TRAINING NEEDS ANALYSIS

AND

TRANSFER-OF-LEARNING (TOL):

A CASE OF THE ORGANIC FARMING TRAINING PROGRAMME,

GOROMONZI DISTRICT, ZIMBABWE.

A Research Project Submitted to
Van Hall Larenstein University of Professional Education

In Partial Fulfillment of the Requirements for the
Degree of
Master of Development,

Specialization Training, Rural Extension and Transformation (TREAT)

By

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September, 2009

Wageningen

The Netherlands

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ACKNOWLEDGEMENTS

I would like to thank God the Almighty for keeping and bringing me this far.

I am grateful to the Netherlands Fellowship Programme for awarding me a fellowship to study in the Netherlands for this master course.

I am also thankful to my employer, who gave me study leave for the entire studying period.

Thank you, to all Larenstein University of Professional Education staff for the academic and social assistance you gave me during the whole period of my training.

My special thanks goes to Mrs I.de Moor, my supervisor and Mrs Loes Witteveen , my Course Coordinator (TREAT) for their priceless and unlimited guidance in the successful completion of this thesis.

Thanks to the whole TREAT group for your company and encouragement.

I am grateful to Mr. Mashingaidze, Mr. I. Shayamano and Mr. J. Bokosha for their assistance during data collection.

Thank you to all the farmers and extension workers, trainers, planners of training programmes and Senior AGRITEX officers of Goromonzi district for participating in my research thesis.

Thank you, to Moudy, and my sister Maybe who were my companions here in the Netherlands.

I am very grateful to my sister Comfort who looked after my children in my absence.

God bless you all!

Dedication

This work is dedicated to my children Lloyd (jnr), Kudzai and Mufaro in their young ages showed resilience and courage in their school efforts despite doing without a loving mother. I love you, my children.

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LIST OF ABBEVIATIONS

AGRITEX- Agricultural Technical and Extension Services.

CTDT- Community Technology Development Trust

EWs- Extension Workers

FAO- Food and Agriculture Organization

FP- Farmers still participating in the project.

FDO- Farmers who dropped out of the project.

FDI- Farmer who did not apply the training in the project.

ICRISAT- International Crops Research Institute for the Semi-Arid Tropics

NGO- Non-Governmental Organization.

SAO- Senior Agricultural Officer.

ABSTRACT

The Goromonzi vegetable organic farming project, is a pilot project being run by AGRITEX a government body which falls under the Ministry of Agriculture in Zimbabwe. The objective of the project was to increase food security and income levels of newly resettled smallholder farmers as well as to reduce water and soil pollution on the newly resettled farm by 2011. The success of the project was to result in the expansion of the project to other main crops and other areas in the district. The organic farming project has been running for two years. AGRITEX had high hopes in the project as the area has fertile soils, reliable rains and close to the capital Harare for convenient marketing of the farm produce.

Training was used as the intervention in the project to equip farmers with skills and knowledge in organic farming so that they can grow the vegetables for food and selling to get income. The training intervention formed the basis of this study because most of the farmers trained have left the project and those participating have not yet improved their food security and levels of income. The objective of the study was to investigate the reasons why the training had low impact on food security and income of the newly resettled farmers.

The study was conducted at the former Chabweno farm in Goromonzi district, where smallholder farmers were resettled under the Zimbabwean land redistribution programme. In the study, 14 farmers were interviewed; six farmers still in the project (FP), four who dropped out and four farmers who attended the training, but never applied the training. Other respondents interviewed were one Senior AGRITEX Officer, two extension workers, two trainers and two planners of the training programme, adding to 21 the number of respondents who participated in this study.

The training had low impact on food security and income of the target farmers because the needs identification process involved a few of the farmers, instead of involving all the farmers, the duration of the training was too short for farmers to master the skills and instructional methods used during the training did not promote application of training. Follow-up to how the learners were applying the training and the problems they were facing was not in place.

In addition, most of the farmers' expectations from the training were not fulfilled, so the training seemed not to have any relevance to them and the training was only evaluated summatively. Summative evaluation of the training resulted in the evaluation results not benefiting the farmers (in the training at that time), but only to possible future trainees. The extension workers who were supposed to support the organic farmers were less knowledgeable of the technicalities related to organic vegetable production and so were not in a better position to advise the farmers in the project. In addition, the irrigation water and electricity conflicts and thefts problems by the former farm workers compounded the problems of the poorly designed training programme.

In the study, farmers who never applied the training, those who left the project mid-way and farmers who are still in the project brought suggestions on how the training can be improved to increase application of training before end of project in 2011.

CHAPTER 1: INTRODUCTION

1.0 Background Information

1.1 The Svisva farmers

The Svisva farmers were resettled on former Chabweno farm, in the Zimbabwean Goromonzi District, in 2003 under the land redistribution programme. The new farmers were coming from rural areas, which were congested and had infertile soils in Mashonaland East province. Zimbabwe is divided into five natural farming regions according to the amount of rainfall and temperatures experienced, with region one having the highest and most reliable rains and region 5 with least erratic rainfall. The former Chabweno farm falls in natural farming region 2 where rainfall is reliable and has red, fertile soils. The former Chabweno farm used to produce mainly horticultural crops for export to European countries, though tobacco and wheat were also the main crops used to be grown on the farm. The farm was sub- divided into small units per household for resettlement. The farm is 270 hectares in size and each plot size ranges between 3 to 6 hectares. The total number of newly resettled farmer households is 81. Each household consists of father, mother and children or relatives. Some of households headed by women now, may be the husbands are now late because men were the principal landowners who were allocated the land. The resettled farmers have user rights only to the land, but the land belongs to the state.

The newly resettled farmers used to farm before being resettled on Chabweno, but mainly subsistence farming and they left their old farms and homes. Such shifting of the farmers need adjustments and support from experienced professionals dealing with land resettlement (Barraclough 2005). The farmers experience emotional trauma associated with leaving old farms, social networks and the familiar farming environment and the uncertainty of facing a new environment. The new changes these farmers are facing include from subsistence dry land to market oriented irrigation crop production. The Svisva farmers used to produce vegetables conventionally for household consumption and now they are producing the vegetable organically for the market. Such a scenario implies that the vegetable quality have to be improved to compete well in the market. If all such changes, plus the emotional anxieties and uncertainties are not considered or dealt with, the farm productivity on the resettled farms may fall as observed by Osava (2006).

Horizontal information exchange was stimulated in Brazil during land resettlement to encourage the formation of new social networks thereby reducing the fears and concerns in the resettled farmers (Osava 2006). The farmers need to be fully involved in the land resettlement process from application for land to risks involved in changing to new lands. As such, uncertainties and anxieties are minimized, if farmers are aware of the processes involved in the land resettlement. Moyo (2008) added that the Brazilian extension services made up follow-ups to the resettled farmers to check how the farmers were coping with new farming environment. By giving the farmers such social support, it was found to boost farm productivity per unit of land as the farmers felt ‘comfortable and at easy’ that the land resettlement professionals understood their fears. In addition, it is important to involve the previous farm owners (Nevin 2009) who can coach the new owners in different production processes, as is happening in South Africa. The South African black farmers are inviting the former white farm owners to train them in commercial farming in return for farming land on the same farm. In other words, the former landowners now co-exist with their fellow new black owners on same farms mutually benefiting from each other.

Not all the above important considerations were taken into account when AGRITEX introduced the organic farming project to the Svisva newly resettled farmers, that is, the contextual factors were not considered.

1.2 The AGRITEX

The Agricultural Technical and Extension Services (AGRITEX) fall under the Ministry of Agriculture in the Department of Research and Specialist Services.

The AGRITEX mission statement is to facilitate increased agricultural production, to improve people's livelihoods (food security, income generation and poverty alleviation) and sustainable socio-economic development.

AGRITEX's main functions are that it provides regulatory, advisory and technical services, train farmers in appropriate and sustainable farming methods. Primarily, AGRITEX diagnose problems of the agricultural industry related to their area of mandate for the purposes of finding solutions to the problems (AGRITEX 2008). It also develops and disseminates appropriate agricultural technologies; provide farmers and the public with agricultural knowledge and information. AGRITEX generates information on agricultural production; analyze, process and disseminate agricultural information to farmers, policy makers and other stakeholders. It also promotes technologies related to food technology; including post harvest processing, product development, dissemination of other supportive functions of the AGRITEX. It advises on managing and advising on biodiversity and genetic conservation for sustainable farming "Cultivate and Take Care".

In post harvest technologies, AGRITEX develops and disseminates technology and information related to processing, storage and preservation of farm products. In addition, product development and value adding, quality control and marketing and setting up of post harvest systems in farming communities are other services it offers.

AGRITEX promotes increased and sustainable agricultural production and, provide appropriate agricultural technical, professional and other support services to the agricultural industry in Zimbabwe. Under this function, the AGRITEX does pest identification control and advising farmers as well as providing training to farmers, schools and agricultural colleges. In addition, AGRITEX carries out soil surveys to recommend appropriate land use and packaging technical messages and disseminates them to farmers. Soil and foliar analysis is done to provide fertilizer recommendations and determination of quality of agricultural produce (AGRITEX 2008). AGRITEX also establishes and maintains strategic alliances, linkages, partnerships and networks with stakeholders and, with regional and international agricultural research and development agencies. AGRITEX is involved in farmer mobilization and motivation for production through technology, seed and other input fairs, shows, exhibitions, meetings and field days as well as input facilitation through fairs and fuel distribution to farmers.

1.3 AGRITEX and the Organic Farming Project

AGRITEX is promoting organic vegetable farming to improve food security and income to the newly resettled Svisva farmers as a pilot project. According to AGRITEX (2006), the organic farming project was done after informing the Svisva farmers of the project and the availability of the funds from donors. Consultation and involvement of stakeholders (farmers) leads to the success and sustainability of given projects (Leeuwis 2004) .The involvement of the stakeholders, according to

Leeuwis (2004) leads to ownership of a project by the beneficiaries, and hence its sustainability makes a better difference. The beneficiaries will work towards the success of a project if they contributed to decision-making processes. Since the Svisva farmers were informed from the onset of the project they would want see it successful and sustainable after 2011 when the project folds up.

The organic farming project also aimed to reduce water and soil pollution as farmers are using less external inputs. In addition, external inputs are expensive to the newly resettled farmers and the organic farming is a cheap option. A market for the organically produced vegetables was secured and the farmers were given free input starter packs. The organic farming project is an opportunity for the Svisva farmers to reduce their food insecurity and increase their income. The AGRITEX provided training to the 71 farmers at the beginning of the project on organic farming. Only 10 farmers are not in the project because they did not fall within the selection criteria set. AGRITEX is also giving the Svisva farmers advise on plant protection, irrigation, marketing farm produce and the actual production of the crops including the vegetables. The advice is offered at both individual farm and at group level (farmer groups). The extension services being offered to the farmers are free. Apparently, these were factors in favor of a successful project.

In spite of all this potential success, the numbers of farmers who are still participating in the project have declined (AGRITEX, 2009). This is a cause for the concern to the organization as its aims of improving food security and income may not be achieved. Besides, if this project fails, AGRITEX is less likely to get more funding to expand or for the next phases of the organic farming project (depends on donors for funding). The organization is also likely to lose clients to other emerging organization offering training services. Therefore, this is a serious problem for this AGRITEX.

AGRITEX disregarded the contextual factors of the organic farming project as evidenced by literature or as said earlier. The Svisva farmers, as newly resettled farmers are not yet adjusted to the new farming environment of Chabweno, in terms of no social links, the market oriented vegetable production, use of irrigation and fears or concerns of the new farming system. Then the organic farming project came in as an additional challenge to the newly resettled Svisva farmers, which is failing to blend well with their farming activities because they are still adjusting to the new environment.

The decline in the numbers of farmers, which is 23 farmers are still in the project out of the 71 originally targeted farmers, and AGRITEX's disregard of the contextual factors facing the Svisva farmers, is the point of departure in this research (AGRITEX 2009). Therefore, this research attempts to investigate the reasons behind the training programme having low impact on the farmers' food security and income in the organic farming project.

1.4 Problem Statement

The AGRITEX organic farming project in Chabweno farm has had low impact on food security and income of the Svisva newly resettled farmers, and farmers are dropping out of the project. It can be argued that several factors were disregarded in the planning and implementation of this project. Nevertheless, it seems that the farmers' training programme may also have had its role in this poor impact. AGRITEX will lose credibility if it does not do any better than this in such a high potential land redistribution project.

1.5 Research Problem

It is not known what has been the role of the farmers' training programme in contributing to the weaknesses and the poor impact of the project in former Chabweno farm. It may well be that serious weaknesses in the design of the training programme have helped cause the trouble. This needs to be investigated in order to make necessary adjustments in the remaining project time.

1.6 Research Objective

To investigate the causes for low impact of organic farming training programme on the farmers' income and food security.

1.7 Research Issue

Main Research Question 1

What is the role of the training programme in the overall organic farming project?

Sub-questions

1a. What does the entire organic farming project look like?
1b. What were the AGRITEX expectations from the organic farming project?
1c. What were the criteria for selecting the farmers to participate in the organic farming project?
1d. How did the training programme come about in the organic farming project?
1e. What stakeholders initiated the training in the organic farming project? And what were the stakeholders in the training?

Main Research Question 2

How was the organic farming training programme supportive to the overall project?

