

**INFLUENCE OF TRAINING PROGRAMME ON TRANSFER LEVEL OF
AGRICULTURAL BEST PRACTICES BY FARMERS: THE CASE OF GANDINI
IRRIGATION PROJECT, KILIFI COUNTY, KENYA.**

BY

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DECLARATION

I hereby declare that this research project report is my original work and that no part of this has been presented for another dissertation in this university or elsewhere for the purpose of examination or otherwise.

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DEDICATION

I dedicate this research project to my parents: Mr. and Mrs. Josephat Ndombi; my siblings: Duncan Shikuku, Carren Ndombi, and Victor Ndombi; my nieces; Vexillus and Gloria for their being in my life. I also devote this to my friends and workmates for being who they are in my life.

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ABBREVIATIONS AND ACRONYMS

ABP:	Agricultural Best Practices
ACF:	Action for Farming International
DF:	Degrees of Freedom
FAO:	Food and Agriculture Organization
FFS:	Farmer Field School
FGD:	Focus Group Discussion
GIP:	Gandini Irrigation Project
IFRC &RCS:	International Federation of Red Cross and Red Crescent Societies
M&E:	Monitoring and Evaluation
MDG:	Millennium Development Goals
MIP:	Magarini Integrated Project
NGO:	Non-Governmental Organization
Qty:	Quantity
UoM:	Unit of measure
WB:	World Bank
WFP:	World Food Programme

ABSTRACT

The purpose of training is to impart new knowledge and skills; and/or to refresh the knowledge that the trainees already have. Governments and non-governmental organizations spend much on training concentrating on agricultural best practices to impart farmers with knowledge and skills to utilize sustainable natural resource management practices in food security projects believing that training will improve performance and productivity. However, unsettling questions continue to be raised about the transfer of these agricultural best practices and the return in terms of performance and productivity on this investment. This study was aimed at answering research questions on the factors of training programme that seem to influence the level of transfer of agricultural best practices, with the following objectives: to find out how trainee attributes; trainer attributes; training design; and monitoring and evaluation influence level of transfer of agricultural best practices through hypotheses testing. The study was conducted through a descriptive research survey; case of Gandini Irrigation Project. Data was collected using questionnaires administered to 108 farmers (from a population of 149 farmers) who were randomly sampled using proportionate stratified method. Focus group discussion guides were administered to 6 men and 6 women. One checklist was used to collect secondary and primary data with the help of the members of project committee and project staff in charge. Percentages and tables were used to summarize, organize and present the data. To investigate whether a dependence relationship existed between two variables or whether the variables were statistically independent, Chi-square was used to test the hypotheses. The qualitative and quantitative data was triangulated for deeper understanding. Trainee's level of literacy, culture, trainers' ability to deliver feedback, instructional methods, participation by the trainees, training needs assessment and monitoring were found to have influence on the transfer of agricultural best practices. The study concluded that indeed the transfer of agricultural best practices is influenced by the trainee attributes, trainer attributes, training design and monitoring and evaluation and recommended that the training programmes to thoroughly consider training needs assessment; use of exchange programmes and establishment farmer field schools for exposure and exchange of ideas and experiences; and implementers to initiate and invest in Trainer of Trainees (ToT) approach. The study recommended further studies on the influence of culture and land tenancy on transfer of agricultural best practices.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Investment in training activities has increased all over the world in recent years (Velada *et al.*, 2007). Organizations in the United States alone spend billions on training each year (Salas *et al.*, 2012; Seyler *et al.*, 1998). Australian farmers have access to a wide variety of education and training sources (Kilpatrick, 2000). Those funding, running, facilitating and participating in training are involved because they expect the training to influence the behaviour of training participants, and hence impact on variables such as profit and sustainability of the farm business. Education and training enhance farmers' ability and willingness to make successful changes to their management practice. The training program is generally only one of several factors which influence participants to make changes to their practice following the program. Training events are opportunities for interaction between participants and with expert trainers.

In the Philippines, extension practitioners have tried several approaches for diffusing new farming knowledge and other information to targeted beneficiaries. Owing to the relatively low levels of education of farmers, extension practitioners in the Philippines have developed more intensive interventions that engage farmers directly in the knowledge discovery process (Rolaand *et al.*, 2002). The Indonesian experience holds lessons for development agencies and governments in developing countries, which are being encouraged to expand and promote the training approaches such as Farmer Field School (FFS) on a wider scale, utilising large volumes of foreign assistance funds and domestic fiscal resources (Feder, Murgai, & Quizon, 2004). In Peruvian Andes potato farmers are trained and the yields were improved according to studies (Godtland *et al.*, 2003).

De Janvry & Sadoulet (2010) and Byerlee, Diao & Jackson (2005) mention that agricultural growth is an engine of growth since being a large sector, growth in sector has a high weight in the aggregate growth that justifies public investment in that area; since Africa is rich in natural resources and unskilled and semi-skilled labour, agriculture offers the continent the competitive

advantage for its economies; and lastly agricultural productivity is the basis for food security. Gollin, Parente & Rogerson (2002) also agree that improvements in agricultural productivity allow resources to be released to other activities and that that low agricultural productivity is a major reason that some countries are so poor.

Kenya largely depends on rain-fed agriculture for its food requirements, relying on the two main rain seasons namely the March–May long rains and October–December short rains. About 80 percent of the land is arid or semi-arid (WFP, 2014). The national and county governments are collaborating with international and local NGOs to initiate projects with concerns with food security aimed at reaching Millennium Development Goal (MDG) One: Eradicate extreme poverty and hunger (World Bank, 2015). Food security projects are majorly concerned about stable and sustainable pillars of food security which are availability, accessibility and utilization (ACF, 2009). Their efforts are to see that there is enough food available in a long term continuous basis including when households face stress such as crop failure, fluctuation in food prices or seasonal changes in cash income or food production (FAO, 2011; 2013; 2005).

In Kenya for example, according to the Kilifi County financial plan (2014) the Ministry of Agriculture, Livestock and Fisheries estimates to spend KShs 259,753,754 during the 2014/15 financial year. Of this, KShs 75,209,638 is estimated for agriculture. Most of this is for rehabilitation of the irrigation projects, procurement of farm inputs, trainings and carrying out feasibility studies within the county. The county has estimated KShs 12,675,050 for the support of Kenya Red Cross Society's Gandini Irrigation Project (a food security project) the 2014/2015 financial year.

Building the capacity of the communities means that efforts are aimed at strengthening the skills and the knowledge of the beneficiaries so that they can take on responsibilities in managing the segments of the projects of the projects by themselves (Paul, 1987) by organizing the community into groups, educate and train them as most of them lack sufficient technical knowledge. According to Shoenfelt *et al.* (1991) the objectives of training are: knowledge acquisition, changing attitudes, problem solving skills, interpersonal skills, participant acceptance, and knowledge retention. With these objectives a successful training results into trainees being able to learn new information; alter existing attitudes or beliefs; improve ability and skill in problem solving; improve ability and skill in dealing with others; higher, voluntary and willing

participation during training; and recall and utilize the information and skills that were presented during training. The interaction between participants which takes place during training time, before and after sessions and at breaks, allows individual farmers to compare their values and attitudes with group norms. Interaction with fellow participants and expert trainers or facilitators allows information to be gathered from a number of sources. Introduction of learning (farmer) oriented extension approaches is a potentially powerful tool in the transformation of negative perceptions, attitudes and behaviour among government extension workers towards traditional small-scale farmers (Dalsgaard *et al.*, 2005). Farmers also undertake initiatives to acquire knowledge from other sources (published media, radio), as well as from their own experiences and experimentation (Feder, Murgai, & Quizon, 2004).

The trainings are concentrated on training of agricultural best practices which include: firstly, the technical and management skills and knowledge that farmers need to diversify from primarily producing food staple crops to beginning to produce high-value crops and other products and post-harvest handling (including simple methods of grading, packaging, value-added processing, storage and transportation systems) of high-value crop; meeting product quality; water management and protective cover systems; gaining access to and learning how to use market information.

Secondly, natural resource management skills and knowledge which emphasize on sustainable land management and conservation practices; sustainable water management and conservation practices (use of different water-efficient technologies, such as Zaipits, basins, multi-storey gardening, furrows (in areas or seasons in which water is stressful), water efficient crops, deficit irrigation and water harvesting techniques; river and watershed management practices); sustainable forestry, agro-forestry and wildlife management practices; biological management and biodiversity conservation practices; climate change and its implications for agricultural production systems.

Thirdly, the trainings also have a touch on family nutrition, health and hygiene knowledge and skills that concerns with food processing and preservation; family nutrition, especially for infants and young children; family hygiene, including safe water handling and waste management; and family household management.

Lastly the farmers are also trained on leadership and organizational skills to influence and ease farmers getting organized into producer groups or other types of farm organizations to carry out specific activities, ranging from supplying high-value crops to urban markets. The above concerns of the trainings confer with the agricultural best practices as explained by Swanson (2008).

A major issue with these training, however, concerns the effective and efficient delivery of the knowledge and information on these new advances and markets to dispersed farmers so that they can capitalize on these developments. The effective and efficient delivery should therefore consider the factors of farmers training in these projects.

Gandini Irrigation Project implemented by KRCS Malindi since January 2012 till to date has 149 farmers (households who before then depended on relief food in the previous years) working on a 300 acre piece of land in Gandini sub-location, Bungale location, in Marafa division, Magarini Sub-county of Kilifi County. The project has supported the primary land preparation; installation of irrigation system; installation of five greenhouses; procurement and distribution of farm implements, agrochemicals and planting materials (seeds, seedlings and cuttings). According to KRCS this had been done each year since the project was initiated tree years ago (KRCS, 2014). The project (on its fourth year of implementation) is implemented in Magarini sub-county, Marafa division, Bungale location in Gandini sub-location.

1.2 Statement of the Problem

Studies have shown that these projects (agricultural-food security projects) have performed poorly and attain lower scores. De Janvry (2010) said that agricultural investment projects have been faring poorly on a comparative basis, following misguided approaches such as the training-and-visit extension system, subsidized credit, and integrated rural development that have since been discontinued. Transfer of training for farmers is indicated in number of farmers adopting and practising new methods, acreage under new methods of cultivation, frequency of production, performance and organization of the farmer groups (cooperatives), crop yields, and income.

