the first task of participatory training is to create an understanding that change is possible, that it is possible to change one's situation.

The second task is to enable individuals and communities to identify what types of change they wish to achieve and how to go about attaining that (RISE, 2001). In regards to adult learning, Verner (1964) finds adult education difficult to define but succeeds in condensing his opinion into one sentence: "the term adult education is used to designate all those educational activities that are designed specifically for adults."

Besides to this, 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 that "Adults learn most rapidly when they have a strong desire to learn, a clear goals, put forth an effort to learn and 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).

2.8. Adult Education Contributes for Poverty Reduction

Bhola (2005) as cite in Aragaw 2010 stated that one of the Millennium Development Goals declared by the United Nations in 2000 was to reduce by half the population of people living in extreme poverty, by 2015. Adult education can and should contribute significantly to this development goal. As far as attention has been given to the contribution of adult education to the reduction of poverty; the trend has been to focus on literacy or basic education. Nevertheless, adult education is potentially much more than literacy or basic education. Successful contribution of adult education to poverty reduction programs includes also agricultural extension, vocational education, community development and training for active citizenship.

2.9. Adult Education for Livelihood Development

Sand (2005) as cited in Aragaw 2010 discussed that, adult and other educators have accepted that the skills of literacy are not ends in themselves but need to serve some purpose and practice that is important to their users. Thus, more specifically, livelihood restricts itself to the knowledge, skills and methods used to produce or obtain the food, water, clothing and shelter necessary for survival and well being.

Sand (2005) further stated that, livelihood seems more appropriate than either employment or income generating activities, because the majority of people in Africa who participate in programs with literacy components drive their living mainly for subsistence agriculture , often from the exchange of goods and services and rather than from earning wages or salaries. A livelihood can include more than one set of knowledge, skills and methods. For instance an agrarian economy, a woman may earn her family's livelihood by combining subsistence agriculture and horticulture on small plot of land with remunerated labor on a neighbor's land and with selling some of her produce as processed food in local market.

Further, the literature gives the impression that in most instances income-generating activities do not involve much systematic training, in ways that courses of vocational and technical education would. Instead, a learning group usually seems to undertake an

activity that is common, well known and established in the neighborhood and for which little additional instruction is given.

The Report on a project in Egypt preferred the term “Livelihood” rather than “income-generating activities” makes this important distinction. “Quite often the needs assessment identified the need for income generation opportunities of which vocational training might be apart .In additional challenge is not to confuse income generation with vocational training. Both are often important, but people developing vocational skills often need further support (such as with credit schemes and marketing) to be able to generate income” (UKDFID, 1999) as cite in Aragaw2010. In short livelihood /occupational training are not quite synonymous with income generating activities, even if the latter do require some training.

2.10. Agricultural Extension in Ethiopia

Extensions approaches are different from Country to Country and sometimes even within country from region to region. On the one hand extension can be viewed broadly as a multipurpose, educational and technical advisory service designed to bring about broad-base Agricultural and rural development. On the other hand, Agricultural Extension can be narrowly viewed as a technology transfer mechanism; sometimes dealing with only one commodity that involve input supply, credit and marketing service (Van Den Ban and Hawkins 1988)as cite in Aragaw 2010. According to Dejen (2002) agricultural extension is broadly defined to include any non - formal education system whose clients are rural people, and whose content is primarily agricultural.

The extension program in Ethiopia is a very recent development despite the long existence of the Ministry of Agriculture. It was transferred to Ministry of Agriculture in 1963 soon after it has started in 1954 under the Alamaya College of Agriculture along with research and education. Under the Ministry it passed through various programs like comprehensive package programs, Minimum package project (MPP), Peasant Agriculture Development Project (PADEP) and in1993 Participatory Demonstration and Training Extension System (PADETES) which was adopted to be the national agricultural extension system in Ethiopia in response to evaluation of previous extension strategies in the country (Dejen , 2002)as cite in Aregaw 2010.

According to the new agricultural extension system, execution of extension program is the sole responsibility of the Regional Bureaus of Agriculture and Rural Development (RBoARD) while the Federal Ministry of Agriculture and Rural Development (MoARD) has the mandate of formulating agriculture related policies, coordinating inter-regional development programs and/or projects, providing technical advice and training services to increase the technical competence of extension staff members of Regional Agricultural Bureaus. Thus, a decentralized extension system is envisaged for the realization of participation at grass- root levels (Aragay and Aune, 2000).

National Extension agencies were organized to transfer standard technologies to farmers throughout the country. Extension increasingly has been required to provide location-specific services to improve the management and efficiency of input use, conserve natural resources, support diversification and value-added production respond to community or farmer specific interests, and provide nonfarm information services relating to poverty reduction. Decentralizing extensions services helps to address many problems of extension by facilitating greater inter action with clients and improving the focus on local needs and opportunities (FAO, 2006).

These show that extension is a program of provision of agricultural information and technology to adult farmers run by regional sector bureaus in partnership with the ministry of agriculture with the intension of improving the living standards of the agrarian community. And the program was decentralized to be more responsive to the needs of individual communities.

2.10.1. The Current Policies and Strategies in Ethiopia

According to the current policies and strategies (2002) as cite in Aregaw 2010 PADETS which has the aim of achieving self-sufficiency in food production was adopted as national agricultural extension program and has been implemented since 1994 for realizing its objectives. This program is the agricultural sector's instrument of the strategy known as ADLI (Agriculture Development Lead Industrialization) which revolve around productivity improvement of small holder agriculture and industrialization based on the utilization of domestic raw materials with labor intensive

technology. ADLIs primary focus is agricultural development and this will be attended through improvement of productivity in small holdings and expansion of large-scale farming, particularly in low lands.

