

**FACTORS INFLUENCING IMPLEMENTATION OF
AGRICULTURAL PROJECTS IN KILIFI COUNTY, KENYA**

BY

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**A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF
DEGREE IN MASTER OF ARTS IN PROJECT PLANNING AND
MANAGEMENT OF THE UNIVERSITY OF NAIROBI.**

2012

DECLARATION


This Research project report is my original work and has not been submitted for any award in any University.

Signature.......... Date..... 21st August, 2012.....

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L50/64965/2010

This Research Project report has been submitted for examination with my approval as the University of Nairobi supervisor:

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DEDICATION

This work is dedicated to my beloved parents for their moral and financial support. God bless you so much.

ACKNOWLEDGEMENTS

I would like to acknowledge the efforts put by the institution of the University of Nairobi to open the Mombasa Centre which enabled us to attend lectures conveniently not forgetting the committed lecturers who ensured course work was completed on time and relevant information and knowledge was impacted on us.

I also give my special thanks and acknowledgement to my supervisor Dr. Saeed M. Mwaguni for his great support which led to successful completion of this research project report. Secondly, I express my special gratitude to the University Extra mural Mombasa Centre coordinator Mr. Johnbosco Kisimbii, for his support throughout the course and the university administrator of the extra mural studies centre, Ms Purity who was also my fellow colleague for her support.

I would also like to appreciate all my relatives, friends, and colleagues at work for their understanding, support and endurance while I undertook this course.

I would also like to acknowledge the Ministry of Agriculture in Kilifi County, the University of Nairobi Library, all the NGOs and community organizations working in Kilifi county and also the community of Kilifi county districts for their cooperation and assistance which enabled me gather both the secondary and primary data for this research study. Nevertheless, while I express my gratitude to the aforementioned people, I would like to absolve them of all responsibilities for the errors and opinions in this work. I therefore, stand liable for any errors and defects in this report.

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ACRONYMS AND ABBREVIATIONS

AIDS	-	Acquired Immune Deficiency Syndrome
CBOS	-	Community Based Organizations
CBTF	-	Capacity Building Taskforce on Trade and Development
CDF	-	Community Development Fund
CGIAR	-	Consultative Group on International Agricultural Research
CO2	-	Carbon Dioxide
COHRE	-	Centre on Housing Rights and Evictions
FAO	-	Food Agricultural Organization
FARA	-	Forum for Agricultural Research in Africa
GDP	-	Gross Domestic Product
NGO	-	Non- Governmental Organizations
HIV	-	Human Immunodeficiency Virus
IFAD	-	International Fund for Agricultural Development
IFAD	-	International Fund for Agricultural Development
IPM	-	Integrated Pest and Management
KARI	-	Kenya Agriculture Research Institute
KDS	-	Kenya Demographic Survey
MFI	-	Micro-Finance Institution
NSDS	-	National Service Delivery Surveys
SARD	-	Society for All Round Development
SD-FAO	-	Sustainable Development – Food and Agriculture Organization
SPSS	-	Statistical package for Social Science
UBOS	-	Uganda Bureau of Statistics
UNCTD	-	United Nations Conference on Trade and Development
UNDP	-	United Nations Development Programme
UNEP	-	United Nations Environmental Programme
USAID	-	United States of America Aid for International Development

ABSTRACT

Agriculture has continued to play a major role in providing livelihoods to over 85% of the Kenya's population and contributing to over 65% of Kenya's foreign exchange. However, challenges in this sector have been encountered despite the developmental efforts. Among the challenges is dealing with extreme climatic fluctuations, resulting in droughts and floods, poorly developed rural infrastructure that limit production and market access, high levels of poverty and population pressure that is leading people to move from high potential areas to more fragile environments without corresponding appropriate technologies to utilize resources in such areas, etc. This study therefore sought to evaluate the challenges facing implementation of agriculture projects despite the huge investments and efforts put to improve this sector by a wide range of agricultural stakeholders. Three objectives guided the study: to establish the economic factors on the implementation of agricultural projects in Kilifi County; to establish how land ownership and use influences the implementation of agricultural projects in Kilifi County; and how gender issues influence implementation of agricultural projects in Kilifi County. A descriptive survey design method was used in this study due to its reliability and ability to produce statistical information, which can be analyzed. Data was collected from farmers using structured questionnaires while interviews were done to key informants in the agricultural sector. A pilot study was also conducted using pre-test method to test the viability and reliability of the questionnaires administered. A sample population of 112 farmers both small and large scale farmers and 6 of agriculture implementers including ministry of agriculture, NGOs and research institutions like KARI in Kilifi County of which were selected using stratified random sampling were targeted. The hypothesis was tested to determine the relationship between independent and dependent variable using Pearson Chi-square at 95% level of confidence. The relationship between economic factors, land and gender in agriculture and implementation of agricultural projects was tested. The significant findings of this study showed that economic, land and gender factors influenced implementation of agricultural projects. Consequently, it was concluded that for successful implementation of agricultural activities in the County, there was need to mainstream economic, land and gender issues in the development stage of the agricultural projects before they are implemented. It was therefore recommended that since these factors among others were core for successful implementation of agricultural projects, future projects must take this into account. It is further recommended that a further study should be carried out to establish other factors influencing implementation of agricultural projects.