According to the KRCS Kilifi County financial report (2014) MIP estimated cost of Euro 30727/KShs 3,380,000 for capacity building and trainings. This was a huge investment and looking at the allocation in the above trainings, scores in the August 2014 survey were much more below the expected. In a survey conducted in August 2014 (KRCS,2014), three years after the start of the project, most of the farmers were still using the traditional methods of agriculture; very few are continuously producing annually, the performance of the group is low, large tracks of land is underutilized. Only 13.6% of the farmers were practising irrigation, while 31.4% in areas where irrigation is not possible had initiated adaptive farming practices. The average annual income was estimated at KShs 4,520 for men and KShs 2,225 for females (against KShs 8,000 and KShs 4,000 respectively); while only 2.3% of the participants were members of functional cooperative societies (against 15%). There was need for a study to find out why the level of transfer of the agricultural best practices (or training transfer) has been low yet many trainings have been conducted for the targeted farmers and influence of field training on the transfer of agricultural best practices in the food security component of the Magarini Integrated Project, the Gandini Irrigation Project.

1.3 Purpose of the Study

The purpose of the study was to study influence of training programme on the transfer level of agricultural best practices by farmers in Gandini Irrigation project, Kilifi County Kenya.

1.4 Objectives of the Study

The objectives of this study were:

1. To determine the extent to which trainee attributes in a training programme influence the level of transfer of agriculture best practices by farmers in Gandini Irrigation Project
2. To find out how trainer attributes in a training programme influence the level of transfer of agricultural best practices by farmers in Gandini Irrigation Project
3. To explore the influence of the training design in a training programme on the level of transfer of agriculture best practices by farmers in Gandini Irrigation Project
4. To assess how monitoring and evaluation in a training programme influences the level of transfer of agriculture best practices by farmers in Gandini Irrigation Project

1.5 Research Questions

The study sought to answer the following research questions:

1. How do trainee attributes in a training programme influence the level of transfer of agricultural best practices in Gandini Irrigation Project?
2. How do trainer attributes in a training programme influence the level of transfer of the agricultural best practices in Gandini Irrigation Project?
3. How does training design in a training programme influence the level of transfer of the agricultural best practices in Gandini Irrigation Project?
4. How does monitoring and evaluation in a training programme influence the level of transfer of the agricultural best practices in Gandini Irrigation Project?

1.6 Research Hypotheses

The study tested the following null hypotheses:

1. **H₀**: The trainee attributes in a training programme influence the level of transfer of agricultural best practices in Gandini Irrigation Project
2. **H₀**: Trainer attributes in a training programme influence the level of transfer of the agricultural best practices in Gandini Irrigation Project

3. **H₀**: Training design in a training programme influences the level of transfer of the agricultural best practices in Gandini Irrigation Project
4. **H₀**: Monitoring and evaluation in a training programme influence the level of transfer of the agricultural best practices in Gandini Irrigation Project

1.7 Significance of the Study

The findings of this study were not only to be useful to the researcher, but other groups of people were to also benefit. The groups include: facilitators, implementing agencies, farmers and other researchers.

Facilitators who are the trainers will be guided on the best design for conducting the future field trainings and M&E. Since most of the trainings are conducted by the extension and other officers from the line ministries, the implementing agency may prescribe the methodology, approach and even the scheduling of M&E events.

Since the project implementing agencies are keen on the outcomes of the project, the trainings that they plan in their logical frameworks will have to be objective. This implies that they will be keen in choosing the methodologies and approach; M&E planning for assessing training impacts.

Farmers are the implementers of the project on the ground and their knowledge of what they can contribute during the training and after the training and transfer of the agricultural best practices will lead to the realization of the intended outcome of the trainings. Some studies show that participants in a FFS, a farmer field training approach have higher yields compared to non-participants in potato production in Peruvian Andes (Godtland *et al.*, 2003).

The study may not have covered everything as far as the farmers' trainings are concerned. The emerging issues and gaps may spur other scholars to carry out further researches. The findings will also contribute to the body of knowledge.

1.8 Basic Assumptions of the Study

The research project was based on the assumption that the respondents provided the reliably relevant information. It also assumed that the community that was sampled was a representative of the rest of the population. All the assumptions were held.

1.9 Delimitation of the Study

The study was conducted in Kilifi County specifically focusing on Gandini Irrigation Project. The project just like some other food security projects was facing challenges of transfer of knowledge and skills acquired after training making it. Ideally the study ought to have been conducted in the whole county or even in country to get a bigger picture of the relationship of training factors and its transfer but it was due to limited resources that the findings in Gandini Irrigation Project were generalized for even other places with similar conditions.

1.10 Limitations of the Study

The planned and estimated time for data collection coincided with the rainy season and busy schedule for most of these farmers given that they had other plots outside the project sites. Another limitation was logistical challenge. The public service vehicles that reached the area on average reached the area almost in the mid day in some days.

1.11 Definition of Significant Terms

Training- process of imparting new knowledge and skills; and/or to refresh the knowledge the trainees already have.

Training transfer- the degree to which trainees (in this case the farmers) effectively apply the knowledge, skills, and attitudes gained in the training context to their work.

Agricultural best practices- practices that uphold proper utilization and conservation and sustaining of natural resources.

Trainee attributes- distinguishing characteristics of an individual farmer that can influence his or her learning and transfer of knowledge and skills.

Trainer attributes- distinguishing characteristics of an individual that can influence learner's learning and transfer of knowledge and skills.

Training design- the plan of how knowledge and skills are to be delivered to the learner in such a way that provides trainees the ability to transfer in to their work.

Motivation to train- perception which arouses the trainee's desire to attend a training programme.

Motivation to transfer- the perception which arouses trainee's desire to apply the skills and knowledge to her or his work.

1.12 Organization of the Study

Chapter one presented the background of the study, statement of the problem, objectives of the study, research questions that were to be answered, and hypotheses that were to be tested. It also presented the significance, basic assumptions, delimitations, limitations of the study with definitions of the significant terms used.

Chapter two presented literature review relevant to the study providing a clear understanding on trainee attributes, trainer attributes, training design and monitoring and evaluation. The chapter was organized as introduction, concept of training, conceptual framework, research gap and the summary of literature review.

Chapter three presented the research design, target population, sampling procedure and sample size, data collection methods and procedure. The chapter also outlined the validity, reliability, ethical consideration and data analysis techniques. Finally this chapter also presented the operational definitions of variables.

Chapter four contained the analysis of the data and presentation of the results in tables and percentages. This section also contained Chi-square test results.

Chapter five presented the summary, discussion and conclusion of the researcher's findings on the influence of trainee attributes, trainer attributes, training design and monitoring and evaluation on the transfer of agricultural best practices by farmers particularly for the case of Gandini Irrigation Project. This chapter also presented the recommendations emanating from the study findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter earlier studies related to this field of study were explored. More similarities were drawn from studies conducted in organizational, physical, medical and even farmer trainings. This chapter consisted of three main sections namely: the concept of training shedding light on what other researcher have done and found; and the research gap and summary. In the concept the various definitions and descriptive elaboration of the themes of training were given. The themes under the study were farmer or trainee attributes trainer or facilitator attributes, the design of training, and the monitoring and evaluation aspect of training. The transfer of the agricultural best practices in this study was likened to the training transfer. The research gap outlined the problem or the need for more studies in respect to Magarini sub-county, Kilifi County. The summary gave the snapshot of the literature.

2.2 Concept of training

Building the capacity of the communities means that efforts are aimed at strengthening the skills and the knowledge of the beneficiaries so that they can take on responsibilities in managing the segments of the projects of the projects by themselves (Paul, 1987). This means that the success of even farmers in an agricultural project is pegged on their capacity. Capacity refers to training, skills and capabilities of farmers and groups. In study conducted in Meru, Kenya by Davis *et al.* (2004) informants viewed trainings as very important to success for dairy goat groups in dissemination.

Many organizations spend much money on training, believing that training will improve their employees' performance and hence the firm's productivity. In 1997, organizations with more than one hundred employees were estimated to have spent \$58.6 billion in direct costs on formal training. However, unsettling questions continue to be raised about the return on this investment. In other words, training is useless if it cannot be translated into performance (Yamhill & McLean, 2001). Nikandrou *et al.* (2009) found that with high investments in and allocation of

resources to training, the need for justifying training effectiveness and documenting that employees (for this case the farmers) can transfer and use the skills learnt to their work environment has accelerated. Therefore, what counts in every training program is whether the participants are able to transfer and apply the skills they learn to their work. In review and analysis of literature by Ford & Weinstein (1997) transfer of training is the degree to which trainees effectively apply the knowledge, skills, and attitudes gained in the training context to the job. As the success of these training programmes is seen in its transfer, which is well translated into its transfer.

Curry, Caplan & Knuppel (1994) provide a useful model for viewing the training design, it consists of the following sequence: conduct needs assessment, develop training objectives, design curriculum, design/ select training methods, design evaluation approach, conduct training, and measure results. But for the purpose of this study, monitoring and evaluation will be treated as a different entity.

Studies distinguish three categories of factors affecting training transfer as factors concerning the trainee; factors concerning the training and the planning of the training programme (training methods and means, training place and equipment. Salas & Cannon-Bowers (2001); and Kirkpatrick (1979) found out that monitoring and evaluation is also another important factor in transfer, retention and thus transfer of the knowledge and skills acquired.

This study intended to study four factors of training that seem to affect the farmers' level of transfer of the agricultural best practices that they are trained namely: trainee attributes, trainer attributes, training design and monitoring and evaluation. These factors are intertwined.

2.3 Trainee attributes and transfer level of agricultural best practices

The characteristics of the trainee, such as his personality, his ability to learn and transfer his personal learning goals, utility, his commitment to work, his perception for learning and its transfer at work are factors affecting the motivation of the trainee to learn and the transfer of training (Burke & Hutchins, 2007). Studies have also found the following aspects of trainees have a hand in the trainees' ability to learn, transfer and eventually adopt the practices: age, motivation, gender, level of education and interest (goal).

2.3.1 Motivation

In a training process there are two types of motivation: training motivation and motivation to transfer. In order for the person to acquire and transfer the knowledge and skills acquired through training, he must have both. Training motivation spurs transfer motivation. Motivation to transfer is intended effort towards utilizing the skills and knowledge acquired from a training atmosphere to real work situation (Seyler *et al.*, 1998).