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

2.10.2. The state of Farmers Training Centers in Ethiopia

One of the reasons the Ethiopian Government has launched the Agricultural Technical Vocational Education and Training (ATVET) program, as one of the major components of rural development program is to implement the ADLI strategy effectively, since creation of skilled and productive workforce has largely been recognized as one of the major requirements to poverty reduction and advancement in rural development (MoARD, 1997 E.C) as cite in Aragaw 2010.

The ATVET program is aimed at raising the level of skills and productivity of labor force in the agricultural sector. The program is also designed to overcome diverse social constraints like the reduction of Unemployment and enabling trainees to utilize the available resources wisely and economically for social benefits (MoARD, 1997 E.C). The program is started first by providing agricultural training for students who completed 10th grade and above in ATVET colleges and then in turn using these graduates to provide basic training to farming communities by primarily targeting school drop outs in order to upgrade or enhance their capability to adopt modern farming technologies. In due course Farmers' Training Centers (FTCs) were established to provide extension service and junior level training to farmers with the vision of creating educated farmers.

In the FTC guideline there are two aims mentioned for establishing training centers. The first is creating farmers well equipped with essential knowledge and skills which could enable them to use natural resources wisely, to produce market oriented

agricultural products and to be aware of market and lucrative agricultural products. And the second, is building up the Country's economy by improving the Farmers' subsistence living standard through market oriented agricultural production by making use of integrated agricultural knowledge of indigenous and modern science and technology (MoARD, 1997).

2.10.3. The Management of FTCs of Ethiopia

According to FTC working guideline to fulfill the objectives for which the FTC stands and to help their beneficiaries achieve expected outcomes the centers organizational structure and management hierarchy should be short and clear (MoARD, 1997). Some relevant points related to organization from the above mentioned guide are summarized as follows: Ministry of Agriculture and Rural Development is responsible for policy provision and the designing of initial curriculum guideline for the Extension training (MoARD, 1997).

The RBoARD (Regional Bureau of Agriculture and Rural Development) is committed for giving various decisions on the FTC issues including where and how many of them should be built. This is in addition to its responsibilities of adapting the federally designed curriculum guide to the regional training needs, the provision of on job training for DAs and the approval of financial and material inputs for the implementation of the training (MoARD, 1997) as cite in Aregaw 2010. The WoARD (Woreda Office of Agriculture and Rural Development) allocates for FTCs, budget and regulates their activities. The FTCs are entitled to have their own internal management and needed to report to the WoARD. There are three DAs (Development Agents) assigned in every FTC and one of them will be appointed as a coordinator by the Woreda administration but he reports to be head of WoARD. Depending on the objective reality of each locality a center is proposed to be established for serving 800-1000 farmers on average.

The DAs should select Farmers who are diligent, representative to and accepted by the community and who are able and willing to teach what they have learnt in the centers back to their community in order to extend the extension education to the farming

community since the DAs could not reach all of the Farmers in a locality (MoARD, 1997).

2.10.4. Research on the Extension Training

Extension has an important role to play both in improving production efficiency and in promoting technologies to change circumstances and disseminate information on impact evaluation (Madhur, 2000) as cite in Aregaw 2010. Extension education or training had become a powerful instrument of change for bringing about socio-economic transformation of rural people in utilizing the latest scientific and technological innovations and technical knowledge (Pitchai, 2005).

According to Zeleke (2006) the Woreda Agricultural and Rural Developments Offices have agriculture- lead rural development as top priority agenda. There are strategies designed to enhance the realization of food sufficiency policy in the year 2015. The objectives are food sufficiency to alleviation of poverty. It is aimed at achieving agricultural productivity through the development of various agricultural programs: backyard vegetable gardening, poultry, carrying out agricultural Extension to encourage the utilization of imposed seeds, Fertilizers, and better farm technology including information. Environmental protection and development is the other area of focus for concerted action.

Various forms of NFABLP (Non-Formal Adult Basic Learning Programs) are planned and put in to practice to sensitize Farmers and create the necessary awareness. Farmers are empowered through learning by doing in various agricultural programs that are run and aimed at overcoming lack of food sufficiency and poverty. The development agents (DAs) are assigned to work with farmers in villages, teach and train farmers on various poverty alleviation agricultural programs. The DAs sell useful program ideas. Depending on multiple numbers of Government factors such as lack of resources and doubt of success in testing the newly introduced useful inputs. There are farmers most often limited to purchase the idea and apply them for better results. Usually failures in achievement discourage other Farmers who are supposed to be alert for the application (Zeleke, 2006). Also Zeleke commented the working mechanism the DAs used as top-

down. He said the bottom-up or hybrid of both approaches to allow the participation of Farmers to determine development agenda up on which sustainable development of target, Farmers for sustainable food self sufficiency is depended was over-ridden.

One of the major objectives of this paper is to see the effectiveness whole FTCs training using adult education participatory training implementation practices and principles as measures of the actual activities we have on the grounds. This was initiated due to so many criticisms given by researchers who examine the whole extension implementation. However, this tried to give more emphasis to the learning process. It is believed this much background can be enough to check whether the ongoing training is provision process is effective or not and if it is to perceive the level and magnitude of the contribution of training to improve the income level of trained farmers.