Sub questions

2a.What are the key goals, objectives and methods of the training programme?
2b. How were the needs for the training programme identified?
2c. What were the farmers' expectations from the training programme?
2d. What competences did the training programme address?
2e. What techniques were used to stimulate transfer-of-learning (TOL)?
2f.How is the training being evaluated?

1.8 Structure of the thesis

The thesis is made up of six chapters. Chapter 1 is the introduction of the thesis and chapter 2 consists of the theoretical framework to the thesis. Chapter 3 has the research methodology, which explains how the research was conducted. In chapter 4, the research findings are presented and chapter 5 contains the analysis and discussion of the research findings. Conclusions and recommendations to the thesis are in chapter 6.

CHAPTER 2: THEORETICAL FRAMEWORK

2.1 Definitions of Training

Training refers to the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies (Sanginga and Chitsike 2005). Caffarella (2002) explains that training is acquiring skills and knowledge to address deficiencies in learners or the acquisition of the skills and knowledge is done to take advantage of an opportunity. In both definitions, training has specific goals to improve an individual's capability, capacity, and performance. The second definition however, specifies that training can also be done to capture opportunities, which arise from a given situation. Therefore, training is not only meant to addressing problems, inadequacies or deficiencies in people, as has been explained earlier on. In both definitions, training is a deliberately planned process in order to achieve specific outcomes. Throughout this paper, training will be used to mean a deliberate process planned to correct specific deficiencies identified in individuals.

Training might start by specifying steps needed to accomplish a particular task, but more than this is needed to ensure that certain skills or procedures are learned. Participants in a training course practice desired behavior, receive pertinent feedback to support what is right, and correct what is wrong. If feedback is given genuinely in a trusting and caring atmosphere, behavior might not only be directly improved, but one's thinking or attitude associated with the behavior might be positive.

2.2 Needs Analysis

Training is effective when it addresses the needs identified through needs analysis. Needs analysis refers to coming up with desired states, future conditions, changes in performance, deficiencies or inadequacies in the performance of individuals (Caffarella 2002). The inadequacies, problems or deficiencies are the ones translated into the needs for the training. Identification of needs, needs analysis, performance or needs assessment are different terms used to describe what the training wishes to address. The training needs determine the type and amount of content to be shared with the learners. Needs identified may be at loggerheads with what the individual trainees see as the training needs. How do the planners satisfy all the parties concerned and conflicting, whom to listen to, and what they do with those whose ideas have been rejected? The first loyalty lies with the target group because they are the ones to benefit or are directly affected by the training to be designed. Normally the organizational needs are the ones taken because it is the one employing the target group. For planners of training programmes, it may be suitable to incorporate the expectations of the target trainees as consolation to the potential trainees. If the organizational needs are not tallying with the target needs it shows that, the organization did not identify the deficiencies in performance in conjunction with its employees (target group).

2.2.1 Sources of Needs for Training

The sources of ideas for training can come from society, people, roles and responsibilities, organizations and society. There is need to have a thorough knowledge of the potential learners: their levels of education, different work experiences, ages, their roles and responsibilities. Such background information will help in addressing only the problematic areas and not repeating what the learners

know already. Alternatively, background information prevents training learners on concepts, which are way ahead of their levels of knowledge thereby creating a gap in the skills and knowledge of the learners. Moreover, what the learners are trained on should blend well with their roles and responsibilities otherwise; any contradiction may result in confusion and poor transfer-of-learning (TOL). TOL refers to the application of what the learners learnt in a training (Pretty, Guilt, Thompson and Scoones 1995) and more on TOL is discussed in later sections of this chapter.

Training needs can come from evaluation of the contextual analysis. This is an analysis of the farming needs or other reasons the training is desired. The important questions being answered by this analysis are who decided that training should be conducted, why a training program is seen as the recommended solution to a farming problem, what has been the history of the organization with regard to employee or farmer training and other management interventions.

According to a research case on reforestation in Buhera district, Zimbabwe, the Forestry Commission and AGRITEX decided to introduce re-planting of trees where they were cut down (Forestry Commission 1998). The two organizations just decided that if the farmers are going to plant trees they need training. Training was seen as vital because the reforestation was viewed as new to the farmers. The funders of the project thought that training the farmers was the solution to tree cutting in the Buhera district. There was no consultation with the farmers on how best they can reduce deforestation (tree cutting) in this area. The extension services just thought that they know what is best for the farmers because they have been working with the farmers for long periods. In the end, half of the farmers trained, did not implement the reforestation project. The table below shows the results from the reforestation training.

Table 2.1: Farmers trained on reforestation

Category of farmers	**Number of farmers**
Farmers who participated in the project up to end	67
Farmers who dropped before project end	80
Total number of farmers trained	147

Source: Modified from Forestry Commission 1998

The extension services had previously succeeded in training farmers on agriculture related issues, for example, use of controlled grazing systems to reduce tick infestations on livestock. In other words, it does not mean that if one training programme succeeded the others will do so.

Furthermore, needs are identified through user analysis. This is an analysis dealing with potential participants and instructors involved in the process. The important questions being answered by this analysis are who will receive the training and their level of existing knowledge on the subject, what their learning style is, and who will conduct the training. The planners of the training programme have to involve the potential trainees in assessing their knowledge level on the aspect to be trained, so that the intended training builds on existing knowledge (Pretty et al 1995). This method is also a way of identifying the trainees, those with higher levels of knowledge and skills on the subject at hand are excluded from the training programme (because they already know). On the other hand, Anderson and Goltsi (2206) point out that selection of trainees, results in divisions among those taken in and those left out of the training, especially, if the population pool is small. However,

Pretty et al (1995) argues that selection of trainees is inevitable because the learning style of the learners is then established. Selection of trainees is vital as it differentiates who has the desired qualities and who has not. Some trainees prefer learning through observations, others through reflections or yet others through experimentation. The trainers should include different methods and approaches to cater for different preferences of the trainees.

According to a case study on market gardening, by Chigumira (2000) in Svosve, Zimbabwe, the farmers who underwent training on market gardening prefered videos and demonstrations while others prefer learning through relating to their own experiences. Another study by Mazvimavi, Twomlow, Belder and Hove (2008) on the training of farmers on intercropping showed that farmers tend to apply more of what they have learnt if they have learnt through experiential learning. Depending on the trainees' preferences, as said earlier on, mixtures of learning styles are better to cater for individual differences.

In addition, needs are identified through work analysis. Such analysis refers to the tasks being performed. This is an analysis of the job and the requirements for performing the work (Caffarella 2002). Also known as a task analysis or job analysis, this analysis seeks to specify the main duties and skill level required. This helps to ensure that the training, which is developed, will include relevant links to the content of the job. For example, all training that farmers undergo should have relevant links to their farming occupation.

As a form of needs analysis, content analysis refers to the examination of documents, laws, procedures used on the job. This analysis answers questions about what knowledge or information is used on this job. This information comes from manuals, documents, or regulations. It is important that the content of the training does not conflict or contradict job requirements, as said earlier on. An experienced worker/farmer can assist (as a subject matter expert) in determining the appropriate content (Mazvimavi et al 2008). For example, this analysis looks at what the farmers or workers are already doing and whether the new project is not contradicting, with what the farmers are doing already.

Furthermore, another way of identifying needs is to look at training suitability analysis; this is an analysis of whether training is the desired solution. Training is one of several solutions to employment and farming problems. However, it may not always be the best solution, as said earlier on. It is important to determine if training will be effective in its usage. For example, in Kibale, Uganda some farmers and extension service providers agreed that training was a better solution to reducing erosion in grazing and arable lands. After the training, it was found out that most farmers could not apply what they had learnt. Sanginga and Chitsike (2005) pointed out that training was not the best solution in this case. Later on, the farmers exchanged and shared information and knowledge amongst themselves on how best to reduce erosion in their arable and grazing areas. The result was that erosion was reduced substantially in both arable and grazing areas.

Moreover, cost-benefit analysis is when training needs focus on the return on investment (ROI) of training. Effective training results in a return of value to the organization that is greater than the initial investment to produce or administer the training. In Brazil, a developmental organization trained some farmers in the production of soya bean and when the farmers were using the skills and knowledge they got from the training, their produce surpassed the monetary value used on the

training (Moyo 2008). All the above forms of needs analysis are used in combination or singly depending on circumstances.

2.2.2 Methods of collecting data on needs

To collect information on the needs of potential trainees, various methods are used. Observations are used to observe people at work and then come out with weaknesses in the performance of tasks. This method can affect the way the workers do their work as they feel that someone is intruding on their private work and may not show their actual performance. The weaknesses identified may not be a proper reflection of what the workers are deficient in. Hove, Franzel and Moyo (2007) point out that the observation technique can be used in conjunction with other methods as a supporting technique.

Questionnaires are also another way of collecting data in needs analysis, though the rate of return of the questionnaires may be low. For example, PELUM an organization in Zimbabwe, which offers extension services to farmers send out a questionnaire to enable the training of farmers on agro forestry. The result was that few questionnaires were returned fully completed (Fambidzanai Permaculture Centre 2003). Questionnaires are made in such a way that the potential trainees respond to them showing their level of knowledge, skills, capabilities and competencies in a given subject. Interviews are another technique in which the potential trainees are asked open ended or semi-structured questions pertaining to a given subject. All the weaknesses collected by any of these techniques are the needs, which are supposed to be addressed through training or any other suitable intervention. The identified needs are ranked according to importance or urgency with which they should be addressed. The training needs with outermost importance are addressed first, through training, as said earlier on. The trainers should explain to the learners why some of the identified needs are not addressed through the training.

The organization, which wants the learners to be trained, may have different needs from the learners themselves, as said earlier on. The planners of training programmes listened to sponsors of the training programme mostly because they have the resources and the learners to a lesser extent because they are only the beneficiaries of the training. The planners of a training programme should try to strike a balance between what the learners want and what their employers/sponsors want.

2.3 Training Objectives, Content and Instructional Methods

Once the training needs have been identified, and then they are prioritized basing on what is urgent and the resources available. The objectives of the training are developed basing on the needs identified. Learners can only appreciate and apply what they learnt if they understand the goals of the training programme. For example, in a study in bee keeping in Bondolfi, Zimbabwe the goal of the training programme was not very clear to the farmers (Etienne 2000). The result was poor implementation of the bee-keeping project and the farmers' livelihoods were not improved.

From the training objectives, the content of the training is developed. The content focuses on what skills, knowledge, capabilities and competencies to be addressed which are deficient in the trainees. Basing on the content developed then the trainers and planners formulate instructional methods on how to impart the skills and competencies identified. The goals of the training have to be made clear to all the learners so that they become aware of what is expected of them. As said earlier on, if the learners are involved in the planning of their training and the goal of the training is

clear to them, then they are motivated and tend to retain more on what they have learnt.

The instructional methods to be used during the training should involve the learners to a greater extent. When the learners practice what they are learning they are more likely to implement what they have learnt in their professional or adult lives. For example, in a research study done in Chisewu, Malawi where women farmers were trained in the production of cassava, methods such as demonstrations, role-plays and dramas were used. The result was that more than 50% of the women farmers trained were able to grow the cassava using the skills and knowledge they learnt from the training. Mazvimavi et al (2008) says that methods used for training adult learners should take into consideration not only hearing information, but also seeing, reflecting on questions, trying out and putting into practice their learning. Such variation in the methods during training ensures improved transfer-of-Learning (TOL). The methods, which involve hearing, are presentations, seeing like in visiting and learning methods and trying out methods as in group discussions and experimentations. For example, in the conservation farming training in Zimbabwe, the methods used include use of demonstration plots on mulching soil, visiting farmers already practicing conservation farming, role playing, dramas and use of the farmers previous experiences were they failed or succeeded in conservation farming. Most farmers trained in the conservation farming, like in the cassava farmers of Chisewu in Malawi, were able to apply successfully what they learnt.

2.4 Context of training and application of training

The context of where the training is taking place and where the application of the training is to be done play an important role in any training (Hove et al 2007). During the delivery of the training, learners are encouraged to draw examples from their working environment and to plan changes, which are feasible. Training may be done well, but learners may fail to apply what they have learnt because of barriers in their contextual environment. In a study by Mupawose (2008) in Zimbabwe on the use of float trays, tobacco farmers were trained on how to raise tobacco seedlings using float trays and then transplant the seedlings into the fields. The trays were meant to reduce the use of soil chemicals to kill soil tobacco pests. The farmers were enthusiastic and motivated to use what they have learnt but only to realize that large number of trays was needed, the trays were relatively expensive and do not last long. The extension workers who were advising the tobacco farmers were less knowledgeable about the use of the float trays. All these factors resulted in poor application of training.

2.5 Land Reform and Training

Land resettlement is a major factor affecting different trainings across the globe. The changing of the environment by the resettled farmers has emotional trauma and anxiety. When the extension or development organizations are deciding to train resettled farmers, they may need to consider how the farmers are coping with leaving their old homes and adjusting to the new farming and social environment.

In cases studies done in Tanzania and Pakistan on how the rural people are coping with the change in livelihoods after land reforms, skills and knowledge were found to be chief assets (Ellis 2000). The farmers who were found to have more skills and knowledge in farming had higher chances of navigating their way in overcoming barriers to changing livelihoods. The skills and knowledge of the rural farmers can be increased through training and education. It appears that training of farmers in order

for them to improve their livelihoods plays an important role. Skilled farmers were found better able to adjust emotionally from the change of leaving their old farms and homes, social networks and their familiar farming environment, which was in Chile. The less skilled ones felt insecure and took longer to adjust; even their farm productivity was low for the first few years of resettlement. Whether the farmers are skilled or not may not be important because a farmer cannot be knowledgeable in all farming activities. The important aspect may be the availability of farmer training opportunities and farmer willingness to undertake the opportunities in the new livelihood strategies.