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CHAPTER ONE

1.1 Background of the Study

Agriculture is and has been the source of livelihood for a majority of the population in Africa where more than 75% of the population practice it in a subsistence or traditional form that does not rely on the purchase of inputs (Lyons & Burch, 2007; Rundgren & Lustig, 2007). However, despite the need for growth in the sector to feed the increasing population, agricultural productivity has declined over the years and is currently 2-3 times lower than the world average (FAO, 2006). The decline in productivity is due to the widely practiced conventional production system that has contributed to increased soil erosion, environmental pollution and degradation as well as loss of indigenous crop diversity and poorer health among the people (FAO, 2002; UNEP-UNCTAD-CBTF, 2010). Though productivity could be enhanced through the use of necessary inputs, the costs of inputs, coupled with the low value market crops grown commercial pressures and marketing obligations have consigned rural populations into a poverty trap (UNEP-UNCTAD-CBTF, 2010). The Other factors contributing to poverty and poor farming systems are land ownership issues, retrogressive cultural practices, environmental factors and economic factors among others.

Experts are of the view that if continent's farmers have access to water supply, fertilizer and seed, they would feed the world. The barriers holding Africa's agricultural success are formidable and include lack of land tenure, particularly for women, and shrinking plot sizes; limited use of irrigation and fertilizer, unreliable water supplies and inadequate access to credit. "With improved management and inputs, in many farming areas, African crop yields have potential to double or even triple. Christopher Mathews, FAO, Rome. The importance of agriculture in Kenya cannot be gainsaid because it directly contributes 26% to the gross domestic product (GDP) and 27% indirectly. The sector also accounts for 62% of the total national employment with 630,000 formal sector jobs and 3.7 million small and micro enterprise sector jobs. The industry directly supports 80% of the rural population for their subsistence.

Data indicates that over 56% of the Kenya population is absolutely poor, and three quarters of these poor people are found in the rural areas. Other poor people include the urban poor, a

majority of who live in slum and peri-urban settlements (Republic of Kenya, 2004a, 2003, 2000a, 2000b).

The poor are clustered in certain socio-economic categories that include farmers, pastoralists, agricultural laborers, casual workers, semi-skilled and unskilled workers, female-headed households, the physically handicapped, HIV & AIDS orphans and street children. Women constitute the majority of the poor and many also fall in the absolute poverty category of Kenyans. According to the Population and Housing Census, 2009, the Coast province had a total population of 3,323,307, of which approximately, 1,909,000 of the people live in rural areas. Poverty at the location levels ranges from 13-90% across the 140 locations and 2/3 of the rural poor, are found in Kilifi and Kwale counties. There has been effort to reverse the situation in order to provide food to increasing population through innovative and adapted sustainable farming systems. However, despite documented benefits and promotion of modern farming techniques by the government, NGOs, and CBOs among other stakeholders, modern farming techniques have not been adopted by many of the farmers in in Coast province. Though poor performance/implementation of modern farming methods may be attributed to lack of credit access, land ownership issues, environmental factors and retrogressive cultural practices among others, there is a paucity of information on how cultural norms have inhibited the increased adoption of modern agriculture practices for growth of the industry, an area which this study focuses on.

1.2 Statement of the problem

Agriculture is one of the under-funded sectors of the economy. It also has the dubious record of dismally low absorptive capacity, which has hampered any meaningful improvements in the performance of the sector (The public agriculture expenditure review, 2008/9). This scenario clearly indicates that implementation of agricultural activities/projects has been a challenge despite the support for, and lobbying from groups such as NGOs faith groups like churches, media, donors and private sectors. For instance, in the Kilifi County, where majority of the population is poor and records high illiteracy rates, perennial food deficit is one of the major challenges facing the people. This situation is compounded by inadequate infrastructure such as poor road networks, water supply infrastructure, poorly equipped schools and health facilities that could have provided for the socio-economic well-being the

people. There is also the dilemma of lack of credit facilities to support even the rudimentary agricultural activities.

To counter the challenge of food insecurity, the government of Kenya has developed programmes aimed at economic empowerment of the agriculture sector through the Constituency Development Fund (CDF), Youth Enterprise Fund, and Women Enterprise Fund etc. The Gender and Social Services office and a wide range of other key stakeholders in development play an important role in this sector. Despite the efforts through projects, to improve productivity in agriculture, as a source of income and livelihood has not improved, and the economic status of the poor, remains. This study therefore sought to establish factors that influence the implementation of agricultural projects in the county.

1.3 Purpose of the Study

The purpose of the study was to examine the factors influencing implementation of agricultural projects in Kilifi County.

1.4 Objectives of the study

The objective of this study was to look at factors that influence implementation of agricultural projects in Kilifi County as indicated below:

- i. To establish the effect of economic factors on the implementation of projects in Kilifi County.
- ii. To establish how land ownership and use influences the implementation of agricultural projects in the Kilifi County
- iii. To investigate how gender issues in agriculture influence implementation of agricultural projects in Kilifi County.

1.5. Research Questions/Hypothesis

The study looked at three research questions which sought to find out the factors influencing implementation of agricultural projects in Kilifi County and also tested the hypothesis to find out if there was any relationship between the implementation of agricultural projects and the economic, land and gender factors in agriculture.

1.5.1 Research Questions

The study sought to find out the factors influencing implementation of agricultural projects by answering the following questions;

- i) How do economic factors influence implementation of agricultural projects in Kilifi County?
- ii) Does land tenure influence implementation of agricultural projects in the Kilifi County?
- iii) Do gender issues in agriculture challenge the implementation of agriculture projects in Kilifi County?

1.5.2 Research Hypothesis

The study tested the hypothesis to find out if there was any relationship between the economic, land and gender issues and implementation of agricultural projects in Kilifi County. The following null and alternative hypotheses were tested to find out if there was any relationship.