CHAPTER THREE

3. Research design and methodology

This section deals with the research method, source data and data type, sampling techniques, instruments for data collection, document review, procedure of data analysis and method of data analysis. The study was design by survey research method to obtain sufficient information on the issue.

3.1. Research Method

This study was conducted using quantitative research approach. The aim of this study is to examine the effectiveness of farmer training centers training program (the attitude of framers in adopting technology, implementation of FTC, practice of FTC training considering adult learning and the income level of trained farmer) among economic life of rural adults in Wonchi Woreda.

3.2. Study Area

This study was conducted in South West Shoa Zone Wonchi Woreda. South West Shoa Zone is located 114 km away from Addis Ababa. The specific woreda where the research was conducted is Wonchi which is at a distance of 9kms from the capital city of the West Shoa zone (Woliso). Wonchi Woreda is well known for its recreational place of Lake Wonchi. The Woreda population size is 93153 (Census commission, 2008, p.71). In Wonchi woreda there are 12 FTCs that have been established so far out of 23 Kebeles that are found in the Woreda. There are two agro ecological zones in Wonchi Wereda namely high land and semi highland.

Most of the FTCs established provide skill based education by training to the farmers in three areas such as plant science, animal science and natural resource management. Although the delivery system of training is almost similar in other woreda of the region, Wonchi has been chosen because of its relatively potential crops, livestock commodities and marketing facilities.

3.3. Data type and source

To undertake this study the researcher used both primary and secondary data to obtain essential information about the current issues of the effectiveness of farmer training centers. Primary data were collected from subject matter specialists, Development agents, extension experts, and both trained and untrained farmers. These data collected by using different techniques such as structured, semi structured interview, open and closed end questionnaire. Secondary data were collected from books, journals, reports, magazines, website and documents.

3.4. Study Population

The study population comprises DA, DA supervisors, subject matter specialists, farmers, youth association and women cooperatives. Agricultural and rural development offices were also additional source of data.

3.5. Samples and Sampling Techniques

Sampling is usually used to select representatives from the large population. In this case sampling is powerful determinative mechanism of the total study because the information to be gained from the sample will be representing the total population. It is also very important that sampling frame has to be as comprehensive as possible to minimize information distortion.

In this research the researcher selected 4 FTCs from 12 farmer training centers established in the Woreda. The selection of 4 FTCs was based on the agro ecological zone in which the FTCs are established. The researcher purposely selected 2 FTCs from high land and 2 FTCs from semi high land. In each FTC there are 72 trained and 72 untrained farmers. The total sample frame of the farmers would have been 480 farmers. Gay (1987) suggests for small populations (under 1,000), possible to use a large sampling 30% population to make the sample representative and get reliable results. From the total 480 farmers from 4 FTCs the researcher randomly selected 30% sample size which is 144 farmers. The sample of respondents 144 farmers have been selected randomly out of 480 farmers. The other sample respondents included in this research were 12 DAs working in the selected FTC and 16 SMSs in the woreda Agricultural and Rural

Development office and extension experts working in plant science, Animal science and Natural resource management department. Since the number of DAs in selected FTCs and experts in the three aforementioned departments is limited the total population. The total samples for focus group interview is 144 farmers.

Table: 3. 1. Sample Size

Kebele	FTC	Population size			Sample size		
		Trained	Untrained	Total	Trained	Untrained	total
Haro wonchi	1	6o	60	120	18	18	36
Waldo talfam	1		60	120	18	18	36
Dulele bilacha	1	60	60	120	18	18	36
Balballa	1	60	60	120	18	18	36
Total	4	240	240	480	72	72	144

3.6. Data Collection Instruments

The researcher employed multiple instruments to obtain valuable data for the study. These included questionnaires, interview, and focus group interview and document review. For primary data, semi-structured interview and questionnaires were used. The entire question was translated in to Afaan oromo to make easy understanding. Secondary data were gathered from different sources such as WARD report, magazines, internet and modules. Four enumerators were selected from the study area and they had taken training in March 10, 2014 for administering semi-structured interview. The questions were given for three DAs, two who were graduated adult education and Agriculture extension, two extension experts and they answered all the questions and an essential amendment was made based on such comments. After formulating the instruments, necessary editing has done for its validity, consistency and clarity, based on a pre-test of purposely selected respondents.

Questionnaire

Questionnaires allow the researcher to collect large amount of data in relatively short period of time. The questionnaires comprise mainly close ended and open ended. Thus close ended item is used for the reason that they are easier to categorize the response gathered. The item such as likert scale and option (choose) type would be undertaken because they are suitable and quick for respondents to answer. Moreover they are easy to data analysis, using statistical technique. On the other hand, open ended questionnaires are used to enable the respondents to express their feeling and perception related to the issue without any restriction.

A questionnaire which includes respondent background was employed as the main source of data collection. It was used to collect data from the expert and DAs about the different aspects of the implementation in the study area.

Interview

Focus group Interview was held with trained and untrained farmers. For Focus group Interview the researcher organized farmers in to 4 groups at each FTC according to the range of their age, sex and trained or untrained farmers. Interview was carried out with those assigned at the position of Woreda level. A semi-structured interview guide was used to obtain detailed information about the overall picture of the implementation of the ongoing training which helped much to complement and supplement the data obtained through questionnaires.

Documentary Source

Secondary data were gathered from different sources such as thesis dissertations, internet sources, training guidelines, training manuals, modules, reports, different magazines, lesson plans and teaching materials.

Research Ethics

The researcher attempted to deal with the issue of ethics that rise through data collection primarily by asking the permission of informants when interview is conducted and questionnaires are distributed to respondents. Ethical considerations strictly followed in doing this research for confidentiality of data gathered, informants of the study and anonymity of the informants in writing the report.