Such shifting of the farmer locations need adjustments and support from experienced professionals dealing with land resettlement. In Colombia and Chile when farmers were being resettled, there was continuous consultation and coaching by the land reform personnel to reduce the emotional trauma (Barraclough 2005). The emotional trauma associated with leaving old farms, homes, the familiar farming environment and trying to adjust to new environment cannot be underestimated. The report said that such emotional attachment could even lead to reduced farm productivity as the resettled farmers are trying to shift and adjust from old to new environment. In Brazil, the land reforms from 2003 to 2006 involved a lot of consultations and involvement with the newly resettled farmers and former landowners (Osava 2006). The fears and concerns of both parties were addressed and led to increased farm productivity and quality of life improved because both types of farmers were prepared for the new changes.

Also in Moyo (2008), report on land resettlement says that as the farmers are starting farming in a new environment, they need to establish new social links and networks. He added that in Brazil the extension workers stimulated horizontal knowledge exchange among the resettled farmers. There are farmers who have more farming skills and knowledge than others do in a community. If such famers are given a chance to share their knowledge with others through informal or formal events then more farmers tend to benefit. The resettled areas are also social communities and farmers can give support to each other both psychologically and emotionally. The events, which can promote information exchange and establishment of new social links, include input or seed fairs, field days, agricultural shows and meetings. In such situations, the role of the extension workers is to facilitate or act as a catalyst in directing a learning process. Such interactions result in farmers making new connections with other farmers, not only in knowledge exchange, but also in labor sharing. According to Moyo (2008) and Osava (2006), horizontal knowledge among the newly resettled farmers has contributed to the increased farm productivity and quality of life in Brazil, as said earlier on.

On the other hand, Morvaidi and Cusworth (2001) note that horizontal knowledge exchange alone cannot contribute much in the resettled farmers' lives. His argument is that training of the farmers is pivotal and knowledge exchange only plays a supporting role to the farmer training. Leeuwis (2004) adds another dimension to the argument when he says that not one approach is universal to problematic situations, but a problem is unique and any solutions should be adapted to suit the specific context. As such, whether training or knowledge exchange alone can alleviate the fears and concerns of the Svisva new farmers in the organic farming project, is determined by the context of the community.

2.6 Transfer-of-Learning (TOL)

As said previously, transfer-of-learning is the application of what learners learnt in a training programme. Several factors affect the extent to which trainees implement what they learnt from training. These factors are; how the needs were identified as explained earlier on, content, duration of the training, support by key figures, delivery of the training and contextual factors. The key or important people who are able to support the learners in applying what they learnt after the training should also be involved in the need identification and actual training so that they know what type of support is needed by the learners.

Experience in AGRITEX suggests that farmers need more support and supervision in the early stages after the training because high management standards are needed which farmers may not be familiar with (Hanyani-Mlambo 2006). Support to the farmers may then be reduced as the time progresses, to allow for independence and sustainability of the project. Also during the initial stages of the implementation, the extension workers and the lead farmers also need intensive training for them to give intensive support to the farmers. Such experiences were recorded when conservation farming was implemented in Zimbabwe drier regions (Mazvimavi et al 2008). In the conservation farming project, apart from training the lead farmers (farmer group leaders) in conservation farming techniques, the same lead farmers were trained in establishing and sustaining farmer groups. Such training was found to ensure farmer-to-farmer training and knowledge exchange without outside assistance. The lead farmers were trained in paired plot demonstrations that they owned, managed and used for visual training farmer members.

In the planning of the training programme, those who are planning have to consider the environment in which the learners are going to apply the training, which are the facilitating and hindering factors. The learners will plan the realistic changes they would apply to their professional or work life. The training plan should be flexible to accommodate the changes in contextual factors of the learners.

During the delivery of the training, methods, which involve learners largely, have to be used, as explained earlier on. Traditional training of teacher-pupil models are criticized for disregarding the knowledge and experiences of the farmers in agriculture. Such approaches have led over the years to non-implementation and low application of training in different agricultural projects (Sanginga and Chitsike 2005). A more inclusive approach is advocated for which views the farmer as a practitioner, experimenter and the extension worker as the facilitator of change. The inclusive approach acknowledges the importance and value of indigenous or local knowledge and practices of farmers.

The content of the training have to match the learners' roles and the organizational goals to prevent contradictions and confusion between what the learners do and what the organization want. In the presentation of the content, a link has to be established between what the learners know to the new knowledge being introduced. As such, the learners are then able to relate to their own experiences in their tasks and responsibilities. Moreover, adult learners possess formal knowledge acquired through school and years on job experience (Sanginga and Chitsike 2005). As such, adults learn best when they can relate new ideas to existing body of knowledge and practice. Trainers should find out what the learners know and then build on their previous learning experience. The idea of finding out what the learners know is another way of selecting learners for a training programme, as mentioned earlier on. In a case study on minimum tillage in Zambia, the trainers had established what the farmers know about minimum tillage and build on the farmers' knowledge (Harford and Breton 2009). During the training, the farmers were able to relate to what they know already and TOL was a success.

In another a study by Chigumira (1999), the learners during training on growing of indigenous vegetables in Zimbabwe, found it difficult to relate the concepts to their own experiences because the trainers had failed to link the new knowledge to the learners' previous knowledge.

The content has to include a lot of detail so that all the concepts being taught are well elaborated for better comprehension of the subject. Additionally, more content enables the learners to have a wide range of selection of knowledge, skills, examples or illustrations to apply to their work situations. Little content may result in confusion and superficial understanding of what is being taught.

Theory should be presented in the context of what is happening or possible on the ground, that is, in a practical, relevant way. For example, in Buramba-Maugandu in Uganda, farmers were experiencing land degradation and bush burning, and the training conducted tried to address prevention of the two problems. The theory of prevention of land degradation was presented such that the farmers were able to use their own practical solutions to reduce land degradation. Adults learn best in a supportive environment where they are accepted without judgment or criticism. The labeling of learners as old or slow learners results in the learners getting offended and in the end they may not apply what they learnt (Mazvimavi et al 2008). For example, during a training of farmers on the use of trickle irrigation in the southeast low veld in Zimbabwe, the trainers only highlighted that women farmers were likely to have problems in maintaining the system, and some women dropped out of the training and later the project because they thought the project favored men. Ideally, trainees should be involved in planning their own learning experiences. By being involved in their learning, the learners can include their favored learning styles thereby making the training more interesting. Adult learners tend to learn better, when they know that their contribution is recognized and valued. In addition, adults learn best when they do not only hear information, but see, reflect on question, try out and put into practice their learning.

Furthermore, some communities and societies are hostile to changes, so during or before the training the planners, learners and trainers should find ways of overcoming such barriers to TOL. For example, in a study in Zimbabwe on mushroom farming traditional leaders were very powerful and opposed to changes in the community (Chiroro 2004). During the training, the leaders were invited to attend the training and their power and influence was then used to support the farmers in the mushroom project.

After the training, follow-ups on the learners is needed to ascertain the extent to which the learners are applying what they learnt and any difficulties the learners are facing can then be addressed. In a case study in Zambia, leaders of farmer groups were a hindrance to TOL, as they were not listening to the issues and concerns of their group members (Katanga, Kabwe, Katanshula, Mafongoya and Phiri 2007). When the issue was brought to the attention of the extension officers, the farmer groups selected other group leaders who could listen to their problems and then the TOL improved. If possible, refresher courses are done as a follow up to a previous training and these are only possible if resources permit. A refresher course is done to share with the learners the problems they are encountering in applying what they learnt. Those who are supporting the learners in the TOL can also attend the refresher course so that they can together find solutions in overcoming the barriers or change the strategies in TOL. In research studies in fisheries done in Malawi, refresher courses were found to be relatively expensive; instead, field workers working with the farmers held regular meetings and supervise the farmers. The

problems encountered by the fish farmers in application of training were addressed during the meetings (FAO Report 2005). Those problems that could not be solved at field worker level were referred to the trainers or senior personnel in the hierarchy of the Malawian fisheries who were responsible for the training.

In some cases to train all the target farmers can be relatively expensive, so only few selected lead farmers are trained. The lead farmers will then train other farmers in groups. Each lead farmer will be a leader of a farmer group. The selection of the lead farmers who will train other farmers, is left to the farmers themselves, but extension workers should only facilitate. Diversity is good for effective learning (Harford and Breton 2009). The leaders of the groups can be women young or old and men young and old or even community leaders. Such mixed social groups add variety and reduce boredom. During learning some skills, which need the young, or the mature to lead groups thereby keeping the groups together and scaling up TOL. The training of the lead farmers only was a success story in Namibia where there was a training on the improving of finger millet production (ICRISAT 2005). The lead farmers were trained first then the rest of the farmer group members were trained by their leaders. The millet production resulted in successful application of training may be because the farmers were motivated to grow their local traditional crop. Otherwise, to depend solely on lead farmers to train other farmers is difficult because the success of TOL on group members depend on the training of the lead farmers. Besides when training farmers, empirical evidence showed that a lot of detail without practicalities might lead to confusion. To improve TOL during training, ask the farmers to provide locally available materials in demonstrations. If the trainers introduce unavailable materials then the farmers may find it difficult to use the learnt knowledge using their own available items.

Classroom lectures should be avoided or limited as much as possible because farmers, as adult learners learn best through practicing concepts. It is advisable to train farmers in their fields thereby having chances to demonstrate various concepts. The farmers can then see the applicability of what they are learning. The trainers have to use local examples and not examples in other districts or countries, as they are not relevant to the local communities being trained. In one research study in Goromonzi, Zimbabwe, farmers were being trained in agro forestry (AGRITEX 1997). The trainers used trees not local to the community as examples and the result was that the trainees were not able to plant their crops alongside forest trees in the agro forestry project. To select and use the forest trees in combination with field crops was difficult for the farmers because of foreign examples used during the training.

The training sessions for farmers should be timed to coincide with the actual farming operations in the farmers fields. For example, if the training is on fertilizer placement, demonstrations on how to apply the fertilizer when the farmers are practicing it in their fields. The staggering of the demonstrations of the different operations reduce overloading farmers with too much detail, but only allowing them to take what they need at the right time. It is important to check with the farmers the suitable time for them to participate, especially as domestic responsibilities may prevent women from attending at times when men can easily participate and plan accordingly.

2.7 Good Practice in Farmer Training or Guide lines to Good Farmer Training

From all the case and research studies discussed above, the author has drawn up a list of ‘guidelines’ to good practice in farmer training. These guide lines are based on the lessons learnt from the previous farmer trainings. Such guidelines can be used

flexibly depending on situations and they apply mainly to the trainers, extension workers and planners of training programmes. In this thesis, the guidelines will help to do the analysis of the training of the organic farming project in the former Chabweno farm.

- Ensure that all stakeholders are involved in the needs identification process to prevent conflicting needs of farmers and intervention agency.
- Establish what the farmers expect from the training so that if possible incorporate some of the expectations in the training. Those whose expectations are not met by the training provide an explanation to that.
- Establish what the potential trainees know on the subject to be trained on, to prevent repetition and this can be used as selection criteria of the farmers.
- Use local examples in that community otherwise; the farmers may not be able to apply the training with foreign examples.
- Make use of the farmers' field as the training ground if possible and ensure that the training coincides with actual farming operations.
- Training is not always a solution to farmers' problems so discuss with the farmers or other stakeholders if any other intervention can be used.
- Farmers as adult learners learn best through experiential learning so the instructional methods to be used need to involve learners to a larger extent (simulations and dramas).
- Try to involve the farmers in the planning of their learning because adult learners prefer to know how they are going to learn.
- Give respect to all and accept the farmers without criticism or judgment as farmers are motivated if their contribution is recognized and not judged.
- Listen to the farmers concerns and issues during or before the training.
- If it is not possible to train all the farmers, but a few representatives who will train others, ensure that the farmers select their own representatives, and then you can only facilitate the selection process.
- Familiarize with the context in which the learners will apply the training so that the farmers plan feasible applications in the face of the facilitating factors present.
- Each session in the training should be evaluated to improve the next sessions for the good of those in current training.
- Ensure the farmers are clear of the goals and objectives of the training, as farmers only apply what is clear and relevant to them.
- Ensure that the people who will support the farmers in their application of training attend the same farmer training so that they know what is required to support the farmers.
- Discuss with other stakeholders on how the duration and content of the training should be like.
- When selecting farmers for training ensure to stick to the criteria set, but if the population is small, there may be no need to put selection criteria.

CHAPTER 3: RESEARCH METHODOLOGY

The aim of the research was to investigate the reasons why the organic farming training had low impact on the food security and income on the newly resettled Svisva farmers. The research had a qualitative approach based on empirical data and literature. The fieldwork took four weeks in the months of July and August 2009.