- i) **H₀**: There is no relationship between economic factors and implementation of agricultural projects
H₁: There is relationship between economic factors and implementation of agricultural projects
- ii) **H₀**: There is no relationship between land factors and implementation of agricultural projects
H₁: There is relationship between land factors and implementation of agricultural projects

iii) H_0 : There is no relationship between gender in agriculture and implementation of agricultural projects

H_1 : There is relationship between gender in agriculture and implementation of agricultural projects.

1.6. Significance of the study

Understanding how cultural practices, land tenure systems and technological application explain the poor agricultural practices in the County will help the public, the government, private sectors, institutions and other key agricultural stakeholders' factor in the desired interventions for improving the implementation of modern agricultural practices in the County. This also will in turn help address the absolute poverty condition from guaranteed food security and added income from trade in farm products. The study will also contribute to the existing body of knowledge and form the basis for further research in other areas of the country, bearing similar characteristics as the Kilifi County.

1.7. Delimitations of the study

The study covered the Kilifi County, comprising the five districts of Malindi, Magarini, Kaloleni, Ganze and Bahari as shown in figure 2. It focused on issues that hinder the implementation of agricultural projects in the Kilifi County, specifically looking at issues of land tenure, land sizes and use, technology and gender issues as they affect the study subject. Information was sought from a sample of subsistence, small and large scale farmers. Representatives from the Ministry of Agriculture and other implementing partners formed part of those were consulted.

1.8 Limitations of the study

Comprehensive coverage of the study was limited by the geographical expanse of the County, constraints of time and resources, limited documented information on the subject for the area; willingness of participants to give information and literacy levels of the informants.

1.9 Basic Assumptions of the Study

The basic key assumptions built in this study included availability of documented information of similar studies, willing participants to answer the questionnaires, and truthful respondents. The study also assumed that all respondents were literate. The study also assumed that economic, land, and gender factors influence implementation of agricultural projects.

1.10 Definition of significant terms as used in the study

Agriculture:(Is also called farming or husbandry) is the cultivation of animals, plants, fungi, and other life forms for food, fiber, and other products used to sustain life

Implementation: is the realization of an application, or execution of a plan, idea, model, design, specification, standard, algorithm, or policy.

Small Holder farmers: Producers within a piece of land under 2 acres that is sold or let to someone for cultivation/farming.

Poverty: refers to lack of a usual or socially acceptable level of resource or income as compared to others within the society. It means not having enough to feed and clothe a family, not having a school or clinic to go, not having land to grow food or a job to earn one's living or not having access to credit. World Bank definition: poverty includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity.

1.11 Organization of the report

The chapter one presents the background of the study where the researcher outlined the study objectives, the problem, purpose of the study and objectives of the study. It also states the research questions, research hypotheses, basic assumptions and the significance of the study. The limitation and delimitation are also addressed as well as definitions of significant terms. Chapter two of this report gives an outline of the literature review in relation to factors influencing implementation of agricultural projects in Kilifi County. These include economic, land and gender factors. Chapter three explains the research design which was employed, which was descriptive survey research design which allows in-depth investigation on the factors influencing implementation of agriculture. The methods of data collection are also explained, which are mainly questionnaire and interview schedule and data analysis. Chapter four presents data analysis and finally chapter five presents the summary of the research findings, discussion of the findings, conclusion, recommendation and finally suggestions for further studies.

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review undertaken for the study topic. It covers the areas of sustainable farming practices in agriculture; the problems of agricultural productivity; factors influencing implementation of agricultural activities; and the support given by government to sustainable agriculture in general terms. The chapter then focuses on agricultural practices in the study area and the problem influencing implementation of agricultural projects that the study is addressing.

2.2 Overview of factors influencing implementation of Agricultural projects

There are several factors that contribute to agricultural productivity, and these factors influence agricultural projects implementation. Environmental factors aside, economic factors, technological factors, and issues of benefits from farm activities are the main such factors. While environmental factors have tremendously contributed to poor agricultural production with climate change aspects responsible for average temperature variations, leading to increased frequency and magnitude of extreme weather events (Mirza, 2003), resulting in drastic weather conditions have led to drought and floods, limiting the implementation of agricultural projects and programs, attention should be paid to the development of needed infrastructures to improve the quality of the environment, the integration and cooperation of various agencies and the maximum participation of the citizens.

The main factors in agricultural productivity seem to be land use and land ownership; use of agricultural inputs, extension services and market availability. These factors have a cultural dimension of gender that also influences and contributes to the productivity. In the literature review, each of these factors is reviewed individually, and those impacted by the cultural dimension of gender, analyzed with this in mind.

2.3 Economic factors

The most direct contribution of agricultural growth is through generating higher incomes for farmers. Two conditions affect the influence of this on poverty. First, there is the degree to which the poor are engaged in farming which determines the farm income levels and secondly condition is the extent to which output growth raises incomes. Should increased output drive down product prices, or costs of production rise as the demand for inputs increases, the rise in gross margins may be small. In particular, if land is scarce, increased returns to agriculture may be reflected in higher land rents. In cases where the poor till land belonging to others, the capitalization of benefits into higher rents could seriously undermine the contribution to poverty reduction (Kobayashi et al., 2007).

When output increase is due to technical innovation, benefits to the poor who farm, and for whom farming provides the majority of their income, may be limited for several reasons. First, adoption by the poor can be limited (Hazell and Haddad, 2001) due to lack of access to inputs and to the knowledge necessary to use the technology, as well as by a scale bias in the new technology – as, for example, when inputs are indivisible, such as with some machinery. Secondly, market imperfections or policies that limit the access of small farmers to inputs, including credit. Poor farmers may be more risk-averse than wealthier ones and therefore unlikely to adopt techniques that increase the variance of yields. Finally, new technology might not suit the agro-climatic conditions typical of many smallholdings. The adoption of the first wave of green revolution cereal varieties was largely confined to irrigated areas with good soils, and even then required major inputs of pesticides and fertilizer (Barker and Herdt, 1985). In contrast, many of the rural poor live in rain fed areas and arid and semi-arid zones (Lipton, 2001).