3.7. Procedure for Data Collection and Analysis

The researcher collected data from sample study area by using questionnaire and interview. The data were analyzed, first manuscript of questionnaire and interview were critically checked and made relevant as commented by the thesis advisor. Based on the significant suggestion and comments forwarded, valuable items were amended, other items were added and irrelevant items were rejected. The rectified and modified questionnaires were distributed to subject matter specialists, extension experts and DAs. The information helped the researcher to avoid any ambiguity or misleading questions and finally to take corrective measures before the final study make on the content, wording and sequence of the questions. Following this, the prepared questionnaires were distributed for extension experts. Furthermore, the researcher conducted pre-test study with FTC objective, supervisors and extension experts from FTC up to Woreda via questionnaires. Finally, document review was made to get more data and to cross check the information gathered.

3.8. Method of Data Analysis

Based on the objectives of the given study and nature of the data available, different data analysis methods were required using different approaches. The data were analyzed using descriptive statistics like, frequency and percentages.

Chapter Four

4. Data Presentation, Analysis and Interpretation

The purpose of this chapter is to present, analyze and discuss the data which were collected the study of the effectiveness of farmers' Training Centers based training in HaroWonchi, Waldotalfanm, Dulelebillacha and Balballa kebeles in 2014. The data were collected through interview, questionnaires, formal and informal discussion with farmers. Questionnaires were distributed to 16 subject matter specialists, 12 Extension and development agents. Both trained and untrained farmers were used as a sample groups. Related questions were treated together in table. All of the questionnaires were properly responded returned and used in the analysis. The data was organized using tables and followed by discussions. The responses given and the subsequent analysis made are expected to be adequate to draw conclusions for the study.

The demographic characteristics of trained and untrained sample respondents in this study include, sex distribution, age category, land holding , education status and number of cattle owned. The results of analysis of the effectiveness of FTC-based training in terms of the contribution of FTC training to improve the income level of trained farmers, to what extent FTC training is implemented, fulfill necessary equipment and training at FTC and how the FTC based training consider adult learning principles and practice are presented and discussed section by section.

4.1. Background of the Respondents

In order to provide a clear image about respondents who were involved in the study, some major characteristics of them are presented in table 4.1.

Table: 4 .1.Background of the respondents

No	Character	Category		Frequency	percent
1	Sex of the respondents	Trained	M	60	92
			F	12	8
		Untrained	M	60	92
			F	12	8
		Total	M	120	87
			F	24	13
		Total		144	100
2	Age of the respondent	15-35		70	49
		36-50		59	41
		51-74		15	10
		Total		144	100
3	Status of education of the respondents	Grade1-4		45	31
		Grade 5-8		74	52
		Above grade 9		25	17
		Total		144	100
4	Land holding by hactor	0.5		76	53
		1-2		50	35
		Above 2		18	12
		Total		144	100
5	Number of cattle owned	1- 3		50	34
		4- 6		60	42
		Above7		34	24
		Total		144	100

source : survey 2014

Table: 4. 2. The respondent view about the FTC training implementation

Item		category	Frequency	Percent
1	The facilitators ability in coordinating training program	A D	120 24	85 15
2	The sufficiency duration given for the training at FTC	Yes No	110 34	75 25
3	The accuracy of selection criteria of trainee farmers `	A D	120 24	87 13
4	Is the training time or seasons favorable for the trainees?	Yes No	86 58	74 26
5	Does the FTC teaching learning process consider adult learning principle?	Yes No	134 10	96 4
6	The training method is consider the principles of FTC training balanced theory and practice	A D	80 64	55 45
7	Preference of trainees to interval teaching method of leaning	A D	120 24	85 15
8	The trainees are actively participating in training?	Yes No	94 50	66 34
9	Is there necessary equipment and materials at FTC?	Yes No	95 49	65 34

Source : survey 2014 A- agree D- disagree

4.2. 1.Respondents View about the Coordinating Ability of the Facilitators of the FTC

The majority of the respondents, 85% (120) agree that the facilitators have good coordinating ability. They indicated that the facilitators were regularly coming to the centers and give necessary service. Few of the respondents, 15% (24) they disagree that in that the FTC facilitators sometimes do not coordinate well. The respondents further explained that the training was interrupted time and again for different reasons like DAs' and trainee farmers' unpredicted labor campaigns and meetings called by PAS and WARD. Furthermore the trainees said that the facilitators had a good conduct and they were respected by the community. These also shows the agreement of respondents on facilitators' response with related to trainee, their working in unison, cooperativeness with others, good conduct and respect they had from the community at large. These characters are some of the necessary characteristics of good facilitators mentioned in Aceng, (2006) and Elias (2001).

In some literatures there is evidence that the training facilitators should have a coordinating ability to effectively implement the training activities.

4.2.2. Respondents view about the sufficiency of duration given for the Training at FTC

According to majority, 75% (110) respondents agree that the time allowed to take modular courses is sufficient. Some of the respondents, 25 % (34) said that the time given is not sufficient. From this it can be concluded that the time allotted to the training at FTC is enough for effective implementation of the modular courses.

4.2.3. Respondents view about the criteria for selection of the trainee farmers

Regarding trainee farmers selection, majority of the respondents, 87 % (120) said that yes the existing trainee farmers' criteria selection are accurately implemented. Few, 13% (24) of respondents said that the existing trainee farmer's selection criteria are not clear. Those that denied the accuracy of the selection criteria reasoned out that the selection segregated the illiterate or it is only for literates". The majority of respondent view also

indicates strong agreement of respondents'. The respondent's idea through interview strengthens this response. The trainee farmers agreed that every farmer had equal right to access the training being given in the FTCs.