Nikandrou *et al.* (2009) found that the person who makes the decision to participate in a training program is an important factor in the training transfer process. Training programme is effective when need is intrinsic, that is, comes from them who are in need of it. In their case, where they studied organization conducting the training for their employees, it was not the organization that decided to conduct the training program for trainees. The employees (or trainees) decided for them to participate and played an active role in the content of their training. The research showed that internal motives led to greater motivation of the person to learn and transfer the training to his work in comparison to external motives. In their study a number of participants mentioned that they were motivated to participate in the training program due to their low level of job satisfaction.

Training motivation is similar to motivation to transfer because it is a measure of the trainees' perception of the relationship between training success and future job performance. Trainees leave training programs with different levels of motivation to use their learning on the work. Colquitt *et al.* (2000) in their training meta-analysis found out that motivation to learn related positively with skill acquisition, reactions and transfer of training. If farmers perceive that what they learn is relevant to their goal (what they need to know) or an intervention has met their expectations and fulfilled their need, they will be more motivated to transfer learning into performance. This relates to employees training and their jobs in a study by Yamhill & McLean (2001). In Expectancy theory of motivation by Vroom suggested that individuals are more motivated if they believe that their efforts will lead to enhanced performance. More successful learners would be expected to feel better able to perform, and therefore, more motivated to transfer.

2.3.2 Age

Learning happens at all ages, although it does decline somewhat with age. Numerous studies have documented that the level of training falls with the age of the worker. A very good reason for this is that the years over which an individual can benefit from new skills acquired from training are higher his or her earlier stages of life. Different types of training vary by the age of the worker.

In his study Richardson (2004) found out that generally, workers under the age of 25 are those most likely to receive this hands-on training—as over 80% of young workers do although that almost half of the oldest age group of workers still learn skills from their co-workers. Kirkpatrick (1979) agrees that age affects the mastery orientation of the trainee in the recall and the application of the acquired knowledge. Another important implication is the link between age and motivation to learn—older workers showed lower motivation, learning, and post-training efficacy (Salas & Cannon-Bowers, 2001). In a study conducted by Kubeck *et al.* (1996) on the degree of relationship between that age and training outcomes concluded that older adults have less mastery of the training content than younger adults, and they require more time to cover the training material.

Trainees must have the ability to retain the knowledge instilled during the training program to facilitate the transfer process. Similar to cognitive ability, training retention is the degree to which trainees retain the content after training is completed (Velada *et al.*, 2007). Van Gerven *et al.* (2002) in their study found out that elderly spent more time on training and experienced higher levels of cognitive load relative to the young, which strongly supported the view that working memory plays an essential role in learning new skills; and that elderly participants are disproportionately favored when studying worked examples. Age has a hand in physical strength of individuals. Younger individuals have generally stronger than the elderly.

2.3.3 Trainee literacy level

Barton (2000) defines literacy as being able to read, decode printed knowledge word, or comprehend what is written. It also means being well-informed and educated. He implies being able to use printed and written information to function in society, to achieve one's goals, and to

develop one's knowledge and potential and that it is related to years of education: the higher the education level, the higher the average literacy score. Among forms of literacy at the level of farmers, prose literacy (understanding and using information from texts) and quantitative literacy (being able to apply mathematical operations) are very important.

Those with the least education (less than year 12) systematically report receiving less of the main forms of training. The more formal the training, the more it is focused on those with more education, and the less do those with the least education benefit (Richardson, 2004).

2.4 Trainer Attributes and transfer level of agricultural best practices

These are distinguishing characteristics of an individual that can influence learner's learning and transfer of knowledge and skills. They are expressiveness and organization, teaching abilities and feedback.

2.4.1 Expressiveness and Organization

There has been surprisingly little research directly examining the effects of the trainer's delivery. Effectiveness of trainer's delivery of a lecture is dependent on the expressiveness (appropriate vocal intonations and fluency) of the verbal presentation and the organization of the textual content of the lecture. Expressiveness and organization influence the recall and problem solving (Towler & Dipboye, 2001). Trainees react more positively to an expressive and organized lecture and are better able to recall and apply what they learn than if they are presented with an inexpressive or less organized lecture (Towler & Dipboye, 2001).

If the material is delivered in a way that adversely affects the motivation of the trainees (e.g., dull or boring) or if the trainees approach the task with a low level of motivation, high organization seems less likely to benefit recall, and a low level of organization seems less likely to benefit problem solving. An organized trainer provides clarifying and elaborative content that makes the lecture easy to follow, whereas a less organized trainer requires the trainees to impose their own structure on a lecture.

2.4.2 Teaching Abilities

Towler & Dipboye (2001) say that the instructor's sensitivity to the cultural differences that students may experience during the instruction is an important factor for successful training. In addition to instructor's sensitivity and respect for the trainees, the instructor should also possess the abilities and be critical of the trainee learning process (Boendermaker *et al.*, 2003). Following these researchers, the current study included the language and relevancy used under this attribute. The trainer should be relevant with his or her examples and the language that the trainees understand.

Irby in dealing with clinical training he states that clinical teachers share a passion for teaching, are clear and organised, accessible, supportive, compassionate and able to establish rapport; provide direction and feedback; exhibit integrity and respect for others; and demonstrate clinical competence. They also utilise planning and orienting strategies, possess a broad repertoire of teaching methods and scripts; drawing on multiple forms of knowledge, they target their teaching to the level of the learners (Irby, 1995). In the study by Boendermaker *et al.*, (2000) teaching knowledge is about knowing when and how to use various teaching methods. They mentioned that teaching skills are about the best a trainer uses the knowledge, giving feedback, being observant, encouraging and being able to communicate and handle conflicts.

Burke & Hutchins (2008) described trainer's characteristics such as knowledge of the subject matter, professional experience, and knowledge of teaching principles, flexibility to the subject matter, adaptability to each learner's experience, and knowledge of learning style and teaching principles needs as supporters of training transfer. The trainer needs to enjoy self-confidence as well as confidence with the trainees-enjoys and learns from the training process since it provides the opportunity for the trainer to recognize that different people have different styles of learning and helps them to learn how to train in future (Schwartz, 1988). Self confidence also comes when the trainer has mastery of the subject and she or he is equipped with the training knowledge. Boendermaker *et al.* (2000) add enthusiasm, flexibility and patience as personal traits.

2.4.3 Feedback

Clynes *et al.* (2008) noted that feedback was a fundamental aspect of teaching and learning. They defined feedback as an interactive process which aims to provide learners with insight into

their performance. In as much as Boendermaker *et al.*, (2003) categorize giving feedback as a trainer attribute, Salas & Cannon-Bowers (2001) say that it should be during and after the training. Feedback has a two-way importance: is essential for the learners' growth as it provides direction and helps to boost confidence, increase motivation and self-esteem; and significantly enhances communication and interpersonal skills of the trainers.

Feedback can be vertical or horizontal. Vertical feedback in this case would involve the trainee's perceptions about the trainer, or vice versa; while horizontal feedback involves the organizer of the training and the trainers. In giving feedback it can be positive, negative, punishment and/or no training. Punishment and no feedback are reverse scores according to Boendermaker *et al.*, (2003) and Clynes *et al.* (2008). Best feedback is highly specific, and descriptive of what actually occurred.

2.5 Training Design and the transfer level of agricultural best practices

Lim (2000) says that the effect of training design on transfer of training has been studied by numerous researchers because it is believed to be one of the most important constructs affecting training transfer in his study in which he found that the two categories of training design variables were derived from many studies on transfer of training: instructional design and instructional method. Because there is no single method to deliver training, researchers continue to address how to best present targeted information to trainees (Salas & Cannon-Bowers, 2001). There is a science of training that shows that there is a right way and a wrong way to design, deliver, and implement a training program (Salas *et al.*, 2012).

2.5.1 The Content

The content of the training program should be relevant either to the immediate trainee's work needs or to future career needs. A number of studies have suggested that the issue of relevance of knowledge in training is of critical value in determining transfer. Thus, not only instructional design but also the relevance of instructional content is important and necessary components of conditions supporting training transfer (Yamnill & McLean, 2001).

Nikandrou *et al.*, (2009) say that training design must concentrate on applying learning in different contexts. From what they found out about trainees in their study their participation of increased when they realized that the training was useful to their career. Trainees are more likely to transfer the training content to the work context when they perceive that the training program was designed and delivered in such a way that maximizes the trainee's ability to transfer the training to the job (Velada *et al.*, 2007).

2.5.2 Instructional Methods

Recognizing learning style differences between workers, and between supervisors and trainees, can help to facilitate the learning and transfer process. Effective trainers are able to recognize learning differences, and to develop training approaches that emphasize a variety of methods. In this way, they can tap into predominant learning styles and help workers to use their less developed learning patterns. Parker's training cycle (Curry, Caplan, & Knuppel, 1994) and Nikandrou *et al.*, (2009) mention training methods as important in training design in the transfer of training.

Several effective instructional methods for effective training transfer: use of many different examples in various contexts and use of analogies. The use of diverse instructional methods is considered an important strategy for training design that leads to successful training transfer. By providing learning experiences in different ways, the trainees can master the training content conceptually and experientially. When a variety of relevant training stimuli are employed in the training content; and when trainees are taught the general rules and theoretical principles that underlie the training content there results a positive influence training transfer.

Collaborative learning (Salas & Cannon-Bowers, 2001) is where trainees are trained in groups, but not necessarily to perform a team task. The idea is that there are features of group interaction that benefit the learning process. In order to address all the training objectives and to facilitate the knowledge acquisition as well as behaviour change, different training methods were used including lecture, discussion, simulations (e.g. role play) and audiovisuals (Velada *et al.*, 2007).

Lim (2000) concludes that the use of diverse instructional methods is considered an important strategy for training design that leads to successful training transfer. By providing learning experiences in different ways, the trainees can master the training content conceptually and

experientially. The fact that Van Gerven *et al.*, (2002) concluded that elderly participants are disproportionately favored when studying worked examples can give a clue on what method trainers can adopt during training.

2.5.3 Participation

Training design should allow cumulative learning, participation of trainees during the training and even after training e.g. during decision making. Participation (which is much related in adult literacy) ensures ownership and innovation during the training and its transfer as Pretty (1995) notes. He further gives examples of energizers, work sharing, group formation and presentation as techniques for participatory learning. Answering and asking question is a participatory way in a training session.