2.3.1 Farm income levels

Even if the majority of the world's poor live in rural areas – estimates vary from around 60% (CGIAR, 2006) to 75% or more (IFAD, 2008) – that they do not necessarily engage in farm activities. Jazairy et al. (2002) found that, for a sample of 64 developing countries, 64% of the 'functionally vulnerable' (that is, in this case, the rural poor) were smallholders who can gain directly from on-farm production growth and 29% were landless. The extent of

involvement in farming varies geographically, so that in sub-Saharan Africa smallholders typically account for 77% of the poor, whereas in Asia the comparable figure is less than half (reported by Cox et al., 2007). But even when the poor do typically farm, their production is often small: indeed many smallholders, even those who grow food crops mainly for their own consumption, may have to buy in food. Incomes from farming may thus make up only a small fraction of their total income.

Secondly, is the extent to which output growth raises incomes. For instance, Should increased output drive down product prices, or costs of production rise as the demand for inputs increases, the rise in gross margins may be small. In particular, if land is scarce, increased returns to agriculture may be reflected in higher land rents. In cases where the poor till land belonging to others, the capitalization of benefits into higher rents could seriously undermine the contribution to poverty reduction (Kobayashi et al., 2007).

2.3.2 Technology Adoption

When output increase is due to technical innovation, benefits to the poor who farm, and for whom farming provides the majority of their income, may be limited for a number of reasons. First, adoption by the poor can be limited (Hazell and Haddad, 2001) due to lack of access to inputs and to the knowledge necessary to use the technology, as well as by a scale bias in the new technology for example, when inputs are indivisible, such as with some machinery. Secondly, market imperfections or policies that limit the access of small farmers to inputs, including credit. Poor farmers may be more risk-averse than wealthier ones and therefore unlikely to adopt techniques that increase the variance of yields. Finally, new technology might not suit the agro-climatic conditions typical of many smallholdings. For instance, the adoption of the first wave of green revolution cereal varieties was largely confined to irrigated areas with good soils, and even then required major inputs of pesticides and fertilizer (Barker and Herdt, 1985). In contrast, many of the rural poor live in rain fed areas and arid and semi-arid zones (Lipton, 2001).

When technology and policies are biased against smallholders, agricultural growth can even have perverse effects on poverty. For example, technical change can result in an increase in landlessness as large farmers and landlords expand their cropped area by taking in land

previously rented out (Hazell and Haddad, 2001) or by appropriating previously common land (Dasgupta, 1998). Generating higher incomes being the key factor of farmer participation in agricultural activities; will enable the researcher to find out how farm economy influence implementation of agricultural projects in Kilifi County.

As far as technology use is concerned farm size and cost of technology is the first and probably the most important determinant due to the high investments costs. Farm size affects adoption costs, risk perceptions, human capital, credit constraints, labor requirements, tenure arrangements and more. With small farms, it has been argued that large fixed costs become a constraint to technology adoption (Abara and Singh, 1993) especially if the technology requires a substantial amount of initial set-up cost, so-called "lumpy technology." In relation to lumpy technology, Feder, Just and Zilberman, (1985) further noted that only larger farms will adopt these innovations. With some technologies, the speed of adoption is different for small- and large- scale farmers. In Kenya, for example, a recent study (Gabre-Madhin and Haggblade, 2001) found that large commercial farmers adopted new high-yielding maize varieties more rapidly than smallholders.

Furthermore, access to funds (say, through a bank loan) is expected to increase the probability of adoption. Yet to be eligible for a loan, the size of operation of the borrower is crucial. Farmers operating larger farms tend to have greater financial resources and chances of receiving credit are higher than those of smaller farms. Therefore in regard to farm size, technology adoption may best be explained by measuring the proportion of total land area suitable to the new technology and the study will establish if farm size influences technology adoption as part of implementation of agricultural projects specifically in Kilifi County.

The decision to adopt a technology is often an investment decision. And as Caswell et al, (2001) note, this decision presents a shift in farmers' investment options. Therefore adoption can be expected to be dependent on cost of a technology and on whether farmers possess the required resources. Technologies that are capital-intensive are only affordable by wealthier farmers (El Oster and Morehart, 1999) and hence the adoption of such technologies is limited to larger farmers who have the wealth (Khanna, 2001). In addition, changes that cost little are adopted more quickly than those requiring large expenditures; hence both extent and rate of adoption may be dependent on the cost of a technology. Economic theory suggests that a

reduction in price of a good or service can result in more of it being demanded. The study will therefore seek to find out if cost of technology challenges the implementation of agricultural projects in Kilifi County.

Programs that produce significant gains can motivate people to participate more fully in them. In fact, people do not participate in projects unless they believe that they are in their best interest to do so. For instance, farmers must see an advantage or expect to obtain greater utility in adopting a technology. In addition, farmers must perceive that there is a problem that warrants an alternative action to be taken. Without a significant difference in outcomes between two options, and in the returns from alternative and conventional practices, it is less likely that farmers, especially small-scale farmers will adopt the new practice (Abara and Singh, 1993). Farmers may receive little long-term benefits from technological adoption, which negatively influences adoption. A higher percentage of total household income coming from the farm through increased yield tends to correlate positively with adoption of new technologies (McNamara, Wetzstein, and Douce, 1991; Fernandez-Cornejo, 1996). The study will focus on establishing whether technology adoption is as result of expected benefits and find out if it influences the implementation of agricultural projects specifically in Kilifi County.