4.2.4. The FTC teaching learning process consider principles of adult learning

Majority, 96 % (134) of the respondents that agree the training at FTC consider adult learning principles. According to majority of the respondents the FTCs training is need based and most of the respondents agreed that the training had a problem-solving nature. Few of the respondents, 4 % (10) disagree that the training at FTC does not consider adult learning principles because sometimes it does not assess the need of the trainees. Majority of the respondents indicated strongly interested in the training they were receiving in FTC.

4.2.5. The respondents view about the training method in the FTC training

As far as training methodology is concerned, practical and theoretical balanced techniques were 50% for both proportions. However 55% (80) of the respondents indicated that trainings were carried out more on theoretical parts of the training content. The respondents replied that the training system was more of class lecture. Nearly half of the respondents 45 % (64) replied that the training styles were proportionally both theoretical and practical.

According to Ministry of Agriculture and Rural Development of Ethiopia the training methodologies were mixed type, group discussions, demonstrations, and field visits. Practical training both trainers and trainees should practically work, practical demonstration in the field, field visits and experience-sharing is the most important to make easy understanding to farmers (MARD, 2007).

However, trained and untrained sample households revealed that they need practical training and technical support from experts and DAs on improved technologies while performing their farm operations in the field and at home during production seasons. This is in line with Phil (2007) as cited in Ranjan (2008) who noted that, the aim of farmers training is not just to impart knowledge and skills in short intensive training

courses, but to involve rural people in the development activities through a continuous process of learning week after week. It was also understood from interviews WARD office that there were improvements made in certain products like maize, potatoes, barley, wheat and Teff.

4.2.6. Respondents view about the training styles preferred for trainees

Majority, 85% (120) of the respondents agree that more preferred training style is the interval style of training. The interval style of training is preferred by the majority of the farmers because the farming activities are seasonal and off-seasons are the proper time for training. While few number, 15% (24) of respondents chosen the continuous training approaches or styles of the training because some farm practices need day-to-day activities. From this it can be concluded that the interval training approaches is a better practices to be adopted in FTC training as the farmers are busy in peak seasons.

4.2.7. Respondents view in the active participation during the FTC training

Majority of the respondents, 66 % (94) replied that the trainees were actively participate during the training. Majority of the respondents indicated that the trainees actively participate during the class room training. On the hand, 34% (50) of respondents indicated that the trainees sometimes do not actively participate in the training. This indicated that for effective rural development, active participation of rural people in the development process is essential.

4.2.8. Respondent view in the training time or season's favorable to the trainees

Regarding the favorable season or time of training to trainee farmers, majority of the respondents, 74 % (86) agree that the time is favorable for trainee's farmers. Few, 26 % (58) of the respondents indicated that the season or time of the training is not favorable time. However, discussions made with experts in relation to this topic confirmed this event was a pain staking lesson acquired through experience. It was acquired as the result of two previous rounds' seasonal character of trainees in attending to the learning.

The two main reasons identified were seasonal migration of farmers to peak seasons for certain crops harvest. According to farmers responses no trainees used to show up to training centers in December and January due to harvesting time. After this lesson, the region programmed two training sessions cut back into one per year and this gave freedom to select seasons that is appropriate to the trainee farmers. The regional experience of taking a lesson from faulty practices is a good one but it was possible to learn from relevant best practice and principles rather than merely following a utilitarian approach (BoARD, report).

4.2.9. Respondents view about FTCs Necessary Equipments and Materials

Regarding the necessary equipment and materials, 65 % (95) of the respondents agreed that equipments and materials such as table, module, black board and teaching aid chart were fulfilled in FTCs. On the other hand, 35 % (49) of the respondents disagree that the necessary materials and equipments aforementioned above were not fulfilled in FTCs. Pertaining to the standard of FTC, all FTCs established in the woreda need telephone service, latrine separated for male and female, video conference, television and internet service. To achieve the FTC objective, FTCs should be equipped with different equipments to provide expected activities. Therefore it can be concluded that FTCs established in the woreda do not well furnished with all necessary materials and equipments that facilitate effective learning and teaching process at FTCs.

Table: 4.3 Respondents view about the comfort ability of FTC environment to trainees and the contributions of training

Item		Category	frequency	Percent
1	The training room comfortably to trainees?	A D	126 18	88 12
2	What are the contributions of the FTC training to improve income level	High Low	93 51	72 28
3	How do think about the adoptability and affordability of technologies and farm inputs provided to the farmers?	High Low	77 67	53 47

Source: survey 2014

4.3.1 Respondents view about the comfort ability of FTC environment to trainees

Majority, 88% (126) of the respondents agree that the FTC environment is very comfortable and attractive for trainees. Few of the respondents, 12 % (18) disagree that the FTC environment comfortable for trainees.

In this regard majority of them agreed that the training centers are both comfortable and attractive to them. Some respondents confirmed that the training room is not comfortable.

From this it is possible to understand that the trainees were comfortable with the training rooms and centers. The farmers explained that each of the four FTCs has well completed blocks of houses and fences and well equipped with the necessary furniture and lacks ICT and video conference. Most of the trainees indicated that training centers were suited nearly at a central location in the PA. This is one of the strongest aspects of the FTC training.