3.1 Methods of Data Collection

The research study had only one case study. The case study was chosen because it involves fewer research units than would be in a survey thereby providing an in-depth understanding of what caused the training to be less effective in the organic farming project. In a survey, there would be more research units because the study focus is to get an overview, but a case study focuses on deeper insights. The study had initially targeted 19 research units, that is, 12 farmers (4 who were still in the project, 4 who dropped out of the project and 4 who attended the training, but did not apply the training) to provide information on what their expectations, problems or benefits were from the training. For the farmers who were still in the project, they revealed on their motivation of staying in the project. Two additional farmers still in the project (to add to the 4 already selected) came up to volunteer some information on what can be done to improve the training during the interview. Farmers who dropped out of the project, provided information on how their expectations were not fulfilled and the difficulties faced in Transfer-of-Learning (TOL). The last group of farmers who never applied the training provided information on the reasons for attending the training, but not applying what they learnt. The total number of the respondents then added to 14 farmers, 1 Senior AGRITEX Officer (SAO), 2 planners, 2 trainers and 2 extension workers (EWs) to make 21 research units. Farmers who did not attend the training were not selected because the research targeted only farmers who were trained.

Sampling was done strategically because the respondents were chosen basing on the type of information the researcher wanted to extract. The 21 respondents for the study were purposefully selected with the help of the extension workers supporting the farmers in the project. The respondents were chosen because the researcher viewed them as having special insights into the research issue. As such, Oliver (2008) adds that such purposeful sampling normally involves people who are willing to participate in the research. The farmers selected for study were those who were actually trained in the organic farming project.

According to the farmers and extension workers, a farmer is still in the project when he has attended group meetings in the last three months. A farmer dropped out when he has not attended meetings or harvested organic crops in the last 6 months and never implemented the project when the farmers have not attended either any of the group or extension worker meetings. The 14 farmers selected is a large sample enough to be representative of the 71 farmers originally trained and small enough to give the opportunity to explore the depth of the research issue at hand.

Other key respondents included the Senior AGRITEX Officer, 2 training programme planners and 2 trainers provided information on (how the training was developed) needs identification, how the training was executed and evaluated and how TOL was stimulated. The extension workers revealed how they are supporting the farmers after the training and the problems they are facing in TOL.

3.2 Study Area

The study was conducted in ward 25 of Goromonzi District and an arrow on the Zimbabwe map (Annex 1) marks its location. Ward 25 was chosen for the first pilot project on organic farming because it is accessible and close to the Goromonzi District Offices for close monitoring and consultation with the farmers. The ward 25 is in the same area with the District headquarters and is close to the capital Harare for easy marketing and transportation of the farmers' produce.

The training programme was purposefully chosen for the study because the researcher was involved in the selection of the farmers for training in 2007. Other trainings done in this ward include use of float trays by tobacco farmers and conservation farming, but the researcher opted for the one on organic farming because she wants to find out the role played by those who selected the beneficiaries, in contributing to the problem on the training. Nevertheless, she wanted to find out other things too, see research objective on section 1.6. Of interest is to find out whether the selection criteria were followed and what can be done to repair the training before the project end in 2011. Another reason of choosing ward 25 area is because it is closer to the researcher's place of residence and it is easier to access the area.

3.3 Study Population

The farmers in the project are arranged in groups of 7-10 people for easier distribution of inputs and each group has a leader. The AGRITEX asked the farmers to arrange themselves into groups and chose their own leaders in the conventional farming. AGRITEX asked the farmers to use same groups and a few were formed in the organic farming project for the input distribution, social support and transporting their produce to the market.

The population for study was selected after consulting with the extension workers working and supporting the farmers in the organic farming project and the District Senior AGRITEX Officer. These individuals were involved in identifying farmers still in the project and those who dropped out. The extension workers secured access and appointments so that the researcher could meet farmers and introducing her to the farmers though some of them are familiar to the researcher. The researcher alone did the actual picking of whom to interview.

Other characteristics of the study sample included two women (widows), one still participating in the project and another one who dropped out of the project and twelve men. Of the 14 farmers, three were below 35 years, five were between 35 and 45 years, four fell in the 46 to 55 age group and only two were above 56 years. The level of education of the study sample was that two farmers had lower secondary education; eight had higher secondary education and four had a tertiary qualification in agriculture. All the six FP farmers had higher secondary education, the FDO group is a mixture of those with lower and higher secondary education and the FDI farmers had tertiary qualifications in agriculture.

3.4 Data collection

Data was collected through interviews with individual respondents. Individual interviews were used because some people tend to be shy people and can only give information as individuals, when in a group such people may remain quiet. Except in one incident during an individual interview with a farmer when two farmers came to volunteer information on how to repair the training, is when a group interview was done. Open-ended interviews were used to extract information from the respondents with a checklist (Annex 2). Such interviews were used because they gave a deep insight into the research question being investigated. The observation method was used in reading the body language of the respondents during the interviews. Data was also collected through reading of the project documents, especially, on the goals and objectives of the organic farming project. The researcher asked questions and took notes simultaneously during the interviews

3.6 Data Analysis

Data were analyzed based on the objective of the research. During interviews, data were interpreted and modified into questions to probe and deepen understanding of the issues raised by the respondents. Data was mainly derived from the observations and notes made during the interviews from the field. The data collected was compared and argued with what was found in the literature, that is use of the checklist for good practice in farmer training that was developed , see end of chapter 2 and then the conclusion was drawn.

3.7 Limitations of the Study

The limitations were on the fieldwork part of the study and they include

i) It was the researcher's first time to conduct open-ended interviews, a lot of information was generated, and it was difficult to select only the more relevant information to the research issue.

ii) The respondents who never implemented the training were difficult to interview because they were uncooperative at first and more time was taken to coax them into giving the information needed. The researcher had to give many explanations why it is important to interview them and how they stand to benefit from the outcome of the research. The Headman of the farmers explained to the farmers that the researcher once worked with the farmers so they needed to give her the information she needed as a sign of goodwill. Then the farmers gave in and allowed to be interviewed.

iii) AGRITEX has high staff turnover(see Annex 3), some of the personnel who were present in the project from its inception have left the organization, and some of the information had to be extracted from the project documents.

CHAPTER 4: RESEARCH RESULTS

4.1 The Organic Farming Project

According to AGRITEX project documents, the following figure gives an overview of the organic farming project.

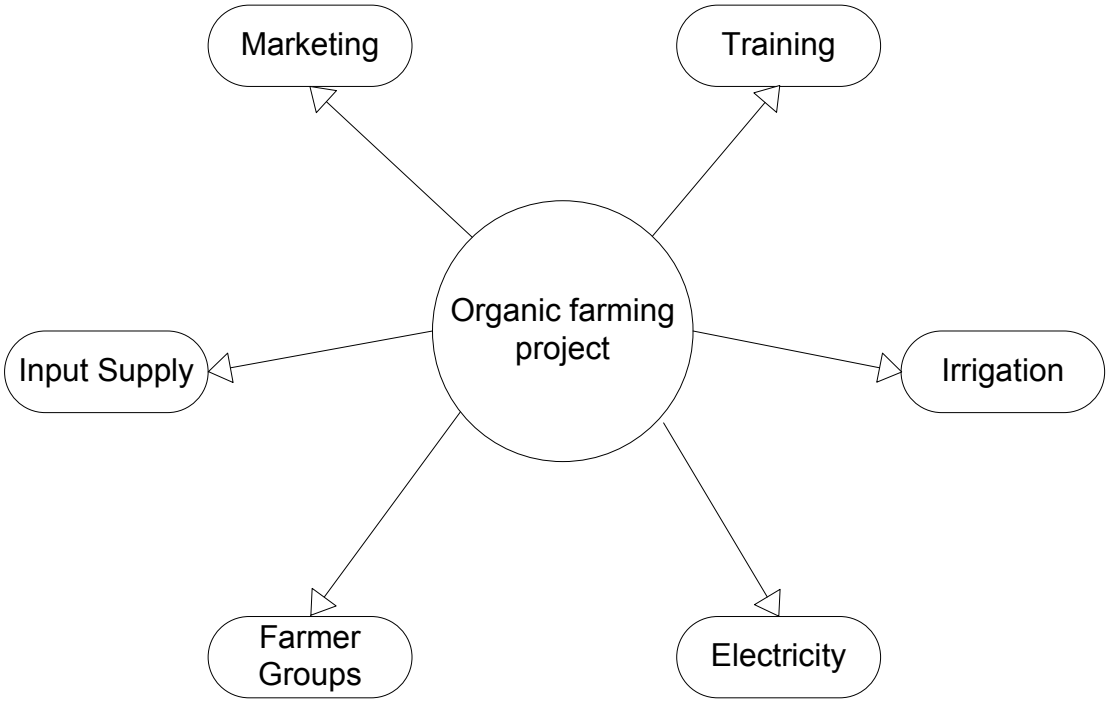

Fig 4.1: Components of the Organic Farming Project

Source: Modified from AGRITEX Project Documents-2009

i) **Irrigation**- deals with maintenance and proper functioning of all the equipment in the irrigation system.

ii) **Electricity**- There is one meter for all the residents on the former farm. The component deals with reading the electricity meter, collecting payments from the residents and ensuring that payments are made on time.

iii) **Marketing and Transport logistics**- ensures that the farmers' produce is transported to the market on time. It also ensures that each farmer is sending to the market the quantities agreed in their contracts with the buyers of the vegetables.

iii) **Training**- equips the farmers with knowledge and skills or production technicalities in the production of vegetables organically.

v**) Input supply and distribution**- deals with the procurement and distribution of inputs to the farmers. The farmers who attended the training were given free input starter packs at the end of the training. Thereafter, farmers pull their funds together and the inputs are procured on their behalf at wholesale prices. In adverse situations, like failure to harvest anything the farmers are given free seeds, but other inputs at subsidized prices.

vi) **Farmers groups**- support and train group members and most inputs are channeled through farmer groups, but these groups were formed before the organic farming project.

According to the AGRITEX project documents, the goals of the Organic Farming Project are:

- Improved income and food security levels of the 71 Svisva smallholders newly resettled farmers by 2011 through sustainable production systems of vegetables.
- Improved implementation of organic standards and increased numbers of locally certified organic farmers and their groups.
- To reduce chemical pollution to the water and soil pollution because the farmers are using less external inputs.
- To link the farmers to the domestic and international markets in organically produced vegetables.

From the AGRITEX project documents the following are some of the indicators and assumptions of the project.

Indicators

- An increase in food security and income by at least 35% by the year 2011.
- 71 trained farmers in vegetable organic farming.
- 9 groups of farmers linked to both domestic and international markets.

Assumptions

- That farmers apply what they have learnt.
- That a lucrative market for the vegetables thrives.
- That they are producing vegetable quantities required by the markets.

4.1.1 AGRITEX's Expectations from the Organic Farming Project.

According to the Senior AGRITEX Officer (SAO), extension workers (EWs), trainers, planners and farmers, the following were expectations of AGRITEX from the organic farming project (Table 4.1).

Table 4.1: AGRITEX Expectations from the Organic Farming Project

Expectations	SAO (n=1)	FP (n=6)	FDO (n=4)	FDI (n=4)	Trainers (n=2)	Planners (n=2)	EWs (n=2)	Total (n=21)
Increased Vegetable production	1	5	1	2	1	1	1	12
Improved food security and income	1	3	2	4	2	1	1	14
All trained farmers to participate	1	6	3	2	2	2	2	18

As can be seen from the table, majority of the respondents (18) hold the view that AGRITEX wanted all the trained farmers to take part in the project. All the three groups of farmers (11) were aware that AGRITEX expected all trained farmers to participate in the project.

Below are some of the responses by the non-farmer respondents:

We expected an improvement in food security and income of the newly resettled farmers as this is prime land with fertile soils and reliable rainfall.

Increased vegetable production compared to what they were producing under conventional farming because of input provision like organic fertilizers, seeds and linkages to the market in both domestic and international market, is secured.

Higher success rate because all inputs needed in the production process were provided from the beginning of the project.

We were expecting higher yields because this is not a complete innovation to the farmers as some of them have been using organic manures in combination with fertilizers.

The following table (table 4.2) shows the projection of vegetable yield expected by AGRITEX from the organic farming project.

Table 4.2: Vegetable crops current status and projections to 2011

Crops	Baseline 2007 Average yield(ton/ha)	Organic Current 2009 Average yield(ton/ha)	Potential Average Yield (ton/ha)
Vegetables	4.7	2.8	10.0
Tomatoes	7.0	5.3	18-20
Potato	11	8.5	17

Source: Modified from Project Documents-2009

4.1.2 Training in the Organic Farming Project

a) Number of Farmers in the Project

According to the project documents, the following table and fig.4.2 shows the farmers who were trained in the organic farming project.

Table 4.3: A1 Farmers resettled at former Chabweno Farm

Farmer type	Number of the farmers
Farmers trained in the organic farming project	71
Farmers still participating in the project	23
Farmers who dropped out of the project	32
Farmers who did not implement the project all	16
Farmers not trained, but resettled at the farm	10
Total number of farmers at the farm	81

Source:AGRITEX Project Documents from the project 2009

As can be seen from the table, only 10 farmers were not trained in the organic farming project, as they did not meet the criteria set (see section 4.1.4).

A summary of all the farmers trained in the organic farming project are shown in (Fig.4.2), the numbers of farmers who are still in the project, those who dropped out and those who were trained, but did not implement the project. In other words, 32 out of 71 trained farmers left the project, which is almost half of the farmers who were trained.