2.4 Land

Land in Kenya is highly concentrated and unequally distributed across the regions between income groups and by gender. Land inequality is highest in the Coastal region, followed by the Western, Eastern and Northern regions. Land is concentrated among the wealthier households and inequality is higher in urban than rural areas. There are deeply rooted gender biases in land ownership rights: male-headed households hold between 80% and 90% of the ownership rights of the land available in Kenya (Nayenga, 2008). Land is both a 'social' and economic asset. As an economic asset, land works either as a financial tool or production tool. Land as a production tool is essential in production of agricultural goods. At the same time, land can be held as a hedge against inflation and for speculation. In so far as land is a factor of production and a store of value, it also has great social and political significance. Access, ownership and use of land in society depend on the legal structures governing land access and use.

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Land in Kenya is highly concentrated and unequally distributed across the regions between income groups and by gender. Land inequality is highest in the Coastal region, followed by the Western, Eastern and Northern regions. Land is concentrated among the wealthier households and inequality is higher in urban than rural areas. There are deeply rooted gender biases in land ownership rights: male-headed households hold between 80% and 90% of the ownership rights of the land available in Kenya (Nayenga, 2008). Land is both a 'social' and economic asset. As an economic asset, land works either as a financial tool or production tool. Land as a production tool is essential in production of agricultural goods. At the same time, land can be held as a hedge against inflation and for speculation. In so far as land is a factor of production and a store of value, it also has great social and political significance. Access, ownership and use of land in society depend on the legal structures governing land access and use.

2.4.1 Land size and utilization

In Kenya, there is an elaborate system of formal and informal rules that govern access and use of land. They range from unwritten taboos, customs and traditions to various legislations, and the constitution. Land as a resource is often the most important, if not the only means of livelihood, for many people in developing countries. All activities, be they economic or social, depend largely on land. Land is therefore the foundation of shelter, food, work and indeed a sense of nationhood. As such, rights of land ownership and land use not only involve emotions but also provide important ways through which political influence is practiced. The 'land question' or questions concerning issues of land ownership and usage have therefore continued to take centre stage. Financial institutions frequently prefer land as collateral in advancing credit largely because land is immobile, its depreciation over time is small and its value is not eroded by inflation (Biswanger and Roserizweig, 1986).

However, land is increasingly becoming a source of conflicts in Sub-Saharan Africa, where land access had traditionally been characterized as relatively egalitarian. It has been shown that local land conflicts can erupt into large-scale civil strife and political movements (Andre and Plateau, 1998; Fred-mensah, 1999; Daudelin, 2002). Some underlying factors, such as population pressure, agricultural commercialization, and urbanization, have contributed to the increasing number of land conflicts, and the current land tenure systems in Africa may not be well-equipped to resolve such conflicts (Cotula, Toulmin, and Hesse, 2004; van Donge, 1999). Land is a source of conflict all over the world, and more so households are more worried about future conflicts on unregistered parcels than registered parcels of land. For example, the prevailing practice after the death of a husband in Kenya is for the wife of the deceased husband to hold land in trust for her male children because customary laws rarely allow widows to legally inherit land (Drimie, 2002). In some cases, widows are often threaten to leave their land, which belongs to their husbands' ancestral land, especially when they have no children or refuse to marry one of their husbands' brothers (Wanyeki, 2003). The study will therefore look at how land ownership and land use, influences implementation of agricultural projects in Kilifi County.

2.5 Gender issues in Agricultural projects

Gender has a direct influence on most aspects of human behavior. Gender is culturally ascribed through a system of social, economic, political and historic relations and these relations shape its interactions with population and development. (SD-FAO, June 2000). Gender issues therefore have a relationship with agricultural development activities and are therefore considered as one of the factors that could influence participation in agricultural production activities. Among the factors in this dimension include land ownership, land use, use of agricultural inputs, extension services and market availability.

In Kenya, one third of households (26.9%) are female headed while 73.1% are male headed (UBOS, 2007). Land in Kenya is highly concentrated and unequally distributed across the regions, between income groups and by gender. Land inequality is highest in the Coastal region, followed by the Western, Eastern and Northern regions. Land is concentrated among the wealthier households and inequality is higher in urban than rural areas. There are deeply rooted gender biases in land ownership rights: male-headed households hold between 80% and 90% of the ownership rights of the land available in Kenya (Nayenga, 2008). The 2009 Kenya Demographic Survey (KDS) national household survey investigated the total land size owned by different household types. The survey confirmed earlier research findings, confirming that male headed households hold more than twice the land size held by female headed households. This is a disadvantage to women who do the bulk of farming activities in households most of which is land based. Larger land size has been found to be a key determinant for male-headed households increasing their incomes and moving out of poverty, which is not the case for female-headed households whose asset levels are so low to impact positively on income growth. The male-headed households are able to use land at their disposal as collateral to access credit and also use it for cash crops and livestock rearing, hence the increase in incomes. Households that had titled land are found to be much wealthier than the others. This overview analyzes the principal gender issues that tend to arise in agricultural projects that need to be addressed or resolved.

2.5.1 Gender and land ownership

Land ownership, access to other productive resources and the organization of agricultural production are influenced by cultural practices and traditions. For example, rules of land inheritance (by lineage, gender and/or other culturally determined characteristics) are core determinants of effective access to land. Cultural aspects are thus of central importance for the understanding and devising of appropriate interventions in agriculture, food security and rural development. (SD –FAO, June 2000). Agenda 21 proposed the creation of conditions conducive to Sustainable Agriculture and Rural Development (SARD) and aimed at increasing food production in a sustainable way thereby enhancing food security. It is evident that land use in agriculture can greatly influence implementation of agricultural projects of which this study seeks to establish.