According to Non-formal TVET Mapping survey Report (2008) relevant training requires equipment that could serve market needs and training standards and training institutions need land for constructing workshops, classrooms and organizing different types of services for trainees and generally training centers are expected to be attractive by creating an enabling environment for trainees.

4.3.2. Respondents view about the contributions of FTC training to improve farmer's income level

Majority, 72% (93) of the respondents replied that the FTC training have a high contribution to improve farmer's income level. Other, 28% (51) of the respondents said that FTC training has low contribution to improve the income level.

The importance of training on promoting commercial crop commodities like onion, potatoes, barley for beer, honey, tomatoes that need intensive agricultural technological

interventions. On the other hand such commodities are also highly responsive to improve management practices for which farmers are easily persuaded on new interventions being gross margin outweighed production costs. According to majority farmer training centers respondents the study area was very specialized place to produce organic honey because of this the farmers used modern bee hive. The trained farmers get more profit than untrained farmers the product of honey from modern bee hive get 58 KG in one time (WWARD, 2006) reports.

4.3.4. Respondents View in the Adoptability and Affordability of Technologies and Farm Inputs provided to the Farmers?

Regrinding about the adoptability and affordability of technology, 53 % (77) replied that the technologies and farm inputs are adoptable and affordable. They are interested about the technologies and inputs they are provided with. According to the respondents, many technologies and farm input provided to farmer through farmers training centers such as modern bee hives, new varieties of seed, and new system of animal fattening are easily adoptable and affordable. Other respondents, 47% (67) indicated that societal attitude is not changed to adopt new technology and the price of technologies and inputs are relatively expensive than local technologies and local inputs. The respondents explained that new technology is very important but it needs detail understanding and skill to use. According to (MoARD, 2007) FTC training can make use of modern technologies and produce quality farm products.

4.2. This section covers the analysis of data gathered through questionnaires from respondents of subject matter specialists, development agents and extension experts

Table; 4.3 Respondents view in the FTC training practice

Table; 4.3 discusses about the FTC implementation in terms of training access, assigned development agents, how technology is delivered to farmers, and FTC linkage between research centers, fulfill necessary equipment and materials.

Items	category	Frequency	Percent
Equal right to all farmers in getting training access	SA	8	30
	A	8	30
	D	6	20
	SD	6	20
Any kinds of technology delivered to farmers consider the farm area agro ecology condition?	Yes	25	90
	No	3	10
Fulfillment of all FTCs in the woreda with the necessary equipments and materials	SA	14	50
	A	9	34
	DS	3	10
	SD	2	6
Assignment of well trained required number of development agents (DAs) in FTCs	SA	2	7
	A	1	3
	DA	17	61
	DS	8	29
Is there a linkage between farmers training centers and research center?	Yes	3	10
	No	25	90

Source: survey 2014

Regarding the training access, 57% (16) of the respondents replied that they strongly agree and agree about the FTC training access but lack of gender equality. Nearly half, 43% (12) of the respondents replied that in the FTC training the farmers have not equal access of training.

Regarding the necessary equipments and materials, 84 % (23) of the respondent agree and strongly agree that FTCs have fulfilled necessary equipments and materials such as table, module, black board and teaching aid chart. On the other hand, 16 % (5) of the respondents replied that they disagree and strongly disagree. According to the WWARD office executive manager explained all FTCs established in the woreda need telephone service, latrine separated for male and female, television and internet service. To achieve the FTC objective, FTCs should be equipped with different equipment to provide expected activities.

As it is show in the table 4, about 90 % (25) respondents they strongly disagree and disagree, in that the farmer training centers have no the training required numbers of DAs. On the other hand, 3% (1) of the respondents agree and 7 % (2) of the respondents strongly agree. The respondents explain the reason for lack of the required number DAs is that the Development Agents migrate to other jobs in order to get better salary. And hence all farmers training centers have faced lack of facilities for employees.

The majority, 90 % (25) of the respondents strongly agree and agree that about technology delivered to farmers depended on agro- ecology zone of the woreda in the high land area from new crops option such as wheat, barley, potatoes for both season summer and winters, livestock's option and modern bee hives. The technology delivered for farmers in the semi high land from new verities crops such as Teff, Maize, sorghum, onion, wheat, tomato, potatoes, livestock and modern bee hive afford for both. Few numbers, 10% (3) of the respondents replied that the technology delivered to farmers do not consider the farm area weather condition.

Majority, 90% (25) of the respondents said that there is no linkage between the research centers and the farmers training centers. Those respondents that confirmed the absence of linkages between the two centers further explained that there is no research center at

the vicinity of the farmers training centers. And they also explained that the technologies and inputs provided from the distance research centers do not confirm the adaptability to the specific agro -ecology conditions of the farming areas. Few, 10% (3) of the respondents said that there is linkage between the research centers and the farmers training centers. Ato Daraba from WARD office executive managers , said that not only the linkage FTC with research centers but also the main cause of the failures of improved variety seed from distance is lack of research centers in the vicinity area.

Table: 4. 5 Respondents view about the FTC training changed trained farmers Livelihood, enhance Farmer's attitude, increase income level and status of training

Question	Categories	Frequency	percent
To what extent the trained farmers in FTC have changed their livelihood	VH	14	51
	H	8	29
	M	2	7
	L	3	10
	VL	1	4
How the attitude of farmers is changed to adopt new technology?	VH	16	57
	H	8	33
	M	2	7
	L	1	3
	VL	1	4
What is the current status of FTC training implementation in the Woreda?	VH	10	36
	H	10	36
	M	4	14
	L	3	11
	VL	1	4
How the training help farmers to improve their income level?	VH	10	36
	H	11	40
	M	1	3
	L	3	10
	VL	3	10

Source : survey 2014

Regarding the change in farmer's livelihood after getting training in FTC, 80% (22) of the respondents replied that the trained farmer's livelihood has changed high and very highly. The others, 7 % (2) of the respondents said that the change in livelihood is medium. Few, 10% (4) of the respondents said that low and very low. This indicates that livelihood of the trained farmers in FTC is changed.