Stewart *et al.*, (2010) agree that there is a link between demotivation and participation (of high skilled workers. In their survey they tried to answer questions concerning the extent which training helped workers exert greater influence over different levels of decision-making at work and whether they would welcome more training that might help them to exert greater influence over these different levels of decision-making. Burke & Hutchins (2008) found out in their study that training professionals reported using interactive exercises to encourage participation and making training content relevant as those strategies used in the design that best support transfer.

2.6 Monitoring and evaluation and the transfer level of agricultural best practices

Monitoring and evaluation (M&E) in training is a process that takes place prior, during and after the training. M&E is an integral part of the training program. It involves assessment prior, during after and post-training. Timely and reliable M&E provides information to: support project implementation; contribute to learning and knowledge sharing; uphold compliance; provides opportunities for stakeholders' feedback; and promote and celebrate achievements (IFRC & RCS, 2011).

2.6.1 Training Needs Assessment

In training (Salas & Cannon-Bowers, 2001), monitoring and evaluation it not only about routine observation and justifying the cost and benefit of the program but it involves what happens or the situation before the training, events that take place before, during and after the training since each is as important as the other. They acknowledge that one of the most important steps in

training development is conducting a training needs analysis. This first step in training development focuses on the process of deciding who and what should be trained. A training needs analysis is primarily conducted to determine where training is needed, what needs to be taught, and who needs to be trained. The outcome of this step is the specification of learning objectives, which in turn shape the design and delivery of training, as well as the process of criterion development. Once training goals are established, transfer potential can be enhanced by clarifying these roles. Unfortunately, many training programs fail to reach their goals because of organizational constraints and conflicts, which could have been identified and ameliorated solved before training was implemented Salas & Cannon-Bowers (2001). When training need is indicated by more than one assessment method, there is a greater chance that training can have an impact in the workplace. Examining trainee characteristics, such as skill and motivation levels, can help provide early information to determine when training can aid in solving a performance problem (Stewart 1986).

Thorough training needs assessment at the individual participant level seems important to ensure the success of training transfer as well as the quality of training. Thorough training needs assessment at the individual participant level seems important to ensure the success of training transfer as well as the quality of training (Lim, 2000).

2.6.2 Monitoring

Monitoring goes hand in hand with feedback after the training, that is, during the implementation of the practices (knowledge and skills) learned during the training. Monitoring is a routine activity of observing collecting and analyzing information to track progress against the set plans and check compliance to established standards (IFRC & RCS, 2011). During monitoring the learners' newly learned skills and knowledge are reinforced. From the definition of M&E, with timely, close and consistence monitoring new practices learned can be upheld by ensuring compliance on the part of the trainees.

2.6.3 Post-Training Evaluation

Carrying out a post-training evaluation involves carrying out an assessment after the training, as systematic and objective as possible, of completed training programme in its totality (its design,

implementation and results). The aim is to determine the relevance and fulfilment of objectives, developmental efficiency, effectiveness, impact and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process. Burke & Hutchins (2008) show need for a specific measurement tool following the training. Salas *et al.*, (2012) say that evaluation allows organizations to continue conducting training that works and to modify or discontinue training that does not work. IFRC & RCS (2011) puts it clear that the best evaluation is the one that involves as key stakeholders as much as possible. In this context it means the trainees, trainers and the organizers of the training, partners, donors, etc. Participation helps to ensure different perspectives are taken into account, and it reinforces learning from and ownership of the evaluation findings.

2.7 Conceptual Framework

Independent Variables

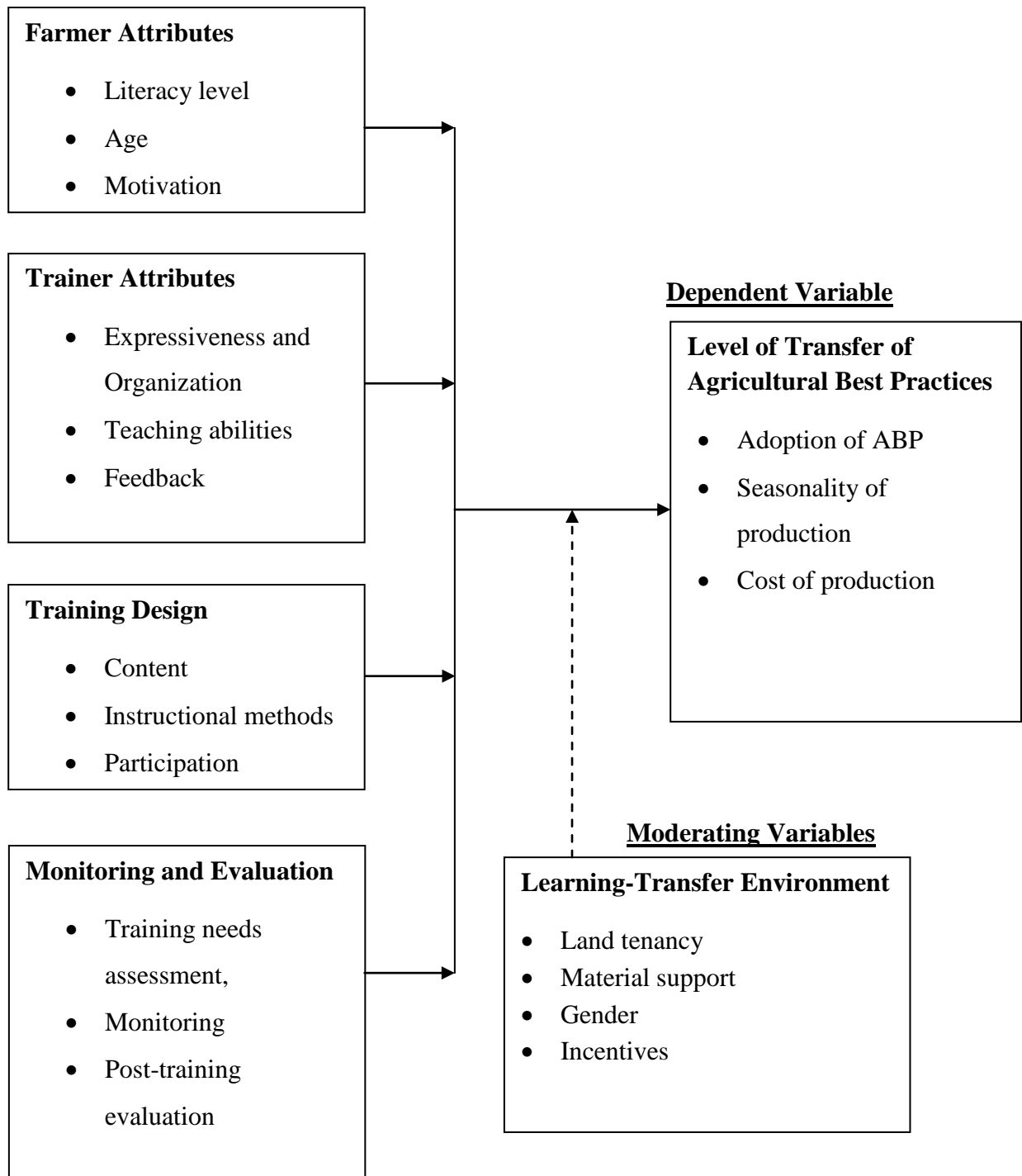


Figure 1: Conceptual framework on factors of training programme on transfer of ABP.

The conceptual framework shows that the level of transfer of agricultural best practices is influenced by trainee attributes, trainer attributes, training design and monitoring and evaluation of the training programme. The attributes of the trainee covers such distinguishing characteristics as motivation to train and transfer, age and level of literacy. Trainer attributes cover such distinguishing characteristics such as expressiveness and organization, teaching abilities and feedback. Training design has issues as content, instructional methods and participation. Monitoring and evaluation covers issues such as training needs assessment, routine monitoring and post training evaluation.

2.8 Research Gap

There has been almost no study conducted specifically for the Kilifi County as far as training transfer for the farmers is concerned. While many studies have been conducted on training transfer a number of them have studied trainee attributes, transfer design and transfer environment-the likes of Yamhill & McLean (2001); Curry, Caplan & Knuppel (1994) and Salas & Cannon-Bowers (2001). Only few like Kirkpatrick (1979) studied monitoring and evaluation singly as another important factor in transfer. Most of these studies researched on monitoring and evaluation only did some aspects of it under either trainer attributes or the training design. For example Boendermaker *et al.*, (2003) found feedback as a factor under trainer's teaching skills. Salas & Cannon-Bowers (2001) found the importance of needs assessment under the training design component. In this study the intention was to come up with a new model of approaching training by looking at the four aspects namely: trainee attributes, trainer attributes, training design and monitoring and evaluation. Learning-transfer environment was treated as moderating variables which in the above previous studies they were treated as independent variables.

2.9 Literature Review Summary

From the analysis above it is clear that training is a very important component in building the capacity of the targeted population. Training improves performance and productivity but what counts in every training program is whether the participants are able to grasp and apply the skills they learn to their work. Various researchers have classified various factors affecting transfer of training into various categories: training inputs, (including trainee characteristics, training design, and work environment); training outputs, (consisting of learning and retention); and conditions of transfer depending on how each of them viewed such components.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was used in data collection and its analysis in order to answer the research questions addressing the farmers' transfer of training in the agricultural best practices. The section discussed the research design; detailed the target population, sampling procedures, data collection methods and instruments and procedures, validity, ethical considerations and methods of data analysis.

3.2 Research Design

A research design is the strategy for a study and the plan by which the strategy is to be carried out. It specifies the methods and procedures for the collection, measurement, and analysis of data (Mwanyota, *n.d.*). The study used a descriptive survey design. According to Kothari (2004) the design provides a deep understanding of the circumstances under study and its instruments are helpful in getting in-depth first hand experiences; and that it has ability to allow the collection a large amount of data quickly and a minimal cost. It is concerned with conditions that exist, practices that prevail, beliefs and attitudes that are held, processes that are ongoing and the trends that are developing.