2.5.2 Women and agriculture knowledge

The 2009 National Survey showed that use of improved agricultural inputs is generally limited among all households in Kenya except for a few commodities. Apart from cotton and maize, both male and female-headed households make limited use of improved seeds, fertilizers, manures and pesticides in the other crops. Less than 5% of all households use any of the improved inputs for any given crop. Any attempts to make use of improved inputs are primarily by married male-headed households and married, divorced and widowed female-headed households. The unmarried irrespective of sex hardly use any improved inputs especially since they are engaged in crop farming a limited way.

This evidence corroborate earlier findings from the (NSDS 2004) that utilization of agricultural inputs was reported more in male than female headed households. The main reasons for non-use of improved agricultural inputs were presented as lack of knowledge about the inputs, the inputs being too expensive and non-availability. Among the female headed households, lack of knowledge was the most important reason for non-use. Females often have limited access to information and knowledge resulting from poor networking as they are less mobile than their male counterparts (Nayenga 2008). The study will look at how gender and use of agricultural inputs influence implementation of agricultural projects.

The majority of households in Kenya of all types indicated in the 2009 Kenya Demographic Survey (KDS) that they had not accessed agricultural extension. Overall, only 7.4% of households had accessed extension services. For the few that had accessed extension, access was slightly higher among male-headed households (7.7%) than female-headed households (6.8%). Most had accessed extension for 1-5 times a year. Among the male-headed households, access was highest among the married while among the female-headed households, all household types were accessing the services to some extent. These findings corroborate earlier evidence from the NSDS 2004 that about a half of farming households, irrespective of sex had not received extension services for crop and animal husbandry. The proportion of households that had never received crop agricultural services was higher for female headed households (47.4%) than male headed households (39.6%). Access was lowest among the single and divorced female headed households and all households engaged in fish farming (close to 90% of male headed households and female headed households had never accessed services). This study will review effects of gender and extension services to establish how they influence implementation of agricultural projects.

The Government mission under the agricultural sector is to cause a transformation from subsistence to commercial agriculture through improved market access. Farmers are motivated to produce when they are assured of a market for their commodities and a good price. The majority of households reported availability of market for most of the agricultural products within their sub-counties with exception of oranges, mangoes, pineapples, cotton coffee, tobacco, simsim and rice (Nayenga 2008). These are the high value crops that are mostly grown by the male-headed households. Most households reported improvements in markets for cattle, goats and poultry, irrespective of the gender of the household head. Improvements were greater in urban than rural areas. Market availability was higher for the female-headed households for food crops such as groundnuts, beans, mangoes, sorghum and potatoes and much lower for the higher value commodities such as pineapples, cabbages, tomatoes, cotton, coffee, tobacco, cattle and goats. Low prices offered is the most important constraint to marketing of agricultural produce affecting all household categories followed by long distances to the markets and high market dues. Additionally, male-headed households are more affected by the high transport costs and poor roads than the female-headed households. Anecdotal evidence shows that men are more mobile than women as they have income sources to pay for transport and own the key means of transport like bicycles and

vehicles. This might explain why they are more affected by transport related problems. All these constraints are more felt in the rural than the urban areas (Nayenga 2008). Hence the study will evaluate on factors influencing gender on market availability of agricultural commodities as an aspect of agricultural implementation.

2.6 Conceptual Framework

The conceptual framework outlines the indicators of the dependent, independent and moderating variables as analyzed in the literature review.