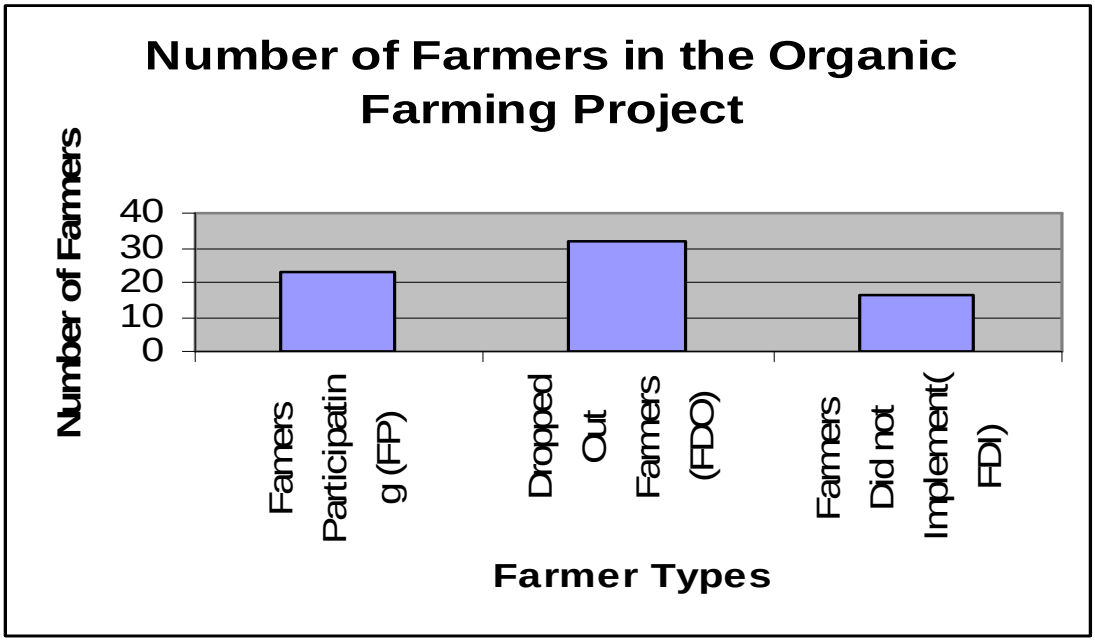

Fig. 4.2: Numbers of Farmers in the Organic Farming Project

b) Reasons for Opting for Training in the Organic Farming Project

From what the Senior AGRITEX Officer was saying in the interview and the project documents, training was chosen as an intervention in this project because of the following reasons:

AGRITEX has a success history of training the farmers in most farming activities from livestock to horticultural projects and one of the functions of AGRITEX is to train farmers. The AGRITEX organization has been using farmer trainings with success so

it did not see any difference in the organic farming project. Training was seen as cheaper and faster than some other interventions and can be modified to suit changing circumstances. The Senior AGRITEX Officer even indicated that some of the AGRITEX junior officers suggested horizontal information exchanges among farmers as some of the farmers were once trained in natural farming systems, but Senior AGRITEX Officer chose training as a better choice.

c) Stakeholders

According to interviewees, stakeholders are people who have an interest in the outcome of an action or are affected by the action. We defined the term stakeholder together in order to understand the meaning and name the stakeholders in the training. In the interviews conducted, the stakeholders in the training programme are:

Senior AGRITEX Officers- The senior AGRITEX Officers initiated training as an intervention in the organic farming project. They supervise the extension workers and officers who are giving extension services to the farmers

Planners of the Training programme- These people developed the training programme from needs identification, the objectives, content, instructional methods and evaluation.

Trainers- are the individuals who delivered the whole farmer organic farming training programme to the farmers.

Extension Workers- are people who are supporting the farmers by giving them extension services in the organic farming project and they were involved in the training needs identification process

Water and Electricity Section- ensures water and electricity is available to the farmers.

Lead farmers- are the group leaders of the farmers' groups and at times, they train their group members on problematic issues related to the organic farming. The lead farmers were involved in the needs identification for the training programme.

Svisva newly resettled farmers- are the farmers who were trained by AGRITEX in the organic farming project. A few of their representatives were involved in the needs identification process.

International donor- is providing most of the funding for the project.

Government of Zimbabwe- is providing part of the funds for the project.

Fambidzanai Permaculture Centre- **t**he inputs for the project are channeled through this organization. Two trainers in the organic farming training came from this organization.

An international company(Kaite)- a German based company which buys some of the vegetables from the organic farmers.

Local companies- buy organic produce from the organic farmers.

Transport Section- transport the farmers' input from and produce to the market.

4.1.3. Selection Criteria for Farmer Participation in the Organic Farming Training

The AGRITEX had specific criteria to be fulfilled before the farmers were to be trained, as indicated in Box 4.1

Box 4.1: Selection Criteria for the Farmers

- Newly resettled farmers at former Chabweno farm.
- Owning land of 3-6 hectares
- One mature male or female per household who owns land to participate in the project.
- Farmers who are willing to participate in all trainings and follow the project cycle.
- Farmers with labor to till the land
- Farmers with no other source of income and not receiving any remittances from anywhere.
- Farmers with livestock or who are willing and capable to keep donated livestock as per Veterinary services requirements.
- Farmers who are looking after a large number of orphans.
- Farmers who show commitment to sustainable agriculture principles and are willing to join organic producer groups.

During the study, the respondents were asked what they thought of the selection criteria used at that time and their views were tabulated in the following table.

Table 4.4: Respondents' views towards the criteria

Response to the Criteria	FP(n=6)	FDO(n=4)	FDI(n=4)	EWs(n=2)	Trainers & Planners(n=4)	Total (n=20)
Support the criteria	1	2	1	0	0	4
No support for the criteria	5	1	2	2	4	14
Not sure	0	1	1	0	0	2

As can be seen from the table, most of the respondents (14) did not support the selection criteria. All the farmer groups (10) had the highest frequency of not supporting the criteria
The following represents some of the respondents' views during the interviews:

Planners and Trainers- *If the project wants to reduce water, soil pollution in the same area then all the farmers should participate, and there is no need for the selection criteria.*

Extension Workers (EWs)- *There was no need for the selection criteria because it was difficult to implement some of the aspects like it was difficult to establish if some*

farmers are receiving any remittances from anywhere, so we ended up taking anyone whom we thought is suitable

FP- *There should be free participation, no need for those criteria. If the project wanted to increase food security. All the farmers here are poor and food insecure so they should be given a chance in the project.*

FDO- *The criteria was right but the extension workers selected the wrong farmers. For example, I was selected but I left the project because of labor shortages yet for farmers to participate they were supposed to have lots of labor.*

FDI- *I do not support the selection criteria because it divides the farmers who are already working together like I left the project because my father whom I share equipment and labor with was not included*.

4.2 An Overview of the Training Programme

4.2.1 Goals, Objectives and Methods used in the Training programme

During the interviews, respondents were asked to explain in their own words what the goals and objectives of the training were (see checklist in Annex 2), and their responses were, as tabulated in Table 4.5.

Table 4.5: A Summary of responses to Training Goals and Objectives

Goal/Objective	FP (n=6)	FDO (n=4)	FDI (n=4)	Planners (n=2)	Trainers (n=2)	EWs (n=2)	Total (n=20)
Capacity Developing and Strengthening in Organic Farming	5	1	0	2	2	2	12
Reduce water soil pollution	4	3	2	2	2	2	15
Going back to traditional Farming	5	3	1	1	1	2	13
Promote use of less expensive inputs	4	4	3	2	2	2	17
To sell vegetables	0	1	3	0	0	0	4

As can be seen from the table, most respondents (17) understood the goals of the training as to promote the use of less external inputs. Even the FDI group of farmers believed in the same goal. There was also a higher frequency (13) of respondents who believed that organic farming is going back to traditional farming, which is a misunderstanding.

Below were some of what the farmers, extension workers, trainers and planners understood to be the goals of the training:

To develop/strengthen the capacities of the newly resettled farmers in the production of vegetables organically of high quality and quantity, thereby improving their food and income levels.

To reduce water and soil pollution in their farming environment as less external inputs are used.

To encourage vegetable farming using less expensive inputs as the country is under going economic crisis- because the farmers cannot afford the expensive external inputs.

To go back to traditional farming

Growing crops for the foreigners and other people who want to live longer so that they come and buy the produce.

4.2.2 Instructional Methods of the Training programme

According to the planners, project documents and trainers the main methods used in the training were demonstrations, role plays, dramas, lectures, look and learn, group discussions and the use of videos.

On the other hand, Table 4.6 shows a summary of the farmers' responses to the question on main methods used during the training.

Table 4.6: Farmers' Responses to main instructional methods

Methods Used	FP (n=6)	FDO (n=4)	FDI (n=4)	Total (n=14)
Demonstrations	1	1	1	3
Role plays	0	1	1	2
Lectures	3	2	3	8
Group discussions	3	2	1	6
Videos	0	1	0	1
Looking and Learning	1	1	1	3

Most farmers identified lectures (8) and group discussions (6) as the main methods used in the training. From the table both the FP and the FDI groups of farmers identify lectures as the main method used.

4.3 Needs Identification in the Organic Farming Training

According to the needs identification process at the time of designing the training programme, it was done using questionnaires, focused group discussions, issues, and concerns raised by extension workers, as shown in Table 4.3 below

Table 4.7: Methods used in the training needs identification process

Method	FP (n=6)	FDO (n=4)	FDI (n=4)	Planners (n=2)	Trainers (n=2)	EWs (n=2)	Total(n=20)
Questionnaires	2	1	1	2	2	2	10
Focused Group Discussions	6	4	4	2	2	2	20
Issues raised by extension workers	2	2	1	1	1	2	9

Most of the respondents (20) said that focused group discussions were the main method used in needs identification process. In addition, all the farmers' groups agree with the majority of the respondents that focused discussions were mainly used in needs identification.

From what the planners and trainers said the training needs identified are in Box 4.3 below.

Box 4.2: Training Needs Identified

- Natural fertilizers and soil management practices.
- Natural pest and disease control
- Prevention of contamination from chemicals
- Quality control of the vegetables
- Water harvesting
- Nursery and vegetable management
- Marketing and price negotiation skills
- Water and electricity conflicts
- Post harvest handling and storage of the vegetables

According to the planners and trainers, from the needs identified; marketing, conflicts on water and electricity and post vegetable handling and storage, were left out of the training as they were beyond the scope of the training.

The following are opinions of farmers on whether the training needs identified were really their training needs, tabulated in Table 4.7.

Table 4.8: Opinions on the training needs identified

Opinions	FP (n=6)	FDO (n=4)	FDI (n=4)	Total (n=14)
Needs identified are what am lacking	5	4	0	9
Needs identified are not what am lacking	0	0	0	0
Some needs are what am lacking	1	0	4	5

As can be seen from the above table, all the FP and FDO farmers (9) agreed that needs identified were their deficiencies and the FDI said that some of the needs identified reflect their deficiencies. One FDI farmer has this to say on needs identified:

The group members did not know what we want so he cannot represent me in the needs identification process.

4.4 Farmer Expectations

From the farmer interviews done, the following table represents a summary of farmer expectations from the training.

Table 4.9: A Summary of Farmer Expectations from the Training

Expectations	FP (n=6)	FDO (n=4)	FDI (n=4)	Total (n=14)
Water and Electricity Conflicts	4	4	4	12
Inputs	6	4	4	14
Credits	6	3	3	12
To be given fences	4	3	2	9
Post harvest handling of vegetables	4	4	4	12
Quality management of vegetables	4	4	4	12
Problem of former farm workers who steal their produce	5	3	4	12
Knowledge and skills in organic farming.	6	4	4	14
Basic financial management	3	2	4	9

As can be seen from the above table, all the farmers (14) expected to get inputs and to get knowledge and skills in organic farming. Of interest is the observation that the FDI had the highest frequency for almost all the expectations not addressed by the training.

During the interviews, the farmers had the following remarks about their expectations:

We expected the training to solve the water and electricity problem. The water and electricity people switch off our power and water because most people do not want to pay now. Even the thieving problem of the former farm workers who steal our vegetables and crops, who will solve it? Who else can steal except them? Now they know that the vegetables have no chemical sprays they can steal more.

We were looking forward to be given credits to buy some equipment to use in the project but nothing was done or said. To buy equipment like containers for liquid manures or borehole pumps.

We were told that we are to be trained on how to maintain the quality of the vegetables, but that was not taught during the training at all. We cannot grow good quality vegetables because they did not train us on it.

We also expect to get fences to protect our vegetables from livestock as they are a menace, especially in the dry season when some of our neighbors who do not grow winter crops let them loose. No one of my expectations was met by the training.

We expected to train on how to look after our money or how to sell the vegetables and the treating of vegetables if they are not bought on the market.

We expected to learn if it is possible to grow vegetables without chemicals and more inputs from the training but only few inputs were given out .How are we to grow more to sell if they give small inputs?

4.5 Competencies addressed by the Training

According to the farmers, trainers and planners the competencies which the training addressed are summarized in Table 4.8

Table 4.10: Competencies addressed by the Training

Competence	FP (n=6)	FDO (n=4)	FDI (n=4)	Planners (n=2)	Trainers (n=2)	Total (n=18)
Soil fertility management	6	4	4	2	2	18
Natural Pest and disease control	6	4	4	2	2	18
Prevention of chemical contamination	5	2	3	2	2	14
Quality control	0	0	0	2	2	4
Water harvesting	3	2	2	2	2	11
Nursery and vegetable management	6	4	4	2	2	18

From the above table, majority of the respondents (18) identified soil fertility, pest and disease control and nursery and vegetable management as the competences addressed by the training. Except planners and trainers, the rest of the respondents said that quality control was not covered in the training.