In response to the effect of training on the attitude of the farmers, Majority, 53 % (16) of the respondents replied very high and high in adopting new technology. Few numbers 7% (2) of the respondents replied that medium. The others 47 % (12) of the respondent said that there is low because the attitude of some farmers is not changed to adopt new technologies.

The FTC training has to fulfill certain standards in order to run the training program effectively. These include availing the necessary equipments and located at center of PA. In these regard the majorities, 72 % (20) of the respondents replied that the status of FTC is very high and high. Few, 4% (1) of the respondents said that medium. While the rest of the respondents, 24% (6) responded that the status of FTC is low and very low. These respondents explain the FTCs mainly provide services for practical activities to implement demonstration to build up farmer's capacity acting as source of information and exhibition services.

As majority of the respondents show, the FTC training is aimed at achieving agricultural productivity through the development of various agricultural programs: backyard vegetable gardening, poultry, carrying out agricultural Extension to encourage the utilization of improved seeds, Fertilizers and better farm technology including information. Ato kettama (Woreda Agriculture and rural development office extension expert) said that the FTC implementation status has difference from kebele to kebele. For example Waldotalfam and Haro wonchi farmers training center are a model for other centers which are found in the Woreda.

The majorities, 76 % (21) of the respondents replied very high and high. The farmers trained in FTC improve their income level. Few, 4% (1) of the respondents said that

medium. Other 20% (6) of the respondents replied that about the income level of trained farmers is very low and low. According to the above data the trained farmers in FTC progress their income level. This data indicate that the FTC training helped farmers to increase the farm productivity.

What are the major problems encountered by the farmer training centers in the provision of lively hood skill training?

For the majority, 65% (21) of the respondents replied that there are no challenges encountered during training adult in FTC. The others few, 35 % (7) of the respondents' replied that challenge encountered during training are lack of easy understandings the idea of trainers without repeating and support. As respondents show majority of the farmers are challenged to read and write because of illiteracy and also attitude of the farmers are not changed in the relevant and benefit gained in training. 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).

According to (Aragaw , 2010), this situation in the FTCs should be improved since this practice is against the principle of adults learning which states, training is best when given by varying styles in the learning porocess (Min-Huei, 2003). Participants should be given the opportunity to engage in multiple learning modalities like listening, looking at visuals, stimulating situations, reading, writing and practicing with equipment and discussing critical issues. Not only insures cognitive style but also provides repetition to reinforce learning of course and combats boredom.

In addition Ato Abata and Ato Guduma, explained that about the effectiveness of FTC training, the training given at FTC helped farmers by supplying improved seed variety, new technology and information about market prices service respectively. These explained that most of the trained farmers notices enhanced in improved seed adoption, inorganic fertilizer adoption, herbicide/pesticide use, breed improvement, fodder adoption and veterinary service, respectively. However, the trained farmers are better adopters and practiced of new technology than untrained farmers. According to the respondents reply, the farmers get better improvement in their overall knowledge,

skills and behavioral changed from the training. There is information about market prices which in turn helps the farmers to improve their income level by increasing quality productivity. Although there are such registered improvements in the livelihood of the trained farmers there is much to be done to enhance the life standards of the rural farmers.

Document analysis

The training module content lacks the objective reality of the trainee farmers in that it is prepared regional wise rather than referring to practical problem in specific locality. Furthermore the manual is not clear for understanding. The manuals, regarding their attractiveness to the trainees, revealed quite a number of misspelled words due to lack of editing, lots of unclear design and also it seems there are some words that are difficult to be understood even by those who are beyond secondary education.

With regard to the sequence of learning contents in the modules, it was revealed that the manuals were made up of several modules bound together, over loaded with plain contents. There were no objectives listed, devised, methods suggested, teaching aids and evaluation mechanisms. And also the modules lack teacher's guides for both theoretical and practical training sessions. In general the modules do not support the principles of training which focus both theory and practice proportionally.

CHAPTER FIVE

5. INTRODUCTION

In this chapter, summary of the major findings, the brief conclusions of the research and the possible recommendations are provided. The recommendations are made based on conclusions and the major findings of this research.

5.1. Summary of the major Findings

From the overall analysis of the data obtained from different source, these major findings have been obtained:-

- The training provided in FTC was helped the farmers to progress the income level by increasing productivity.
- The training in FTC takes into consideration the principles of adult learning as adult learners, share their own experience and knowledge. Therefore the training at FTC is found to be effective.
- Some of the farmers have lack of understanding about the relevance and benefits of the FTC training and there is also no attitudinal change.
- The FTC training program lacks gender equality, lack of practical support, lack of the required numbers of trained DAs, lack of linkage of research institute with FTC, lack of materials that used to learn best practice through video conference, lack o telephone service , TV, stationary and there is no experimental place in the FTC.
- There is no research done so far to control the disease of enset crop.
- There is lack of impact assessment on the training of FTC and there is no appropriate research relevant to the contemporary problems of the farmers.