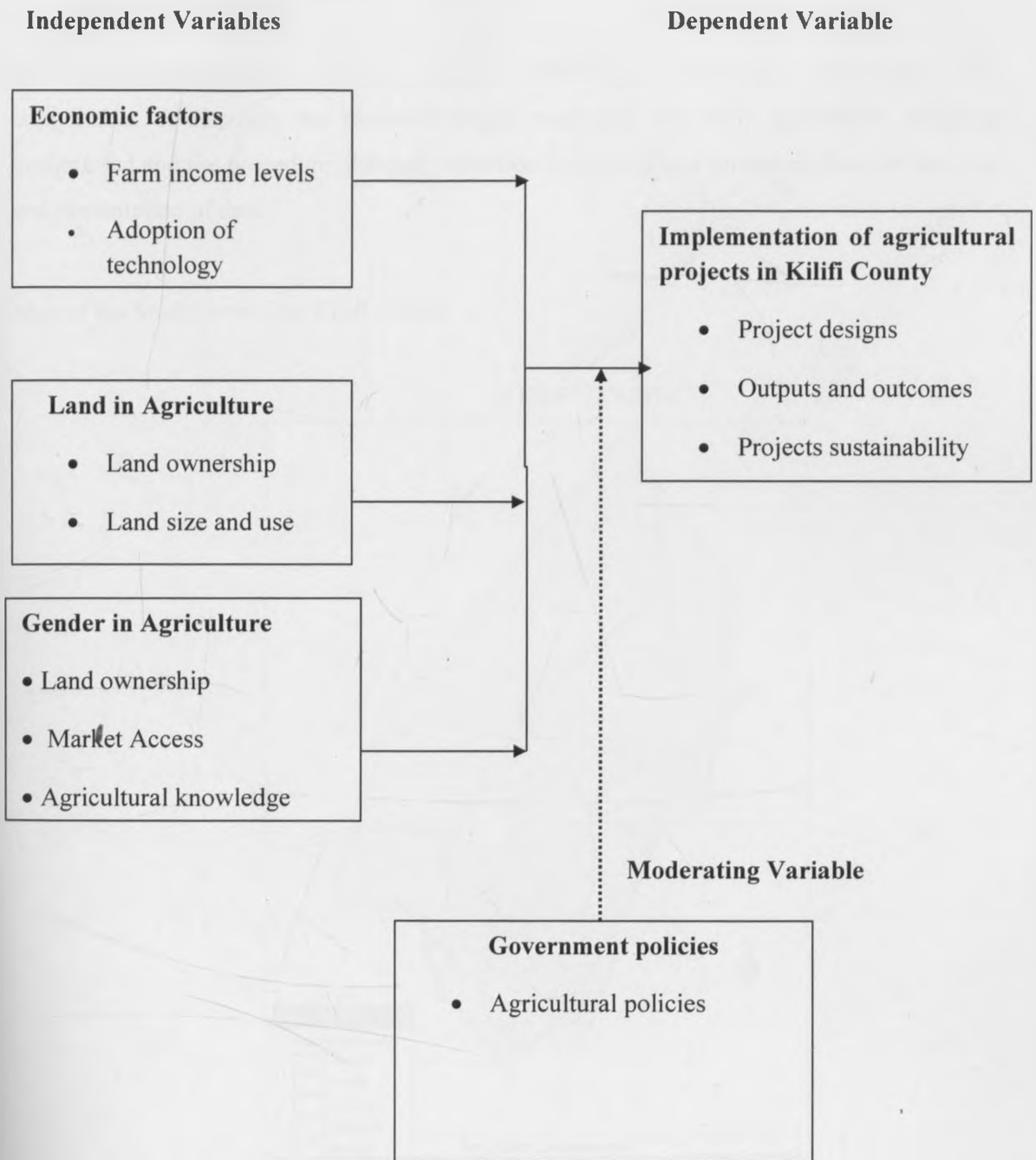


Figure 1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the study area and the methodology used to carry out the study and collect data. It discusses the research design, employed, the study population, sampling design used and the procedure, the data collection instrument and procedure, and the analysis and presentation of data.

Map of the Study Area: The Kilifi County



Figure 2: Map of Kilifi County

3.2 Research Design

The descriptive survey design which is recommended for its ability to produce statistical information about aspects of education that interest policy makers and researchers was used. Khan, (1993). This design ensures minimization of bias and maximization of reliability due to its rigidity and focus on the objectives of the study. This will help to save time and cost which are constraints in this research study.

3.3 Target Population

The target population was farmers both small and large scale, agriculture implementing stakeholders including the government departments such as the Ministry of Agriculture, Research Institutions like the Kenya Agricultural Research Institute (KARI) as well as other players like local leaders, NGOs etc. The study focused on farmers who have cultivated (within the last 4 seasons – 2010/2011) the short term crops.

3.4 Sample Size and Sampling Procedure

The sample for the study was drawn from the population of district agriculture officials, small and large scale farmers and other representatives from agriculture implementing institutions in Kilifi County. The Kilifi county demographic information shows that the targeted districts in this study have over 200,000 farmers. Stratified random sampling technique was therefore used to select the sample population to represent the total household population, which is considered appropriate for the study. The total sample size of farmers was 112 and key informants were 6 giving a total sample size of 118 according to the formula below:

Population is infinite

$$n = \frac{Z^2 \cdot P(1-P)}{M^2}$$

Where:

p= estimated value for the proportion of a sample that will respond a given way to a survey(.5 for 50%)

z=standard variant at a given confidence level (95% is 1.96)

m= the margin of the error (±10% is .1) (Moore, D and McCabe, G.(1999).)

$$n=(1.96/.1)^2 .5(1-.5)=474.27(.25)=118$$

Large scale farmers were randomly selected one in each district as well as six stakeholders forming a sample of 11 leaving the rest 107 to be small scale farmers who were representatives from each district.

Therefore the sample frame was as shown below.

Category of respondents	Sample size
Farmers	107
Large scale farmers	5
Stakeholders	6
Total	118

Table 1: Sample size

3.5 Data Collection Methods

A number of tools including structured questionnaires and interviews formed the basis of data collection to meet the objectives of the study. The structured questionnaire was closed ended to collect mostly quantitative data with only a few open ended questions to provide qualitative data. Interview schedules were done to key informants who were agriculture implementers while questionnaires were administered to farmers.

3.6 Data Collection Procedure

The questionnaires were administered by the researcher and the research assistants (enumerators) on a drop and collect later basis depending on the dates agreed upon on the date of delivery. After field collection of data from the field, questionnaires were checked and verified to ensure accuracy. Interviews were conducted to collect views and opinions from officers offering technical advises on agricultural productivity.

3.7 Validity and Reliability of Research instruments

Selection of the research instruments was based on their validity and reliability to achieve the objectives of this study. Questionnaires and interview guide were the main research instruments used to collect information for this study.

3.7.1 Validity of the research Instruments

In this study, questionnaires and interviews were used. Questionnaires are easy to analyze because data entry and tabulation for nearly all surveys can be done with many computer software packages. Also, they are very cost effective especially when involving large sample sizes like for this study. Questionnaires also reduce biasness because the researcher's own opinions does not influence respondent to answer in a certain manner.

On the other hand, interviews provide detailed information since it allows further probing and also have high response rate hence were ideal to collect data from the Agriculture implementers in Kilifi County.

In order to achieve the required degree of validity of the research instruments of data collection that is questionnaires and interviews, their design was formulated in such a way that clarity of the objectives of the study is achieved.