FP- *They trained us on how to make fertilizers from maize stalks and materials in our fields, that is part of the fertilizers we are using on the vegetables, though it is not easy.*

FDO- *Quality control was not taught but we learnt how to harvest water and later use it in the dry season when irrigation water in the dams is low, but do not have tanks and containers to hold water in the rain season. Their things are difficult to practice that is why I left.*

FDI- *We learnt how to make natural chemicals to kill pests and treat plant diseases and the growing of vegetables, which repel insects like onions and garlic, but I do not think it can work, that is why I did not implement their things.*

Planners and trainers- *Farmers were taught how to reduce chemical contamination from spoiling their organic fields and the technicalities of seedling management and looking after the vegetables up to harvesting. Quality control was on the plan and it was also taught.*

4. 6 Techniques used to promote Transfer-of Learning (TOL).

After the training, the trainers and all other stakeholders want to see the implementation of what was learnt. Successful TOL depends on various factors presented in the following section.

4.6.1 Duration of the Training

Table 4.10 shows the views of the respondents pertaining to the duration of the training which was conducted for 10 days.

Table 4.11: Respondents' views on the duration of the training

Responses	FP (n=6)	FDO (n=4)	FDI (n=4)	Planners (n=2)	Trainers (n=2)	Total (n=18)
Adequate to complete assignments and tasks given	4	0	0	2	0	6
Not adequate at all to complete assignments and tasks given	2	3	4	0	2	11
Not sure	0	1	0	0	0	1

The majority of the respondents (11) show that the duration for the training was not sufficient to complete tasks and assignments given. The FDI had the highest frequency (4) among the three groups of farmers in saying that the duration of the training was short.

4.6.2 Views on the Instructional Methods and the Content in the Training

As already said in section 4.2.2, the main methods used in the training include dramas, role-plays, look and learn, group discussions, demonstrations and lecturing. Below is a summary of respondents' views on the instructional methods used and content delivered.

Table 4.12: Respondents' views to instructional methods and content.

Views	FP (n=6)	FDO (n=4)	FDI (n=4)	Planners (n=2)	Trainers (n=2)	Total (n=18)
Instructional Methods and Content promoted TOL	4	0	0	2	1	7
Instructional Methods and Content did not promote TOL	2	4	4	0	1	11

As can be seen from the above table, most respondents (11) feel that the instructional methods used and content delivered did not promote TOL. Of the three

groups of farmers, both the FDO and FDI said both the content and methods used did not promote TOL.

The following are the views from farmers, trainers and planners about how the instructional methods and the content delivered promoted TOL.

Trainers -*Towards the end of the training, we used more lectures because we were rushing against time to finish as the stuff was too much.*

Planners- *Demonstrations were few due to lack of resources, but other methods were used. I do not think that if the farmers learn through less practical methods they can fail to apply the training. They can use their imagination. You cannot give the learners everything.*

Farmers-*We visited other farmers who are into organic farming to see how they are growing crops using the natural means so that we can copy and learn through seeing. I was so interested.*

Demonstrations were mostly done by the trainers little chance was left for the trainees to practice. How do we grow the vegetables by natural means when we are not doing any practicals?

Some video clips were not clear at all.

The content was too much to master in one training or may be the time was too little. They were rushing us.

4.6.3 Post Training

Below are views from farmers, extension workers, trainers and planners on the hindering and facilitating factors in TOL in the training programme.

Table 4.13: Factors hindering Transfer-of-Learning (TOL) in the Organic Farming Project

Hindering factors in TOL	FP (n=6)	FDO (n=4)	FDI (n=4)	EWs (n=2)	Trainers (n=2)	Planners (n=2)	Total (n=20)
Training had few practicals for the farmers	4	4	3	0	1	1	13
Training (needs) not relevant to farmers	0	0	4	0	0	0	4
Organic farming is labor intensive.	6	4	4	1	1	1	17
New and Less knowledgeable extension workers	2	3	0	2	1	1	9
Unpopular group leaders	5	4	3	2	0	0	14
No follow up to plan on TOL support	4	4	3	2	2	2	17

As can be seen from the above table, the majority view (17) is that no follow up to the TOL plan and because organic farming is labor intensive are the main factors in hindering TOL in the project. A higher number of farmers viewed unpopular group leaders and the few practicals for farmers, as a hindering factor in the application of training. The FDI group of farmers is the only one, which holds the view that the training was not relevant to the farmers.
The facilitating factors in TOL are summarized in table 4.12.

Table 4.14: Factors facilitating TOL in the Organic Farming Project

Facilitating factors in TOL	FP (n=6)	FDO (n=4)	FDI (n=4)	EWs (n=2)	Trainers (n=2)	Planners (n=2)	Total (n=20)
Sharing problems with group members	6	4	2	2	2	1	17
Incentive from selling the vegetables	6	2	4	2	1	2	17
Training received from group leaders	3	2	1	1	2	2	11
Learning from friends and through experimenting	6	4	2	2	1	1	16
Some assistance from extension officers	3	1	1	1	2	1	9

According to the above table, the most respondents (17) hold the view that incentive from vegetable selling and sharing problems with group members are the main factors supporting TOL. All the 3 farmer groups (12) show that the main facilitating factors in TOL are problem sharing with group members, incentive from vegetable selling and experimentation and learning from friends. Trainers and planners (4) holds the view that the facilitating factor in the TOL is training received from group leaders.

The following are views, which were said by respondents:

Planners-*It is difficult to plan how to support Transfer-of-Learning (TOL) after training, as many factors can affect TOL, which we cannot control. It is up to the learners and the extension workers to see how they can promote the TOL in this project*

Extension workers-*We visit the farmers at least once a month to discuss any concerns they are facing and at times we refer the matter to our superiors if we cannot solve the issue.*

We are also not very knowledgeable in organic farming methods and at times, it is difficult to advise the farmers. Besides, I joined AGRITEX when the project was already in full swing.

FP-*We are doing well because we share our labor as families and we got additional training from our group leaders.*

I manage to remain in the project because I experimented and compared with my friends who are in another sustainable farming project and I am getting more money from selling organic vegetables.

We are in the project because we keep in touch with our group leaders and other members to share ideas.

***FDO**-They visited more in their friends' fields than others so I left out because I was tired of being an outcast.*

AGRITEX people did not listen to our needs and concerns, but those of our leaders and the extension workers.

I left the project because they did not select my father whom I share equipment with.

I left because my neighbor is using a lot of pesticides, which are not wanted in the vegetables.

I left because I do not believe what they were training us is important. Because my friend told me that they want us to grow the vegetables to feed foreigners so that they live longer as the crops are safe from chemicals. Why feed others when my family is starving and the money they are offering us is peanuts.

I left because I do not have enough labor for all my enterprises because natural farming is labor intensive

Pests and diseases are very difficult to control may be the AGRITEX should give us another training, not what they did to train our leaders so that they can train us.

4.6.4 Evaluation of the Training

According to the farmers, trainers and planners, table 4.12 shows the methods used in evaluation of the training.

Table 4.15: Methods used in the evaluation of the Training

Method	FP (n=6)	FDO (n=4)	FDI (n=4)	Trainers (n=2)	Planners (n=2)	Total (n=18)
Evaluation Forms at the end of the training	6	4	4	2	2	18
Assignments during the training	4	2	1	2	2	11
Each session was evaluated	0	0	0	0	2	2

From the above table, all the respondents (18) showed that use of evaluation forms at the end of the training was the method used in the evaluation. Surprising enough the planners (2) are the only ones who said that each training session was evaluated. The FP (4) has the highest frequency in showing that assignments during the training were used in the evaluation.

4.7 Ways of improving the training s suggested by the farmers, trainers and planners to improve application of training and participation by the farmers.

Farmers who dropped out of training and those who never applied the training expressed their willingness to come back in the project, if AGRITEX could address

some issues. These farmers said that they want to come back into the project because they want to have a reliable source of income because vegetables are grown all year round and have a short production span. Even the farmers already in the project noted that to improve their application of training, AGRITEX could put some improvements or reparation to the training as shown in Box 4.3

Box 4.3 Suggestions on improving training.

FDI farmers

-Re-training for all the farmers and use the farmer fields as demonstration plots.
-Selection of new group leaders because most of the current ones are not popular with their group members.
-Add financial management, post harvest vegetable handling and quality control in organic vegetables to the training course content for the re-training.

FDO farmers

-Training of extension workers on organic vegetable farming.
-Training farmers on how to manage conflicts with the former farm workers on the use of water and electricity.

FP farmers

-Train farmers continuously not a once off training.
-Re-training of newly selected group leaders so that they come and train the framers on the organic farming because it is expensive to re-train all the farmers.
- Involving everyone in the project because some of the farmers left out of the project, practice organic farming so they can train other farmers.

Trainers

-More time should be given to the training, if a re-training is possible to allow learners to accomplish given assignments and to give the training a proper evaluation.

Planners

-Explaining to the farmers why some of their expectations were not met in the training.
-Solving of the water conflicts before a re-training by AGRITEX, otherwise it will spoil the application of training again.

Extension workers

-If a re-training is called then the extension workers working with the farmers should be trained together with the farmers.

CHAPTER 5: RESULTS ANALYSIS AND DISCUSSION

The research findings reveal that the training programme conducted in the organic farming project did not put into consideration some contextual factors and the type of learners, which affect the way learners apply the training. Just like Pretty et al (1995) suggested that for any training to be effective the context in which the learners apply the training should be taken into account as well the type of the learners to be trained. The Svisva farmers are newly resettled and their farming systems were dry land and subsistence based and now they are trying to adjust to irrigated and market oriented farming systems. In addition, the farmers are growing all their crops conventionally except vegetables which are grown organically. As such, they are still acclamatizing to the new farming and social environment, which could have negatively affected the TOL after training. Perhaps, this explains the reason why most of the farmers have dropped out of the project and may be because the AGRITEX had too high expectations for the project as discussed in the following sections.

5.1 Organic Farming Project Overview

According to the research findings there were six components which serve the organic farming project refer to fig. 4.1. Each component has its own purpose in the project. It looks like if one component fails to perform its duty it means that the impact on the whole project may be negative*.*

The project goal and objectives included the need to increase the food security and income of the farmers by 2011 by at least 35% (Table 4.2). Looking at the number of farmers remaining in the project right now (Table 4.3 and Fig.4.2), the goal may not be achieved as more than half of the trained farmers left the project. The current vegetable yields are not impressive, instead of an increase in the yield there is a fall actually (Table 4.2). The AGRITEX had high hopes for the project as one AGRITEX officer says:

Higher success rate because all inputs needed in the production process were provided from the beginning of the project.

May be the project assumptions made were over ambitious (Section 4.1), as can be seen that most of the farmers did not apply what they learnt. As such, no food increase resulted and there is nothing or less to sell to increase the income. The AGRITEX thought that if all inputs are provided then income and food production go up.

5.2 AGRITEX Expectations

According to this study, AGRITEX expected increased output from vegetable production to reduce food insecurity income of the Svisva farmers after the training. From Table 4.2 shows a projection of improved yield of vegetable from the trained farmers. This is in agreement with Caffarella (2002) who pointed out that improvement in performance of the learners is expected after they received training to address weaknesses or inadequacies in their performance. However, in the study conducted two years after farmer training programme there was an actual decrease in vegetable production (Table 4.2).The decrease may be due to the inability or reluctance by the learners to apply improved skills got from the training. As said by Pretty et al (1995) that some learners may not apply what they learnt because they

do not believe that it will work or improve the situation (checklist Chapter 2), as one farmer says:

We learnt how to make natural chemicals to kill pests and treat plant diseases and the growing of vegetables, which repel insects like onions and garlic, but I do not think it can work, that is why I did not implement their things.

5.3 Training as the Intervention in the Organic Farming Project

In the study, only one stakeholder AGRITEX (Table 4.4) initiated training as an intervention to the organic farming project. This is in contrast to Leeuwis (2004) assertion that when a decision is made in a given problem all the stakeholders are suppose to participate to increase sustainability and ownership of the problem. There were strong indications that when all stakeholders are involved in decision-making they are aware what is expected of them and tend to work hard so that the decision succeeds (see checklist of good farmer training practice Chapter 2). This is as the situation faced by the AGRITEX and Forestry Commission in the reforestation project (Table 2.1) where more than 50% of the farmers dropped out of the project. As such, in this study other stakeholders were not involved in selecting training as the best intervention so they were not worried if the project does not succeed. It looks like successful AGRITEX trainings elsewhere were difficult to come up with, the Senior AGRITEX Officer cited one training in 2002 where AGRITEX trained farmers in conjunction with CTDT and Seed Co (CTDT 2002). In the training farmers were trained on seed multiplication and majority of the farmers were still in the business of maize seed multiplication up to 2009. However, he admitted that some AGRITEX farmer trainings were not so successful.

5.4 Selection Criteria

From the interviews, conducted most of the respondents did not support the criteria for farmers to participate in the training (Box 4.2 and Table 4.2). The respondents explained that there was no need for the criteria as only 10 farmers were left out of the project and because the criteria was difficult to stick to, as one respondent puts it:

There was no need for the selection criteria because it was difficult to implement some of the aspects like it was difficult to establish if some farmers are receiving any remittances from anywhere, so we ended up taking anyone whom we thought is suitable.