5.2. CONCLUSIONS

This specific research focused on the effectiveness of FTC training in the economic life of rural adult. The purpose of this research is assessment of the effectiveness of FTCs to improve the economic life of rural adults in terms of the implementation of FTC program, the contribution of FTC training to improve the income level of trained farmers, how the FTC training practices consider principle of adult learning and how it fulfill necessary equipments and materials. The research method selected for this study is survey method. In this research the quantitative research approach was employed. Both primary and secondary data source were used to obtain important information. The samples were selected using systematic random sampling method. The techniques of data collection for the study were group focus interview which was prepared for farmers found in four selected FTCs in the Woreda. The questionnaires were distributed for DAs; SMSs and extension experts were also consulted.

3. Recommendation

Based on the above major findings and conclusions the following recommendations have been forwarded so as to improve the effectiveness of FTC based trainings.

1. Most of the training was highly theoretical and lecture type of methodology. Hence, the Woreda Agriculture and Rural Development Office should redirect in mixing both theory and practice with the help of audio visual aids, providing the experimental places and different demonstration methods should be designed to improve for future as most of the farmers of our country are illiterates.
2. There should be an assignment of the required number of trained DAs, continuous skill based training for DAs and supervisors on new technology to develop their knowledge and skills.
3. The role of agricultural extension in knowledge and skill transformation should strongly be reviewed and continued until the farmers are acquainted with best practices. There has to be alternative information and knowledge sharing techniques in FTC such as audio and video conference, magazines, regular telephone access, television and internet. In the FTC training should fulfill best practice learning materials.
4. In this study woman farmers' participation is very low. Hence, alternatives training programs should be arranged to encourage females' participation equally with their counter parts so as to improve productivity and to solve various farming problems of females'.
5. There is a linkage gap between FTCs and research institution and ICT. Therefore, the linkage of FTCs should be strengthen with different stakeholders for improving the status and potential of FTCs training implementation and enhancing the capability of the DAs as well as farmers at least through experience sharing from within and at most through creating suitable network with different institutions to each FTC and also its must focus on solving the current practical problems of farmers such as controlling the pest and diseases of crops like 'enset'
6. There should be an impact assessing on FTC training about the effect brought on income level of farmers and on usage of farm technology.

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Appendixes 1

Interview Wonchi Woreda (Dulele Bilacha, Haro Wanchi, Balbaala and Waldo Talfam farmer training center)

I Back ground information of the Respondent

1. ***Name of Woreda_____ Kebele_____ Trained on FTC _____***

   Untrained on FTC_____

2. Sex: - M ☐ F ☐
3. Age:-15-35 ☐ 36-45 ☐ 46-55 ☐ 56-70 ☐
4. Education Status: - Grade 1-4 ☐ Grades 5-8 ☐ above grade 9 ☐

   Illiterate ☐
5. Marital status: married☐ Single ☐
6. Land holding size in hector_____
7. Number of cattle owned_____

II Interview for farmers

1. The training room is comfortably to trainees?
2. The facilitators ability in coordinating training program ?
3. The trainees are actively participating in the training?
4. Is there fulfill necessary equipment and materials in the FTC?
5. The criteria selections to trainee farmers are accurate?

6. The sufficiency duration given for training?

7. Is the training time or season's favorable season to trainees?

8. The FTC teaching learning process considers adult learning principle?

9. The training method is consider the principles of FTC training balanced theory and practice?

10. Preference of trainees to interval teaching method of leaning?

11. What are the contributions of the FTC training to improve income level?

12. How do you think the adaptability and Affordability of technologies and farm inputs? Provided to the farmers?

Appendixes 2

Questionnaires to extension expert and development workers agent (DA)

I. Back ground of the Respondent

1. Name of Woreda_____ occupation_____ Experience years_____

2. Educational status: Masters ☐ Degree ☐ Diploma ☐ Certificate ☐

3. Sex: M ☐ F ☐

4. Age _____

5. Marital status: Married ☐ Single ☐

II. General questionnaires for SMS, extension expert and DAs

1. Equal right to all farmers in getting training access?

A Strongly Agree B, Agree C, Disagree D, Strongly disagree

2.If your answer is disagree and strongly disagree, why?----------

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3. Assignment of well trained required number of development agents (DAs) in FTCs

A, strongly agree B, Agree C, Disagree D, strongly disagree

4. If your answer is disagree and strongly disagree, what the reason? ----------

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5. Fulfillment of all FTCs in the woreda with the necessary equipments and materials

A, strongly agree B, Agree C, Disagree D, Strongly disagree

6. What is the current status of FTC training program implementations in the Woreda?

A, Very high B, High C, Medium D, Low E, Very low

7. To what extent the farmers trained in FTC have changed their livelihood? A, Very high B, High C, Medium D, Low E, Very low

8. If your answer is low and very low explain your reason?

_____

_____

9. What is the level of attitude of farmers to adopt new technology? A, strongly agree

B, Agree C, Disagree D, Strongly disagree

10. If your answer is disagree and strongly disagree, what is the problem?

_____

_____

10. Technology delivered to farmers are considering the farm area weather condition? A, Yes B, No

11. If your answer is no, why?

_____

_____

12. How improve the trained farmers the income level? A, Very high

B, High C, Medium D, Low E, Very low

13. There is linkage between farmers training centers and research center? A, Yes B, No

14. If your answer is no explain the reason?

_____

_____

_____

___

15. What are the major problems encountered by the farmers training centers in the provision of lively hood skill

training_____

_____

_____

16. If you have additional idea about the effective of FTC writes on the provided space?

_____

_____

_____

_____