3.3 Target Population

The target population of the study was 149 farmers working in the Gandini irrigation Project in Gandini sub-location of Bungale location, Magarini sub-county in Kilifi County (KRCS, 2014). This figure was arrived at by the six blocks A, B, C, D, E and F. Blocks A, B, C and D border each other as they are found in one nuclear plot in Lukole village of Gandini sub-location while blocks E and F border each other but found in Kwandezi village of the same sub-location.

3.4 Sampling Procedure and Sample Size

Since each of the six blocks had varied number of farmers the research adopted random sampling method of proportionate stratified sampling procedure. According to Bordens & Abbott (2011)

in random sampling, every member of the population has an equal chance of appearing in the sample; it eliminates the possibility that the sample is biased by the preferences of the person selecting the sample and affords some assurance that the sample does not bias itself. The proportionate stratified sampling ensures the degree of representativeness and leads to an equal representation of each segment (in this case the blocks) of the population sample.

The sample size of the study was 108 farmers calculated using the formula and table by Krejcie & Morgan (1970).

$$s = \frac{X^2 NP (1-P)}{d^2 (N-1) + X^2 P (1-P)} \quad \text{where;}$$

s=required sample size

X^2 =the table value of chi-square for 1 degree of freedom at confidence level 0.05 (which is $=1.96^2=3.8416$)

N=Population Size

P=the population proportion (assumed to be 0.5 since this would provide the maximum sample size)

d=degree of accuracy expressed as a proportion

=0.05

$$\begin{aligned} \text{Thus, } s &= \frac{3.841 \times 149 \times 0.5 (1-0.5)}{0.05^2 (149-1) + 3.841 \times 0.5 (1-0.5)} \\ &= \frac{143}{0.37 + 0.9603} \end{aligned}$$

=107.49 (approximately 108 respondents)

This was about 72 percent of the total farmers (population).

Table 3.1 Sampling size

Number	Block	Population	Sample (72%)
1	A	21	15
2	B	30	21
3	C	26	19
4	D	31	22
5	E	21	15
6	F	20	15
TOTAL		149	108

3.5 Data Collection Methods

Primary and secondary data was collected. Questionnaires, focus group discussions (FGDs), and observation were used to collect the primary qualitative and quantitative data. The questionnaires (with structured and semi-structured questions) were used to collect quantitative data since they are less costly and easy to administer. Since the respondents have enough time to give answers they (questionnaires) are reliable. The 108 questionnaires were administered to sampled farmers. FGDs were overseen (using FGD guides) to two groups (6 men and 6 women) to collect qualitative data. A checklist was used to collect quantitative data about the project. Secondary data was collected from the reports from the implementing agency (Kenya Red Cross Society, Malindi Branch). The quantitative and qualitative data was used for triangulation.

3.6 Data Collection Procedure

The researcher trained the four (2 male and 2 females) research assistants on how to collect the data using the tools (questionnaires, FGD guide and check lists) that had already been prepared. The researcher with research assistants in person collected the data by administering the questionnaires and FGDs; and filling in the checklist. During the data collection process the research consulted the project staff for cross checking some information collected using the checklist. Communication to the respondents was made in English, Kiswahili and Giriama (where possibly applicable).

3.7 Validity of the Research Instruments

Gakuu & Kidombo (2010) refers validity to the appropriateness, meaningfulness and usefulness of the inferences a researcher makes (drawing the correct conclusions based on the data obtained from an assessment). Validity refers to the degree to which evidence supports any inferences a researcher makes based on the data he or she collects using a particular instrument. To ensure content related validity; the questions were set in a form that they were appropriate, comprehensive to obtain information to enable measure most of (if not all) the constructs of the variables; criterion related validity, the formulated questions that were relevant, free from bias so that the information that was being sought was available by the respondents. Piloting was done was done using 12 questionnaires. They were found to be valid.

3.8 Reliability of the Research Instruments

Bordens & Abbott (2011) define reliability as ability to produce similar results when repeated measurements are made under identical conditions while Gakuu & Kidombo (2010) define it as the degree of consistency of score or answers from one administration of an instrument to another, and from one set of items to another. Thus an instrument is said to be reliable when it gives consistent results with repeated measurements of the same object with the same instrument. This was ensured by using trained and motivated persons (research assistants) to conduct the research and also by broadening the sample by increasing the sample size from the least 10 percent as suggested by Mugenda & Mugenda (1999) to 72.5 percent (that is 108 out of 149). The researcher carried out test retests to the 10 percent of the sample (that is 11 respondents) and analyze by correlation coefficient. The Pearson's coefficient was 0.98025 as the Spearman Brown's coefficient was 0.99003.

3.9 Ethical Considerations

To successfully conduct this study the researcher submitted a written request to KRCS Malindi for permission to study Gandini Irrigation Project which was replied in writing (permission letter). The consent was sought from all the participants before any data would be collected from them; and the purpose of the study was explained comprehensively to them. Their confidentiality was assured. None of them his or her name or identity was captured on the questionnaire. Data was not interpreted from a biased perspective.

3.10 Data Analysis Techniques

In data analysis, computation of certain measures along with the searching for patterns of relationship that exist among data groups was done as drawn from Kothari's (2004) definition. Data analysis facilitated answering of the research questions.

Data was checked for accuracy and completeness. Percentages and tables were be used to summarize and organize the data. To investigate whether a dependence relationship exists between two variables or whether the variables are statistically independent a Chi-square was used in testing the hypotheses. The qualitative data collected from the FGDs, analyzed and presented for triangulation with the quantitative data that was collected using the checklist and questionnaires. Cross tabulation was used as well as determination of correlation among the variables.

3.11 Operational Definition of Variables

Table 3.2: Operational Definition of Variables

Variable	Type of variable	Indicators	Level of scale	Data collection method
Level of transfer of agricultural best practices	Dependent	<ul style="list-style-type: none"> • Adoption of ABP • Seasonality of production • Cost of production 	Ratio	Questionnaire Observation
Trainee attributes	Independent	<ul style="list-style-type: none"> • Motivation • Age • Literacy level 	Ordinal	Questionnaire
Trainer attributes	Independent	<ul style="list-style-type: none"> • Expressiveness and organization • Teaching abilities • Feedback 	Ordinal	Questionnaire
Training design	Independent	<ul style="list-style-type: none"> • Content • Instructional methods • Participation 	Ordinal	Questionnaire
Monitoring and evaluation	Independent	<ul style="list-style-type: none"> • Needs assessment • Monitoring • Post-training evaluation 	Ordinal	Questionnaire
Learning-transfer environment	Moderating	<ul style="list-style-type: none"> • Land tenancy • Material support • Gender • Incentives 	Nominal	Questionnaire Interview

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This section describes the findings of the study. Tables have been used to present the data. In testing the hypotheses, inferential statistics Chi-square test for independence has been used to test the relationships among the variables.

4.2 Response Rate

This is a very important component of the research. A lower response rate has dangers of biasness. Response rate is the percentage of those selected in a sample that provides the data for analysis. There was 100% response rate. One questionnaire was incomplete, thus nullified.

Table 4.1: Response rate per block

Number	Block	Population	Sample (72%)	Response	% Response
1	A	21	15	15	100
2	B	30	21	21	100
3	C	26	19	19	100
4	D	31	22	22	100
5	E	21	15	15	100
6	F	20	15	15	100
TOTAL		149	108	108	100

4.3 General Information of the Respondents

This section sought to find the general information about the respondents including: gender, age, level of education and marital status. This section also sought to find out the mode of acquisition of the plot on which they work and whether they had ever attended any agriculture best practice training organized for the farmers within Gandini Irrigation Project.

Table 4.2: Summary of demographic information

Demography	Respondents	Total	Percentage
Gender	Male	24	22.43
	Female	83	77.57
Age	18-35 years	36	33.64
	36-55 years	55	51.40
	Above 55 years	16	14.95
Marital status	Single	3	2.80
	Married	92	85.98
	Single parent	2	1.87
	Widowed	9	8.41
	Divorced	1	0.93
Level of education	Did not attend school	58	54.21
	Lower primary school	7	6.54
	Upper Primary school	35	32.71
	Secondary school	6	5.61
	Tertiary college	1	0.93
Plot acquisition	Bought	22	20.56
	Leasehold	39	36.45
	Family land	46	42.99
Training attendance	No	1	0.93
	Yes	106	99.07

More than three quarters (77.58%) of the farmers in GIP were female as male farmers were slightly less than a quarter (22.43%). Two thirds of the farmers were out of the youth bracket (beyond 35 years); only a third of the farmers were in the youth bracket though the larger percentage (almost all) have family responsibilities (97.20%). More than half of the population (of farmers) did not go to school; 39.25% attended various levels of primary education; and only 6.54% attended school beyond primary school. A fifth of the population bought their plots; about

a third (36.45%) had leased their plots in the irrigation schemes and only 43% work on family land (but some not entirely owning it). 99% had attended training in the last one year.

4.4 Trainee attributes and the transfer of agricultural best practices by farmers in Gandini Irrigation Project

This variable was aimed at establishing the extent to which trainee attribute influence the level of transfer of agricultural best practices by farmers. It was examined using three key indicators namely: trainee motivation, age and level of literacy. Motivation was assessed by attendance to the training; age was assessed by the recall of main topics while literacy assessed by the ability of farmers to read and use or apply the information from the training. The responses by the farmers as per the three indicators are as shown in the following tables.

Table 4.3: Cross tabulation: motivation and attendance of training

		Motivation: Attending a farmer's training is as good as not attending one				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Have you ever attended any farmers training?	YES	20	54	1	20	11
	NO	1	0	0	0	0

Table 4.4: Cross tabulation: trainee age and recall

		Recall: I remember the main topics of the last training				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
What is your age?	18-35 years	0	0	0	30	4
	36-55 years	0	0	3	46	6
	Above 55 years	1	1	0	16	0

Table 4.5: Cross tabulation: Reading and using information; and trainee literacy level

		Application: I read and use the information I got in the last training in my work				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
What is your level of education?	Did not attend school	4	35	2	12	5
	Lower primary school	0	0	0	6	1
	Upper Primary school	0	1	0	32	2
	Secondary school Tertiary/ college	0	0	0	4	2

In responding to the statement ‘Attending a farmer’s training is as good as not attending one’ in determining the motivation, 31 farmers (28.97%) agreed while 76 farmers (71.03%) disagreed while 1 farmer (1%) farmer was undecided. On age versus recall: 102 farmers (95.33%) agreed that they remembered the main topics or relevant concepts that were taught during the previous trainings while 2 farmers (1.87%) disagreed as 3 farmers (2.80%) were undecided. The literacy level was measured by finding out whether the farmers were able to read and use what they had learned from the previous trainings. The 66 farmers (61.68%) agreed; 39 farmers (36.45%) disagreed while 2 farmers (1.87%) were undecided.