It looks like the criteria were difficult to stick to so may be the beneficiaries selected where not suitable for the training and may be that is why most of the trained farmers quitted the project. This seems to be an echo of what Chiroro (2004) stated, when he said that if selection criteria is difficult to apply and is not stuck to, then those identified may not be the rightful candidates and when trained may not apply what they learnt. On the other hand, the FDI and FP groups do not support the selection criteria as it divides farmers already working together and benefits a few yet all the farmers are poor. It looks like the selection criteria could have been done away with because the target population was small. Moreover, selecting people creates a stir in any case. The non-selected may feel resentful and rejected, the selected may feel they are more special and you create a “chosen-few” sentiment with unexpressed expectations that the training cannot live up to (Anderson and Goltsi 2006). In a

farming community where farmers rely on one for labor, social support or physical resources, the effects may be damaging (checklist Chapter 2).

5.5 Goals and Objectives of the Training

According to the study, majority of the respondents understood the goals of the training (Table 4.5) though there were some who did not. It looks like the trainers did not ensure that the learners were clear about the goals and objectives during the training. The AGRITEX could have learnt from past mistakes of other sectors of the organization. Like AGRITEX training goals of the bee keeping project were not clear to the learners and so poor implementation resulted (see checklist on good practice in farmer training, end of Chapter 2). Still from Table 4.5, 13 out 20 respondents said that the goal of the training was ''*going back to traditional farming*'', and another comment from one farmer saying '' *producing vegetables for people who want to live longer*'', both comments strongly showed that the trainers did not clarify the goals to all the farmers. It is likely that the farmers who were not clear about the training goals did not seek clarity from the trainers. The FDI group of farmers had the highest frequency on the goal of training as the selling of vegetables, may be there were among the farmers who did not understand the training goals and objectives. In the end, they did not bother to apply the training. As noted in the good farmer training practice (end of chapter 2), if farmers do not understand the goals of a training, they will not apply the training, as they do not see the relevance of the training to their farming operations.

5.6 Main Instructional Methods used in the training

According to the study, most respondents indicated that group discussions and lectures were the main methods used in the training (Table 4.6). As such, only one method involves learners largely, that is group discussions. Caffarella (2002) pointed out that adult learners learn best when they practice what they are being trained on and tend to apply what they have learnt after the training. If the lecture method was largely used then the learners did more of listening than practicing how to use the skills and knowledge in their field of work (see checklist Chapter 2 on good farmer training practice). Farmers as adult learners, retain most of what they learn if they learn by doing. As the FDI farmers, perhaps did not apply what they learnt because they did not practice during the training and the FDO tried to apply the training, along the way failed, and dropped out. The FP farmers though they acknowledged that the lecture method was the mainly used, they managed to apply the training may be other factors helped them to apply the training. Other factors like sharing problems with friends would have helped in application of training.

5.7 Needs Analysis

The study revealed that the training needs were identified using mainly focused group discussions, in which group leaders and a few farmer representatives (Table 4.7) were involved. In the method, farmer representatives were used in the needs identification than individual farmers. Under the guidelines of good farmer training practice (Chapter 2), all the farmers should be involved in the needs identification process so that they can contribute to and are aware of what they are lacking which needs to be addressed by training. If focused group discussions are used in needs identification, the farmers being represented have to agree to the selection of their representatives. By selecting their representatives may be the farmers can accept the needs identified. In the organic farming training, may be the needs identified were

not representative of what the farmers wanted as described by Mazvimavi et al (2008) that all potential trainees have to be consulted. It looks like the farmers did not choose the farmers who represented them in the focused group discussion as one FDI farmer says:

The group members did not know what we want, so he cannot represent me in the needs identification process.

If needs identified are not accepted by the farmers then the farmers may not apply what they have learnt from the training. It looks like that was what AGRITEX did; it did not consult all the learners in the needs identification process. When all potential learners are consulted then the level of their knowledge on the subject can also be ascertained and then the content of the subject is then determined. When the levels of the skills and knowledge of the all the learners is not determined then the training may give learners what is way ahead of them or repeat what they know already or what is not relevant to the learners at all (see checklist of good farmer training practice Chapter 2).

In addition, in the study, some needs identified failed to match what the farmers perceive to be their deficiencies. In Table 4.7, all the FDI farmers said some of the needs reflect some of their deficiencies. It looks like the needs not addressed by the training were the ones they agree to be lacking. Perhaps the needs addressed by the training were a repetition of what they know already, may be that is why the FDI did not apply the training. This observation is in agreement with what Caffarella (2002) described in needs analysis. She described that if needs identified do not match what the learners perceive to be their deficiencies, the learners may not apply the learning. On the other hand, the FP and the FDO agree to the needs identified to be their deficiencies, may be that is why they applied the training.

As said in section 3.3, that the farmers were a heterogeneous group (different educational status, gender and age) so their needs are also diverse, a factor which both the planners and trainers ignored. From good farmer training practice (Chapter 2), involvement of all stakeholders in the needs analysis results in all needs for different farmers identified, but it looks like the needs identified, may be satisfied one section of the farmers only.

5.8 Farmer Expectations

From the study, Table 4.8 and Table 4.9 shows that some of the identified needs and competencies respectively, not addressed by training were the FDI farmers' main expectations. As said earlier on in section 5.7, the needs identified were perceived by this group of farmers not to be what they were deficient in. As for the FP and FDO farmers, some of their expectations were addressed by the training, may be that is why these two groups applied the training, though the FDO later left the project.

It looks like the planners or trainers of the training programme did not explain to the farmers that the training programme could not include some of their expectations. This is in line with what Mazvimavi et al (2008) observed that farmers or other learners come to a training with goals. If the goals are not met then, such learners will not apply what they have learnt. Some of the farmers (especially, FDI) were expecting the problems on water and electricity and the thefts by former farm workers to be solved by the training, but they were not, as one FDI farmer says:

We expected the training to solve the water and electricity problem. The water and electricity people switch off our power and water because most people do not want to pay now. Even the thieving problem of the former farm workers who steal our vegetables and crops who will solve it?. Who else can steal except them? Now they know that the organic vegetables have no chemical sprays they can steal more.

Other farmer expectations not met by the training include to be trained on vegetable quality control and post harvest handling of their vegetable produce. As such, since such expectations were not met, then the farmers did not see the relevance of the training. Even the AGRITEX officers were realizing that the farmer expectations they ignored, were now a first priority if the organic farming project is to succeed.

It appears as if the training was assumed to be successful in isolation, and it was ignored that the other parts of the whole project are perhaps conditions to the successful operation of the whole organic farming project. May be each part worked alone instead of in conjunction with other components in supporting the project.

5.9 Transfer-of –Learning (TOL)

It was observed from the study that AGRITEX employed various techniques to promote TOL in the organic farming training project, which are discussed in the following sections.

5.9.1 Training Duration

From the study, the respondents felt that the duration of the training was not sufficient to complete tasks and assignment given in the training (Table 4.10). When learners do not have enough time to accomplish assignments given, then they may not be able to apply the training in their work lives Mazvimavi et al (2008) pointed that out. Even from the views on the instructional methods used (Table 4.11), most of the respondents noted that the lecture method was used to finish off the content as the time was not enough. Both the trainers and the learners concurred that time was insufficient to allow adequate time for the completion of assignments. In such instances, it may become difficult for the learners to practice the concepts so that they are then able to apply them in their work lives (see checklist on good farmer training practice Chapter 2). Moreover, the trainers may not be able to evaluate the extent to which the learners are mastering the content being delivered.

5.9.2 Training (Instructional) methods used and the Content delivered

It was observed that group discussions and the lecturing were the main methods used during the training (Table 4.7). Group discussions allow the sharing of ideas among the learners and involve learners largely. However, some learners may dominate others such that there may be limited involvement of others resulting in the inability to apply what was learnt. As such, if learners are involved largely then they are bound to transfer what they learnt to their work lives as Hove et al (2007) noted. The lecture method as Mazvimavi et al (2008) argued, can be used minimally because it has limited learner involvement. Both methods, which were used largely in the training, promote TOL to a lesser extent, adult learners learn best through

experiential learning or learning by doing (see checklist at end of Chapter 2 on god farmer training practice).

The content delivered was viewed as too much and was rushed because the trainers were racing against time to finish. In line with Caffarella (2002) observed, more content could be included during training delivery, so that the concepts are well explained. However, the content delivery should be such that time is given for the learners to practice, reflect or accomplish given assignments. In the study, it looks like there was more content than the time awarded for the training, may be that is why the trainers used more lecturing than other methods with higher learner involvement.

Looking at the number of farmers trained (71) and such a number was relatively big to consider giving adequate practicals or demonstrations to the farmers. However, since the trainers who conducted the training were four in number, indications are strong that farmers could practice various tasks during the training, as the farmers were divided into four groups. Since the trainers said that the training lasted for 10 days, it looks like time was shorter compared with the content to be delivered, leading to lecturing and group discussions which were faster in completing the training.

5.9.3 Post Training

It was observed from the study that there were some problems, which the learners were experiencing in the application of training (Table 4.12). It seems that the AGRITEX planners and trainers did not put the context of where the training was to be applied in place. If such contextual factors are considered, then learners may be able to overcome factors, which hinder transfer-of –learning (TOL). Even the FP farmers were encountering factors, which are hindering TOL. The planners and trainers admitted that no follow up was made to a plan of how the learners were to be supported after the training. It strongly looks like lack of follow up to the application plan led to most farmers dropping out of the project because there was nothing to support the TOL. Even the FDI farmers, held strongly the view that no TOL follow up plan was in place to learners in post training, leading to more farmers dropping out. This is in agreement with what Hove et al (2007) noted in trainings. He noted that if there is no follow up to how the learners are applying the training, then learners might not know how to overcome problems arising. Or when the concerns of the farmers are not addressed then poor application of training results (good practice in farmer training, Chapter 2). It looks like no follow up to check how the learners are coping with application of training led to most of the farmers leaving the project.

Despite a lot of hindering factors to application of training, few factors facilitating are in support of TOL in the project (Table 4.13). It seems like that most of the facilitating factors are as a result of the learners' (farmers') initiative in which they are learning from their friends and self-motivation of experimenting on their own.

5.10 Training Evaluation

The training was evaluated using evaluation forms at the end of the training (Table 4.14). Such an evaluation gives a summary of the how bad or good the training was at the end of the training. It does not benefit the evaluators (current learners), as the good farmer training checklist on Chapter 2 puts it, but the next trainees to be trained. The AGRITEX's evaluation of the training was of no benefit to the Svisva farmers

unless a re-training is conducted. Evaluations of assignments seems like were not beneficial to the learners, as said earlier on, because less time was given towards the completion of the assignments. Surprisingly, the planners are the only ones saying that evaluation was done at the end of each training session. It appears like that during planning for the training programme, such a plan was included, but the trainers may not have executed it.

5.11 Ways of improving the training to increase or repair application of training

From the study, both the FDO and FDI farmers are willing to join the organic farming project if the training is improved (Box 4.3). Good communication and explanations were missing among the stakeholders in the training programme (see checklist on good farmer training practice Chapter 2). If the trainers had explained to the farmers that the training could not meet some of their expectations otherwise the farmers (FDO and FDI) would be participating in the project. Even the planners and trainers could not negotiate on the duration of the training, as it was short. The problem might have been solved before the end of the training. The FP farmers wanted also to increase their application of training, if the AGRITEX could train farmers continuously and not as a one-time event. The main problem as said earlier on, is that the stakeholders in the training programme do not come together to discuss their problems and most of the suggestions (Box 4.3) to repair the training, are pointing to lack of good communication. This is in agreement with good farmer training practice where continuous dialogue is necessary to early detection and solving of problems among stakeholders.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The objective of the research was to investigate what could have caused the training on vegetable organic farming to have low impact on food security and income of the Svisva farmers. According to the result analysis, the training had its problems from planning, implementation and evaluation.

However, before looking at training, let us look at the context of the whole organic farming project. The components of the project work independently, instead of being interdependent on each other. There were strong indications that what was needed among the components of the project was coordination of activities so as to support the organic vegetable farming. Besides, AGRITEX assumed that if farmers were trained then they will grow the vegetables organically, without considering the following contextual factors:

- The Svisva farmers are still adjusting to irrigation production systems because they were used to dry land cropping.
- They are not used to paying bills for water and electricity, but now they are expected to pay. The irrigation component of the project deals with the technicalities of pumping water, but cannot solve the conflicts arising from the use and payment of water, which are threatening the survival of the project. AGRITEX should have known from the onset that there was only one water meter and one electricity meter and so the 81 farmers and more than 300 former farm workers are sharing the bills and so should have anticipated problems and put contingent measures in place.
- Svisva farmers are not used to produce for the market, but for subsistence so to increase vegetable production in four years was an overestimation.
- In addition, they lost their social networks when they were moved from their old homes to be resettled at former Chabweno farm, which they depend on for labor or some other support, and the anxieties the farmers are facing in the new environment. Though they have been at the former Chabweno farm for 6 years, change is a process, which takes longer to set in. Therefore, their fears and concerns of moving need professional aid.
- The farmers are living and sharing facilities with the former farm workers despite the fact that they (former farm workers) do not own land.
- They farmers are producing other crops conventionally alongside the vegetable being produced organically.

AGRITEX should have put all these factors into perspective during the planning, implementation and evaluation of the training programme, in order for the farmers to put the training to good use.

As for the training, the farmers who never applied the training (FDI) did not want to be represented in the needs identification process, but all wanted to be part of the process. This group of farmers feels that the needs addressed by the training did not address what they were deficient in. Instead, the needs, which the training could not address like post harvest vegetable handling, were their expectations from the training. Besides this group of farmers had a higher level of education compared to the other two, that is why is it was better positioned to deny the application of a training made for a homogenous group, from my opinion.

The farmers who applied the training, but later dropped out (FDO) felt that the instructional methods used did not allow the learners to practice and so after the training, it was difficult for them to apply the training. This group of farmers also lacked support from extension workers and group members in order to counter the problems they were facing in application of training. This group had moderate education compared to the other two groups, may that is why it tried to apply the training and later on dropped.

The last group of farmers who were still in the project (FP), though they were successfully applying the training, they lacked support from the extension workers. Due to high staff turnover in AGRITEX, there was only one extension worker out of four, who was with the project from its inception. The other three are new and not trained on how to support farmers in vegetable organic farming. These farmers were working on their own sharing problems, experimenting and learning from friends in order to apply the training. This group had higher education compared to the FDI, so were able to use their initiative, motivation and imagination to experiment and apply the training.

The trainers and planners evaluated the training at the end of the training, such that the evaluation results did not benefit the Svisva farmers, but the next trainees. The evaluation of the assignments during the training was less effective because there was not enough time for the farmers to complete them (assignments). The trainers did not explain to the farmers why the training could not fulfill some of their expectations.

The main causes of the training to have low impact on the Svisva farmers' food security and income are involvement of few farmers in needs identification, poor instructional methods used, duration of the training was short, not sticking to the selection criteria set for farmers to participate in the project, ineffective evaluation of the training and poor support of application of training. Other causes affecting the application of training were conflicts on water and electricity and the thefts from former farm workers.

The experience from the Goromonzi organic farming project has taught the AGRITEX and other Zimbabwean organizations dealing with farmers in land resettlement and training, the following:

- Informing farmers about the coming of a project alone is not enough like what happened in the organic farming project. The involvement of the farmers from the lowest level (grassroots) and throughout the stages of land resettlement to allow for adjustments and preparedness to farm into the new environment is better. Such involvement tends to reduce fears and anxieties of leaving old homes or old social networks to new unfamiliar farming environments. During interactions among stakeholders new social networks and links are established which support different farming activities in the new resettled areas.
- Consulting all the stakeholders in the land resettlement to avoid the leaving out of other people who may be adversely affected by it (land resettlement). For example, the former farm workers who did not benefit from the land resettlement and yet they were part of the stakeholders in this land allocation programme. Such omission (of formers farm workers) is now causing problems in the use of water and electricity in the organic farming project because they (former farm workers) do not have a reliable source of income so they end up not paying their bills.

- the diversity of the farmers in their needs in organic farming training should be considered for the training to be successful. It does not mean that when farmers live in the same area and are resettled on one land their needs are uniform. As what happened in the Goromonzi organic project, farmers were resettled on the same farm, but what they came up with, as their needs were different.

6.2 Recommendations

For the two years remaining the project can be resuscitated and made more attractive to all the farmers even those who never applied the training.

i) Other members can replace the group leaders who are not popular with their groups. The AGRITEX can only facilitate the selection process not to impose the leaders like what they did from the onset. The group leaders can play an important role in re-training and support their group members, which is cheaper than to re-train the whole farming target group. Even to look at the farmers who are doing well in the project the facilitating factors are their reliance on the support from their groups and leaders.

ii) Besides the AGRITEX have high staff turnover so if they put more thrust on the farmer leaders to support their members it is more beneficial because they are unlikely to leave their farms. If the resources permit, a re-training of the target group of Svisva farmers is ideal.

iii) In the re-training then more emphasis needs to be placed on the use of methods which promote experiential learning like demonstrations, role plays or dramas and less of the lecturing methods. The number of the farmers to be re-trained is bigger, but if the duration of the course can be increased and the farmers are trained on site, instead of the initial residential training, then the methods mentioned above can be used. Especially demonstrations, which can be employed on the farmers' pieces of land.

iv) The extension workers need to be re- trained together with the farmers so that they are aware of the type of support the farmers need in the application of the training. The other need, which was omitted from the original training, should be included in the re-training as the farmers were complaining that they do not know how to maintain the quality of their vegetables for the market.

v) Since there were only 10 farmers who were not selected to participate in the training, there is need to include all these farmers because some of them are practicing natural farming already. May be other farmers will benefit from their capabilities.

vi) The AGRITEX can call for all stakeholder meetings on the former Chabweno farm to discuss the conflict issue on water and electricity and the problem of thefts by the former farm workers. These two issues need to be solved first before repairing the training; otherwise, a well re-designed training will not yield anything if water and electricity has been cut off. In addition, if the problem of the thefts by former farm workers is left unsolved then the Svisva farmers will continue to lose out. Such stakeholder meetings gives an opportunity for the farmers and the former farm workers to share ideas, may be the farmers may end up hiring the former workers productively, thereby solving the problem of thieving.

vii) In my view the contextual factors that were ignored by AGRITEX (like the conflicts on water and electricity and the farmers are producing other crops conventionally) need to be taken into consideration, also in a further training. The “training” cannot be exclusively about technical things, it must integrate the whole lot (social, technological and political aspects) both in content as well as in approach/methodology. By addressing only one aspect in a training, the other aspects left out act against, instead of supporting another.

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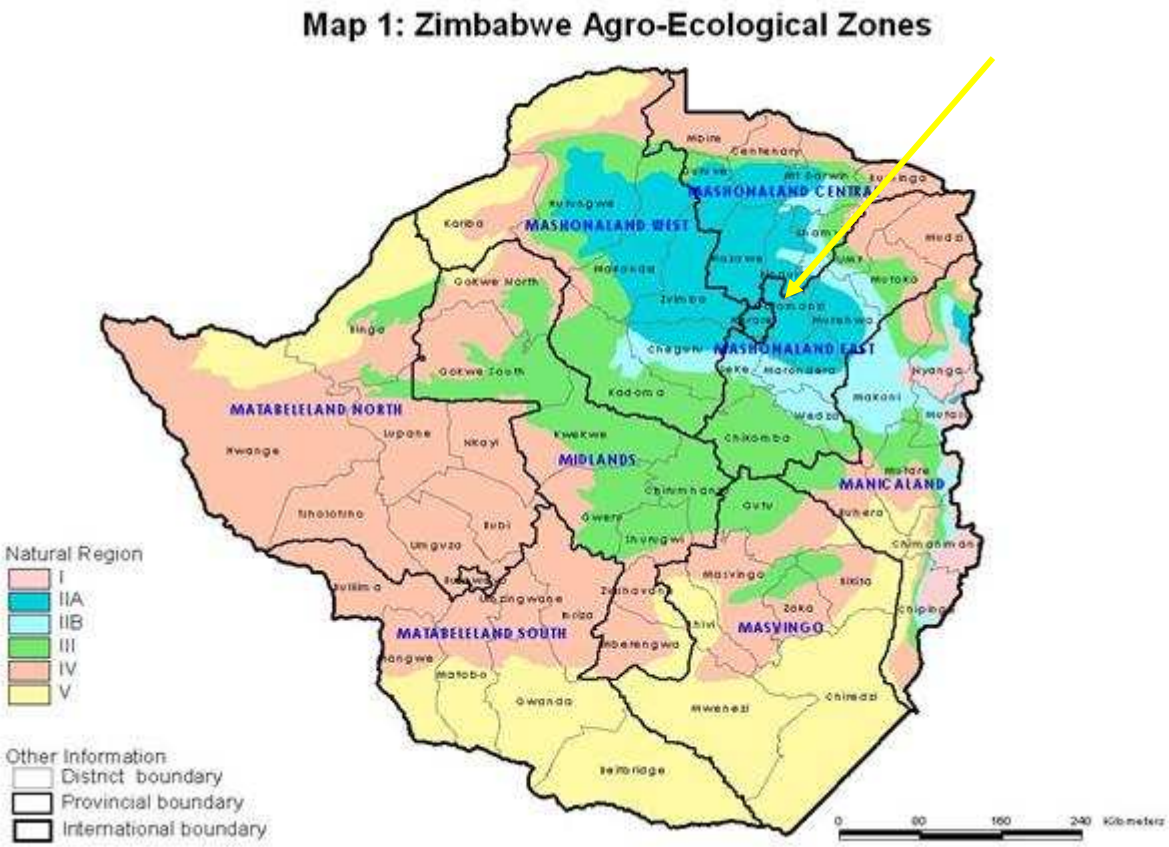
ANNEX 1: Map of Zimbabwe showing the location of former Chabweno farm



Source: FAO Report (2009)

ANNEXE 2: Checklist for the Open-ended Interviews used during data collection

Check List

Senior AGRITEX Officer

Overall Organic Farming Project

- Components and contribution of each component.
- Goals and Objectives of the Organic Farming Project
- Reasons for farmer-training programme
- Stakeholders in organic farming project
- Expectations.
- Evaluation of the Training Programme
- Selection criteria for the farmers.

Training Programme Planners and Trainers

Designing and Execution of the Training Programme

- Goals, objectives, methods of the training programme
- Needs Analysis
- Sources for the needs
- Competencies, skills, knowledge
- Instructional methods used
- Techniques used in the promotion of transfer-of-learning (TOL).
- Evaluation of the Training Programme
- Suggestions for improvement.

Extension Workers

- Involvement in the needs analysis
- Support they are giving the farmers in the organic farming project
- Reasons and goals for the training programme in the project
- Evaluation of the Training Programme
- Suggestions for improvement

Farmers

- Farmer expectations
- Goals of the training
- What they learn from the training
- Application of training
- Reasons for the training in the organic farming project
- Evaluation of the Training Programme.
- Suggestions for improvement.

ANNEX 3: BACKGROUND INFORMATION, SWOT AND PEST ANALYSIS OF AGRITEX

AGRITEX advises policy makers on matters related to research, extension and rural development, as well as mobilizing agricultural resources and inputs for the farming community (AGRITEX 2008). Since the extension services of AGRITEX are supply driven, they mainly serve smallholder farmers in rural and newly resettled areas. Commercial farmers prefer to source advisory services from private organizations, as they perceive the AGRITEX as less competent in giving demand driven services (Hanyani-Malambo 2006). AGRITEX also depends on funds from donors mainly international ones. With the political instability, which was in Zimbabwe, some donors withdrew their funding and others are reluctant to donate more funds. The following is an analysis of the organizational and institutional environment of AGRITEX (SWOT and PEST Analysis) revealing factors which are hindering and facilitaing it (AGRITEX) from performing its duties optimally.

b) SWOT Analysis of AGRITEX looking at the organic farming project.

Strengths

- Well known to most farmers as experienced extension service providers.

Weaknesses

- High staff turnover due to poor remuneration.
- Few workers have been overstretched between rural and the newly resettled farmers-inadequate service provision.
- Limited financial resources and has to depend on donors who are now channeling their funds through Non-Organization Organizations (NGOs).
- Poor logistical support: no transport and equipment.
- Lagging technical knowledge in new enterprises (organic farming).
- Bureaucracy and long channels of communication.
- Lack of self-discipline: few can work without supervision.

Opportunities

- Increased farmers to serve due to the Land Reform programme.
- Can collaborate with other actors in the extension service provision like NGOs.

Threats

- Insufficient budgets and few donors are releasing funds through the donors.
- Politically stable, but investors are less confident and hesitant to invest in agriculture.

c) PEST Analysis

- Political factors

The government has simplified border regulations so that farmers can export their farm produce easily. Zimbabwe is now politically stable and there are chances of more investments being done in horticulture. There is limited access to highly priced markets such that the organic farmers, get low prices for their produce.

- Economic factors

There is limited promotion of organically produced farm produce such that farmers tend to lose out as consumers treat both conventionally and organically produced products in the same way. There is now low inflation in Zimbabwe and agricultural inputs are relatively affordable on the market for the farmers.

- Social factors

Farmers and extension workers have limited technical expertise on organic farming such that it is difficult to render advice to the farmers. Most young farmers have migrated to neighboring countries in search of greener pastures, leaving behind aged farmers. Majority of the consumers have less disposable income due to the poor economic recovery in Zimbabwe, they buy less of the farmer produce.

- Technological factors

There is limited knowledge of and access to processing facilities such that farmers market their produce in a raw form and end up getting low prices. Smallholder farmers rely on manual labor and draft power, which is time consuming, and slow.

From both the institutional and organizational environment AGRITEX's performance is being facilitated by low inflation and at least farmers can afford to buy inputs. The border regulations have been simplified so farmers can export their produce easily. AGRITEX can collaborate with other organizations in extension provision because it has high experience in the field. Factors hindering AGRITEX performance include high staff turnover, poor communication within the organization and with its stakeholders, less knowledgeable in organic farming, aged farmers, limited financial resources, poorly disciplined staff and overstretched human resources due to many new farmers (resettled farmers). It is against all the above factors within AGRITEX's organizational and institutional environment that it is promoting a pilot project on organic farming to the Svisva newly resettled farmers.