Presentation of the hypothesis testing between the trainees attributes and level of transfer of agricultural best practices by farmers in Gandini Irrigation Project is as follows:

H₀: The trainee attributes in a training programme influence the level of transfer of agricultural best practices in Gandini Irrigation Project

H₁: The trainee attributes in a training programme do not influence the level of transfer of agricultural best practices in Gandini Irrigation Project

Table 4.6: Chi-square results on the relationship between trainee attributes and level of transfer of agricultural best practices

	Chi-square value	df	X -Table value	Decision on null
Motivation	4.1339	4	9.488	Reject
Age	14.837	8	18.307	Reject
Literacy level	60.9855	16	26.296	Accept

Since at 4 degrees of freedom the calculated Chi-square value (4.1339) was less than Chi-square table value (9.488), the null hypothesis for motivation was therefore rejected. The null hypothesis for age at 8 degrees of freedom was also rejected since Chi-square value (14.837) was less than Chi-square table value (13.307). The null hypothesis for literacy was accepted since at 16 degrees of freedom Chi-square value (60.9855) was far much greater than Chi-square table value (9.488).

4.5 Trainer attributes and the transfer of agricultural best practices by farmers in Gandini Irrigation Project

This variable was aimed at establishing the extent to which trainer attributes influence the level of transfer of agricultural best practices by farmers. It sought to find out whether the trainees perceived any differences among the trainers who have trained them in the past. It was examined using three key indicators namely: trainer expressiveness and organization; trainer teaching abilities; and feedback from the trainer. Expressiveness and organization was assessed by perception of trainees in relation to boredom; trainer teaching abilities was assessed by the language used; while feedback was assessed plot visits by the trainers. The responses by the farmers as per the three indicators are as shown in the following tables.

Table 4.7: Cross tabulation: trainer expressiveness and organization; and boredom of the session

		Trainer expressiveness and organization: The way the trainer(s) taught the material was boring				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Differences in trainers?	YES	3	18	1	1	0
	NO	13	69	0	1	1

Table 4.8: Cross tabulation: teaching abilities (language) and differences in the trainers

		Teaching abilities (language): Sometimes information has passed me because of the language used				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Differences in trainers?	YES	1	9	3	9	1
	NO	13	45	7	15	4

Table 4.9: Cross tabulation: feedback and differences in trainers

		Feedback: After training I receive feedback from trainers on how well I am applying what I learnt.				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Differences in trainers?	YES	0	7	2	10	5
	NO	6	39	14	22	2

Slightly above a fifth (21.50%) of the farmers (that is 23 farmers) agreed that the trainers showed some level of differences in their way of training while the rest, 84 (78.50%) farmers perceived no difference among the trainers. Only 3 farmers (2.60%) agreed that they were bored with the way the trainers taught their material to them while 103 farmers (96.26%) disagreed while 1 farmer (0.94%) was undecided. 29 farmers (27.10%) agreed that sometimes information passed them because of the language used during the previous trainings while 68 farmers (63.55%) disagreed as 10 farmers (9.35%) were undecided. With feedback 38 farmers (35.51%) agreed; 53 farmers (49.53%) disagreed while 16 farmers (14.95%) were undecided.

The following hypothesis was tested under the study.

H₀: The trainer attributes in a training programme influence the level of transfer of agricultural best practices in Gandini Irrigation Project

H₁: The trainer attributes in a training programme do not influence the level of transfer of agricultural best practices in Gandini Irrigation Project

Table 4.10: Chi-square results on the relationship between trainer attributes and level of transfer of training of agricultural best practices

	Chi-square value	df	X -Table value	Decision
Expressiveness and organization	4.9939	4	9.488	Reject
Teaching abilities (language)	6.5334	4	9.488	Reject
Feedback	12.4562	4	9.488	Accept

Since at 4 degrees of freedom the calculated Chi-square values for ‘expressiveness and organization and teaching abilities/language’ (4.999 and 6.5334 respectively) were less than Chi-square table value (9.488), the null in this respect was therefore rejected. The null hypothesis for indicator ‘Feedback’ was accepted since at 4 degrees of freedom the calculated Chi-square value (12.4562) was greater than Chi-square table value (9.488).

4.6 Training design and the transfer of agricultural best practices by farmers in Gandini Irrigation Project

This variable was aimed at establishing the extent to which training design influences the level of transfer of agricultural best practices by farmers. It sought to find out what the trainees perceived (liking) about the design. It was examined using three key indicators namely: content; instructional methods; and participation by the trainees. The content was assessed against the relevancy; instructional methods were assessed against its applicability in the presentation of the material (information); while participation against chance by farmers (trainees) to fully participate during the training. The responses by the farmers as per the three indicators are as shown in the following tables.

Table 4.11: Cross tabulation: content relevancy and trainee liking of the manner in which training have been conducted in the past

		Content relevancy: sometimes I get information that is not useful				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Liking of manner in which training have been conducted?	YES	31	53	7	4	4
	NO	1	7	0	0	0

Table 4.12: Cross tabulation: instructional methods and trainee perception of the manner in which the training have been conducted in the past

		Instructional methods: The methods that the trainers used to present the materials were applicable				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Liking of manner in which training have been conducted?	YES	1	1	1	83	13
	NO	1	1	1	5	0

Table 4.13: Cross tabulation: participation and trainee perception of the manner in which the training have been conducted in the past

		Participation: I have been given a chance to fully participate during the training				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Liking of manner in which training have been conducted?	YES	1	8	7	63	20
	NO	2	6	0	0	0

Almost all the farmers (99 farmers, 92.52%) liked the manner in which the previous trainings had been conducted. Only 8 farmers (7.48%) had disagreed. With content relevancy only 8 farmers (7.48%) agreed that sometimes they got information that is not useful while 92 farmers (85.98%) disagreed while 7 farmers (6.54%) were undecided. 101 farmers (94.39%) agreed that methods that the trainers used to present the materials were applicable during the previous trainings while 4 farmers (3.74%) disagreed as 2 farmers (1.87%) were undecided on instructional methods. With participation 87 farmers (77.57%) agreed; 17 farmers (15.89%) disagreed while 7 farmers (6.54%) were undecided.

Presentation of the hypothesis testing between the trainees attributes and level of transfer of agriculture best practices by farmers in Gandini Irrigation Project is as follows:

H₀: The training design in a training programme influence the level of transfer of agricultural best practices in Gandini Irrigation Project

H₁: The training design in a training programme does not influence the level of transfer of agricultural best practices in Gandini Irrigation Project

Table 4.14: Chi-square results on the relationship between training design and level of transfer of training of agricultural best practices

	Chi-square value	df	X -Table value	Decision on null
Content relevancy	3.16086	4	9.488	Reject
Instructional methods	17.1440	4	9.488	Accept
Participation	47.8000	4	9.488	Accept

Since at 4 degrees of freedom the calculated Chi-square value for ‘content relevancy’ (3.16086) was less than Chi-square table value (9.488), the null was therefore rejected. The null hypothesis for indicator ‘instructional methods and participation’ were accepted since at 4 degrees of freedom the calculated Chi-square values (17.1440 and 47.8000) each was greater than Chi-square table value (9.488).

Another relationship emerged and the researcher sought to find out the relationship between the training design (instructional methods) and the trainer attributes (age and level of literacy).

Table 4.15: Cross tabulation: instructional methods and literacy level

		Instructional methods: The methods that the trainer(s) used to present the material were applicable				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Literacy	Did not attend school	2	1	0	49	6
	Lower primary school	0	0	1	3	3
	Upper Primary school	0	1	1	33	0
	Secondary school	0	0	0	3	3
	Tertiary/ college	0	0	0	0	1

Table 4.16: Cross tabulation: instructional methods and trainee age

		Instructional methods: The methods that the trainer(s) used to present the material were applicable				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Age	18-35 years	0	0	1	31	4
	36-55 years	1	1	1	43	9
	Above 55 years	1	1	0	14	0

Based on literacy level and age vis-à-vis instructional methods, six farmers (5.61%) did not agree with the statement ‘*the methods that the trainer(s) used to present the material were applicable*’ while 101 farmers (94.39%) agreed with the statement.

The researcher tested the relationships and presented it as in the table below.

Table 4.17: Chi-square results on the relationship between training design (instructional methods and trainee age and level of literacy in respect to transfer of agricultural best practices

	Chi-square value	df	X-table value	Decision on null
Age	8.101148	8	18.307	Reject
Level of literacy	36.1339247	16	26.296	Accept

At 8 degrees of freedom the calculated Chi-square values for ‘age’ (8.101148) is less than Chi-square table value (18.307), the null are therefore rejected. The null hypothesis for indicator ‘literacy level’ was accepted since at 16 degrees of freedom the calculated Chi-square value (26.296) are than Chi-square table value (36.1339247).

4.7 Monitoring and evaluation and the transfer of agricultural best practices by farmers in Gandini Irrigation Project

This variable was aimed at assessing the extent to which training design influences the level of transfer of agricultural best practices by farmers. It was examined using three key indicators namely: training needs assessment; monitoring; and post training evaluation. The responses by the farmers as per the three indicators are as shown in the following tables.

Table 4.18: Cross tabulation: training needs assessment (TNA) and time of training (need)

		Appropriate time of training: the trainings just come at the right time when I need them				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
TNA: Have you ever been asked what do you need to be trained about?	YES	1	2	0	29	17
	NO	0	3	1	48	6

Table 4.19: Cross tabulation: monitoring and visiting of trainee plot

		Monitoring: My trainer meets with me to discuss ways to apply training on the farm				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Has the trainer ever visited your plot to see how you are progressing?	YES	1	0	0	69	0
	NO	0	33	1	2	1

Table 4.20: Cross tabulation: post training evaluation and trainer's perception of the training programme

		Post training evaluation: I have started realizing the benefit of the trainings				
		Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
Do you think the way the trainings have been conducted should be changed?	YES	1	0	0	23	12
	NO	0	1	1	43	24

Less than half of the farmers, 49 farmers (45.79%) agreed that they had ever been asked what they needed to be trained about while more than half, 58 farmers (54.21%) had disagreed, though 100 farmers (93.46%) agreed that the trainings just came at the right time when they needed them while only 6 farmers (5.61%) disagreed as 1 farmer (0.94%) was undecided. About two thirds of the farmers, 70 farmers (65.42) agreed that the trainer had ever visited their plots to see how you were progressing while about a third, 37 farmers (34.58%) refused. Out of this 72 farmers (67.29%) agreed that trainer had met with them to discuss ways to apply training on the farm while 34 farmers (31.78%) disagreed as only 1 farmer (0.94%) was undecided. On post training evaluation 38 farmers (35.51%) thought that the way the trainings had been conducted should be changed while 69 farmers (64.49%) thought it should not be changed. Almost all the farmers, 104 farmers (97.19%) claimed that they had started realizing the benefit of the trainings while only 2 farmers (1.87%) had not as 1 farmer was undecided.

The following is a presentation of the hypothesis test between the monitoring and evaluation and level of transfer of agricultural best practices by farmers in Gandini Irrigation Project.

H₀: Monitoring and evaluation in a training programme influence the level of transfer of agricultural best practices in Gandini Irrigation Project

H₁: Monitoring and evaluation in a training programme do not influence the level of transfer of agricultural best practices in Gandini Irrigation Project

Table 4.21: Chi-square results on the relationship between Monitoring and evaluation and level of transfer of training of agricultural best practices

	Chi-square value	df	X -Table value	Decision on null
Training needs assessment	11.4733	4	9.488	Accept
Monitoring	98.4081	4	9.488	Accept
Post training evaluation	2.98392	4	9.488	Reject

The null hypothesis for indicator ‘training needs assessment and monitoring’ were accepted since at 4 degrees of freedom the calculated Chi-square values (11.4733 and 98.4081) are than Chi-square table value (9.488). Since at 4 degrees of freedom the calculated Chi-square values for ‘post training evaluation’ (2.98392) is less than Chi-square table value (9.488), the null are therefore rejected.

Table 4.22: Top 10 out of 26 topics or concepts that the farmers remembered

SNO	TOPIC/CONCEPT	SCORE	%
1	Land preparation (basin preparation)	56	21.46
2	Maize planting (seed/hole)	40	15.33
3	Nursery preparation	35	13.41
4	Chemical spraying	21	8.05
5	Intercropping	20	7.66
6	Tomato culture	15	5.75
7	Fertilizer /manure application	11	4.21
8	Value addition (tomato jam/cassava milling)	09	3.45
9	Cooperative management	08	3.07
10	Hygiene and nutrition	08	3.07

4.8 FGD Results on the influence of training on transfer of agricultural best practices by farmers in Gandini Irrigation Project

From the FGDs the respondents confirmed that indeed the level of education played an important level of training transfer. Education came in especially in reference to the use of chemical sprays which a farmer needs to read the labels; and understanding the 'foreign language' used during the training. Farmer mentioned the trainee attributes as level of education, family responsibilities (confirmed as 97.20% having family responsibilities and 77.58% are women), gender, age, motivation (they cited incentives), and culture in that order.

The respondents when asked who a good teacher (trainer) was they listed the attributes in the order of ability to use a language understandable by the trainer, respects the opinion of the trainee; gives feedback (asking questions to find out whether the trainees understand); lowers to the level of the trainer; does not show any form of favouritism; in between harsh and polite and able to use working example. This confirmed the chi-square results for feedback ($X^2=12.4562$).

All the respondents in the FGDs expressed satisfaction of the way the trainings had been conducted however they mentioned that the most successful training and its transfer would be reached if trainers came in mixed genders; a design is more practical (participatory which is confirmed by Chi-square value, $X^2=47.8000$) than theoretical; appropriate session timing (confirming the trainee responsibilities and the importance of training needs assessment that had a Chi-square value $X^2=11.4733$); trainings couple with exposure trainings; and venue sensitive so as not to divert training attention to family matters during training (such as children asking for parents attention). The respondents also noted that the trainers should appreciate that the trainees have different levels of literacy and therefore when choosing a design they should be very keen on meeting each trainees level. The higher liking score was confirmed also by the Chi-square value $X^2=17.1440$.

The respondents' there involvement in monitoring and evaluation as a process that deepens their learning and understanding and an opportunity to undertake any corrective measure in the event they go astray in the application of the skills they acquire. This was confirmed the Chi-square value, $X^2=98.4081$. The respondents also mentioned that their role as trainees was coming up with suggestions of important areas of concern during the trainings, listening and participation during the training and farmer to farmer sharing and refreshing after the training.

Even after liking the trainings the respondents mentioned financial and physical capability (money and energy required to execute some of practices); low levels of education; size and security of the plots; limited extension services by trainers; attitude towards change from subsistence to agri-business approach of crop production; and fear of dangers of some farming techniques (dangers of chemicals) as most factors impeding the successful transfer of training.

4.9 Checklist Results on the influence of training on transfer of agricultural best practices by farmers in Gandini Irrigation Project

All the plots are arable and most plots had basins or markings of previous season's basins although some plots unprepared. The committees cited that other farmers were still waiting for the rains. Monocropping with maize was practised by most farmers despite the support for various crops though some nurseries were observed but they had not been transplanted. Project had six lister pumps all in good working conditions though on the day of data collection a low usage though (it could do 40 acres per pump per day). Other technologies such as '*Zaipits*' were observed to be mostly practised in upland areas far from the river and furrows mostly in hilly areas. Most plots were bare the debris on boundaries or along the sides of basins. There were signs of debris burning.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section discusses the findings in brief and compares and contrasts with the findings of the similar studies. Finally it gives conclusions and recommendations arising from the study.

5.2 Summary of findings

The aim of the study was to study the influence of training on the transfer of agricultural best practices (ABP) particularly for Gandini irrigation project in Kilifi County. The four objectives involved exploring the influences of training components (trainee attributes, trainer attributes, training design and monitoring and evaluation) on the transfer of ABP.

Under the trainee attributes motivation, age and literacy level were studied as indicators. One hypothesis was tested for both. Motivation and age has Chi-square value, $X^2=4.1339$ and $X^2=14.837$ respectively and their null were rejected thus did not have any influence on the transfer. On the other hand the level of literacy had a Chi-square value, $X^2=60.9855$ confirming that it had an influence on the transfer.

Three indicators were used in trainer attributes; expressiveness and organization, teaching abilities (language) and delivering of feedback. The Chi-square values for expressiveness and teaching abilities $X^2=4.9939$ and $X^2=6.5334$ respectively revealed absence of influence on the transfer. Delivery of feedback by the trainer revealed a relationship with the transfer of the practices as it had a Chi-square values of $X^2=12.4562$. Feedback was confirmed during the FGD.

In exploring the influence of the training design, three indicators namely content, instructional methods and participation were studied. In testing the hypothesis, the three were separately tested. It was revealed that the content did not have influence as it had a Chi-square values of $X^2=3.16086$. Instructional methods had a high Chi-square value of $X^2=47.8000$ while participation had $X^2=17.1440$. This showed that the two had an influence in the transfer. There was also a relationship between the instructional methods as a Chi-square value of

$X^2=36.1339247$ while age showed no relationship with instructional methods as it scored a Chi-square value of $X^2=8.101148$. Level of literacy was also confirmed during the FGD.

Training needs assessment (TNA), monitoring and post training evaluation were the indicators on the factor 'monitoring and evaluation'. The Chi-square values of $X^2=11.4733$ and $X^2=98.4081$ showed that TNA and monitoring had influence on the transfer while post training evaluation did not have as it scored a low Chi-square value of $X^2=2.98392$.

5.3 Discussion

Seyler *et al.* (1998); Nikandrou *et al.* (2009) noted that a person who makes the decision to participate in a training program is an important factor in the training transfer process. Most of the respondents disagreed that attending training was a good as not attending thus it was the motivation that saw most of the respondents attend previous trainings. Vroom suggested that a person is motivated if he benefits from what he undertakes, though in an FGD respondents mentioned that they were more motivated to participate in the training program due to the incentives that they received.

The checklist and FGD results agreed with Richardson (2004) who said that learning happens at all ages, although it does decline somewhat with age and older people can learn skills from their co-workers. From the FGD respondents mentioned that one of their role was to do farmer to farmer sharing and refreshing after the training. The findings of this study however disagreed with Kirkpatrick (1979); Kubeck *et al.* (1996) that age affects the mastery orientation of the trainee in the recall and the application of the acquired knowledge since most of them were able to remember topics and relevant concepts. The findings agreed with Barton (2000) and Richardson (2004) that those with the least education (less than year 12) systematically report receiving less of the main forms of training (classroom- read-and-write) especially in the FGD. Although the highest percentage were among the 'never attended school' bracket generally agreed that used (not read) information to function in their work since most of them agreed that the instructional methods that the trainers used were applicable. Here to some extent the findings disagreed with Barton (2000) definition of literacy but agreed with Velada *et al.* (2007) and Lim (2000) that trainees are more likely to transfer the training content to the work context when they perceive that the training program (that use of diverse instructional methods) was designed and delivered in such a way that maximizes the trainee's ability to transfer the training to the job. In

the FGD just like Van Gerven *et al.*, (2002) noted, the respondents also noted that a good trainer is one who used worked examples since among them there were elderly participants are disproportionately favored when studying worked examples.

The training were liked because the instructional methods were applicable, content was relevant and they encouraged participation by the trainees just like Burke & Hutchins (2008) found out in their study that training professionals reported using interactive exercises to encourage participation and making training content relevant as those strategies used in the design that best support transfer. Some, actually most of the, respondents had never been asked what they needed to be trained about. This confers with what Salas & Cannon-Bowers (2001) said that it was unfortunate that many training programs failed to reach their goals because of organizational constraints and conflicts, which could have been identified and ameliorated solved before training was implemented in respect to training needs assessment.

FGDs and the questionnaire agreed with IFRC & RCS (2011) that during monitoring the learners' newly learned skills and knowledge are reinforced. The farmer with routine observation with the help of the trainers they can track the progress of the process of transferring the agriculture practices they can undertake corrective measures. As IFRC & RCS (2011) puts it that the aim of evaluation is to determine the relevance and fulfilment of objectives, developmental efficiency, effectiveness, impact and sustainability while Salas *et al.*, (2012) said that evaluation allows organizations to continue conducting training that works and to modify or discontinue training that does not work. This was true as it was found out that some respondents had realized the benefits of the previous trainings. Some had not. Evaluation did not empirically (by Chi-square value) confirm the influence. Qualitatively FGD respondents mentioned that the most successful training and its transfer would be reached if trainers came in mixed genders; a design is more practical than theoretical; appropriate session timing; trainings couple with exposure trainings; and venue sensitive so as not to divert training attention to family matters during training.

5.4 Conclusion

The transfer of agricultural best practices is influenced by the trainee attributes, trainer attributes, training design and monitoring and evaluation. Trainee (farmer) attributes such as level of literacy, family responsibilities, gender, age, motivation (they cited incentives), and culture were

found important. Ability of the trainer to give and get feedback from the farmers is essential for the learners' growth as it provides direction and helps to boost confidence. Any training design should keep in mind the participatory approach and instructional methods that teach the general rules and theoretical principles that underlie the training content there results a positive influence training transfer by providing learning experiences in different ways. Undertaking training needs assessment helps in specifying the learning objectives, which in turn shape the design and delivery of training; monitoring tracks the progress of applying learners' newly learned skills and reinforce knowledge while evaluation provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process and celebrating of accomplishments.

5.5 Recommendations

This study realized important finding that have effect on the transfer of the agricultural best practices in Gandini Irrigation project. Based on this the following recommendations have been given for improvement of the training programme.

- i. The project team should thoroughly consider training needs assessment so as shape the design and delivery of training and meet each trainee objectives during and after training.
- ii. Use of exchange programmes and establishment farmer field schools for exposure and exchange of ideas and experiences aimed at in-depth understanding of all-round project management concepts at the community level.
- iii. The project implementers should initiate and invest in Trainer of Trainees (ToT) approach so as encourage lateral training and monitoring and evaluation in the event that the government extension officers are overwhelmed due to wider geographical coverage

5.6 Recommendations for further studies

Emanating from the findings, the study recommends the following concepts for further study:

- i. Influence of culture of the trainee on the transfer level of agricultural best practices in irrigation projects
- ii. Influence of land tenancy on the transfer level of agricultural best practices in irrigation projects

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APPENDICES

APPENDIX A: LETTER OF TRANSMITTAL

Ndombi, Cornel Likale,

P.O. Box 1369-80200,

MALINDI

Mobile Phone: 0724020528

Email: clykks@yahoo.com

Date:

KENYA RED CROSS MALINDI

TO WHOM IT MAY CONCERN,

Dear Sir,

RE: DATA COLLECTION

I am a student at the University of Nairobi undertaking a post graduate degree in Masters of Project Planning and Management. As part of the requirement for this program, I am required to undertake a research.

I humbly request you to permit me undertake my research taking Gandini Irrigation Project as the case for my study. The purpose of this questionnaires, focus group discussions and checklists are strictly to collect data for purely academic purpose. All the information gathered will be treated with stringent confidence.

Thank you.

Yours faithfully

.....

Ndombi Cornel,

M.A. PPM Student, University of Nairobi, Mombasa Campus (**Malindi Centre**).

APPENDIX B: CONSENT FORM

INFLUENCE OF TRAINING ON TRANSFER LEVEL OF AGRICULTURAL BEST PRACTICES BY FARMERS: THE CASE OF GANDINI IRRIGATION PROJECT, KILIFI COUNTY, KENYA

Researcher: Ndombi, Cornel Likale

Masters Student at University of Nairobi, School of Continuous and Distance Education

Department: Extra Mural Studies, Mombasa Campus (Malindi Centre)

Address: 1369-80200, Malindi; Phone: 0724020528; Email: clykks@yahoo.com

You are kindly requested to take part in this research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please I request that you carefully listen to the following information. Kindly ask the researcher if there is anything that is not clear or any more information.

The purpose of this study is purely for academic purposes and will be treated with the utmost confidentiality. The risks of study are minimal. The questions in the survey are not intended to upset you. Just in case you feel compromised, feel free to terminate it.

There will be no direct benefit to you for your participation in this study. However, I hope that the information which will be obtained from this study may help inform the project implementers, trainers and even the farmers of how to improve future and transfer of the trainings especially farmers in Kilifi County. Thank you.

Respondent's declaration:

By signing this form, I confirm that I have understood the information and I have had an opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw any time, without giving any reason and without cost. I voluntarily agree to take part in this study.

Signature.....Date.....

Thank you.

APPENDIX C: QUESTIONNAIRE FOR THE FARMERS

DATE.....SITE.....BLOCK.....

Please tick or fill in the blank spaces where appropriate to you.

SECTION A: GENERAL INFORMATION

1. What is your gender? (*Please tick*)

Male

Female

2. What is your age? (*Please tick*)

18-35 years

36-55 years

Above 55 years

3. What is your marital status? (*Please tick*)

Single

Widowed

Married

Divorced

Single parent

4. What is your level of education? (*Please tick*)

Did not attend school

Secondary school

Lower primary school

Tertiary/College

Upper Primary school

5. How did you acquire your plot? (*Please tick*)

Bought

Leasehold

Family land

6. Have you ever attended a farmers' training? (*Please tick*)

YES

NO

SECTION B: TRAINEE ATTRIBUTES

7. On a scale of 1-5, please tell me whether you agree or disagree with the following statement. Circle the number that agrees with your views.

	Statement	Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
A	Attending a farmer’s training is as good as not attending one.	1	2	3	4	5
B	I remember the main topics of the last training... <i>(probe to list any three (3))</i>	1	2	3	4	5
C	I read and use the information I got in the last training in my work	1	2	3	4	5

List the main topics mentioned in question 7B above.....

SECTION C: TRAINER ATTRIBUTES

8. Do you think the trainers who have taught you in the trainings are different in any way?

YES NO

9. On a scale of 1-5, please tell me whether you agree or disagree with the following statement. Circle the number that agrees with your views.

	Statement	Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
A	The way the trainer(s) taught the material was boring	1	2	3	4	5
B	Sometimes information has passed me because of the language used	1	2	3	4	5
C	After training, I receive feedback from trainers on how well I am applying what I learned	1	2	3	4	5

SECTION D: TRAINING DESIGN

10. Do you like the way the trainings have been conducted in the past? *(Please tick)*

YES NO

11. On a scale of 1-5, please tell me whether you agree or disagree with the following statement. Circle the number that agrees with your views.

	Statement	Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
A	Sometimes I get information that is not useful	1	2	3	4	5
B	The methods that the trainer(s) used to present the material were applicable	1	2	3	4	5
C	I have been given a chance to fully participate during the training	1	2	3	4	5

SECTION E: MONITORING AND EVALUATION

12. Have you ever been asked what you need to be trained about? *(Please tick)*

YES NO

13. Has the trainer ever visited your plot to see how you are progressing? *(Please tick)*

YES NO

14. Do you think the way the training is conducted should be changed? *(Please tick)*

YES NO

15. On a scale of 1-5, please tell me whether you agree or disagree with the following statement. Circle the number that agrees with your views.

	Statement	Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
A	The trainings just come at the right time when I need them	1	2	3	4	5
B	My trainer meets with me to discuss ways to apply training on the farm	1	2	3	4	5
C	I have started realizing the benefits of the training	1	2	3	4	5

THANK YOU FOR YOUR RESPONDENCE!!!

APPENDIX D: FOCUS GROUP DISCUSSION GUIDE

Introduction

Hello everyone. Thank you for availing yourselves. Welcome to this session of focus group discussion. My name is Cornel Ndombi. I am a master's degree student at the University of Nairobi taking a course in Project Planning and Management. I am studying the factors of farmers training that influence the level of transfer of agricultural best practices specifically the case of Gandini Irrigation Project, Kilifi County, Kenya.

The purpose of the study

Over the next two hours we will discuss a variety of issues relating to farmers training in respect to farmer attributes, trainer attributes, training design during the farmers training and monitoring and evaluation and finally transfer of agricultural best practices. Each one of you is entitled to his/her points of view. Particularly we will discuss the following questions:

1. What are the attributes of the farmer that matter most that make a training either successful or fail? Arrange them in the order of importance.
2. Who is a good trainer, the one that would make you comfortably understand and apply the knowledge and skills acquired to the real work? Could you please arrange the attributes in the order importance?
3. How do you think about the way the farmers' trainings (you ever attended in this project) have been conducted? Do you have any suggestion(s) for improvements?
4. Do you think it is important for you to be involved in monitoring of the progress after the training? Why?
5. Do you think your role as a farmer before, during and after the training is important? Why?
6. How easy or hard do you find in transferring the skills you acquired in training on farm?

Roles

You (the respondents) will share your points of view. And listen to others. Remember there are no right or wrong answers and we invite creative and open minded ideas that may differ with what other people's ideas. I (the facilitator) will direct the flow of conversation and ensure that each one of you has a chance to participate. While the discussion is ongoing I will be taking some notes; and if you allow me I will be taking some photographs for documentation. But before we begin our discussion, I would like you to sign the consent form as your declaration.

Please feel free to take your refreshments and answer calls of nature and come back as you are not detained here in this session. As I mentioned earlier this session is expected to last for about two hours.

Right! Let's start.

APPENDIX E: CHECKLIST

Researcher: Ndombi, Cornel Likale

Masters Student at University of Nairobi, School of Continuous and Distance Education

Department: Extra Mural Studies, Mombasa Campus (Malindi Centre)

Address: 1369-80200, Malindi; Phone: 0724020528; Email: clykks@yahoo.com

SITE _____ **Date of observation** _____

NOTE: The researcher will fill with the help of the irrigation committees and (if need be) project staff.

S/N	Item description	UoM	Qty	Remarks
1	Arable land	Plot		
2	Used land	Plot		
3	Crops	Average varieties per plot		
4	Greenhouses	Structures		
5	Water pumps	Pieces		
	Pump usage	Average persons/week		
6	Production seasonality	Number of Harvests Per Seasons		
7	Adaptable structures for irrigation	Number of Plots with Zaipits		
		Number of Plots with Basins		
		Number of Plots with Furrows		
8	Environmental conservation	Number of plots with mulching		
		Number of plots with burnt debris		