3.7.2 Reliability of the research Instruments

Reliability is the extent to which a research instrument yields consistent result or data after repeated trials (Mugenda & Mugenda, 1999). To ensure reliability of the research instruments, the researcher undertook a pre-test of the questionnaires in various districts of the County. The scores obtained from the questionnaires were correlated to establish the coefficient of reliability.

3.8 Ethical Considerations

The Researcher ensured that an informed consent from the respondent was taken before undertaking the research in the field. Permission was sought to ensure respondents

voluntarily participated in the study giving assurance to maintain utmost confidentiality about the respondent's information. This was ensured by providing respondents with consent forms to sign before administering the research instruments.

3.9 Data Presentation and Analysis techniques

All data was captured in the questionnaires. Information for the interview schedules completed each day was checked for completeness and accuracy by the enumerators followed by the researcher. This allowed for detection and correction of anomalies.

In the questionnaire design, questions with related information were put sequentially to give very closely related information as such. This was done deliberately in order to be able to assess the consistency of the responses.

All the questionnaires from the field were collected for further processing, editing and coding. The coded data was further edited to search for illegal codes, omissions, logical inconsistencies and any error found was referenced back to the original data forms (questionnaire) and the necessary corrections made.

Both qualitative and quantitative data analysis techniques were employed to bring out the relationships among the key variables of the study. This was done by testing the hypothesis for both the dependent and independent variables. Statistical Package for Social Scientists (SPSS for quantitative data analysis was used to analyze the data and to give frequency distribution and cross tabulations of key variables.

3.10 Operational Definition of Variables

Objective/Research question	Type of variable	Indicators	Measure	Level of scale
1. How do economic factors influence implementation of agricultural projects in Kilifi County?	<p><u>Independent</u></p> <ul style="list-style-type: none"> Economic impact Sustainable land use Gender in agriculture <p><u>Dependent</u></p> <p>Successful implementation of agricultural activities</p> <p><u>Moderating</u></p> <p>Government policies and regulations</p>	<ul style="list-style-type: none"> Farm income levels Adoption of technology 	<ul style="list-style-type: none"> Number of men and women doing agricultural activities No of household depending on agriculture No of households earning income from agriculture Poor access to farm inputs High costs of inputs Mechanization information and capacity 	Ordinal
				Nominal
				Ordinal
2. How does land ownership and use influence implementation of agricultural projects in Kilifi County?		<ul style="list-style-type: none"> Land ownership Land size and use 	<ul style="list-style-type: none"> No of farmers owning land Size of farm productivity 	Nominal
3. How do gender issues influence implementation of agricultural projects in Kilifi County?		<ul style="list-style-type: none"> Gender and land ownership & use Women and agriculture knowledge 	<ul style="list-style-type: none"> No. of women owing land Cost inputs Poor extension services Market availability of agricultural commodities 	Ratio
				Ordinal
				Nominal
				Ordinal
				Nominal

Table 2: operational definition of terms

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter is divided into two main sections: demographic information of the respondents and analysis of key findings on data relating to factors influencing implementation of agricultural projects. Responses from questionnaires and interviews were summarized in tables using frequencies and percentages which presented the significant variables and discussions were made based on the data presented and analyzed.

4.2 Response Rate

Questionnaires and interviews were used to collect data from 5 officials from agriculture implementing institutions who were interviewed and 80 farmers were administered with questionnaires. The instruments were fully filled and collected of which overall return rate was 72%. Analysis and data interpretation was based on the response returns of which 85 questionnaires were collected and formed this research report.

Table 4.1 Distribution of questions to the respondents

Target group	Sample size	Response	Percent %
Small scale farmers	107	75	70.1
Large scale farmers	5	5	100
Stakeholders	6	5	83.3
Total	118	85	72.1

The table shows that out of 118 questionnaires given, 85 were filled and returned. This translates to a response rate of 72% thus 28% were non-responsive. According to Mugenda and Mugenda (1999) a 50% response rate is adequate, 60% good and above 70% rated

very good. This implies that basing on this study; the response rate in this case of 72% was very good.

4.3. Demographic Characteristics

Demographic characteristics of respondents were analyzed in order to enable to determine the extent to which various characteristics of respondents influence agriculture implementation.

Table 4.2 Demographic characteristic of respondents

Demographic information	Response	Frequency	Percent %
Sex	Male	28	35.0
	Female	52	65.0
Age	Below 20 years	10	12.5
	21-30	24	30.0
	31 and above	46	57.5
Marital status	Married	54	67.5
	Single	6	7.5
	Divorced	5	6.2
	Widowed	15	18.8

Table 4.2 above shows that most of the respondents were women of more than 31 years and majority of the respondents were married. This implies that women were mostly involved in agricultural projects. Data also shows clearly that most respondents were married and consequently were involved more in agricultural projects than their single, divorced or widowed counterparts.

4.4 Economic factors and implementation of agricultural projects

The first objective of this study was to examine how economical factors influenced implementation of agricultural projects in Kilifi County. To achieve this objective the respondents were asked to respond to questions analyzed in Table 4.3; Table 4.4 and Table 4.5 below.

Table 4.3 Economic challenges encountered by farmers in agriculture projects implementation.

Challenges	Frequency	Percent%
Funds/ high cost of technology	61	76.2
Pests and Diseases	5	6.3
Market	14	17.5
Total	80	100.0

The economic challenges faced by farmers in this table clearly indicate that sources of finance/funds for agriculture were the major challenge 76.2% followed by availability of reliable markets for agricultural commodities 14% and finally challenges of pests and diseases 6.3%. According to the responses given, it shows that lack of finance and high cost of technology was the highest recorded economic challenge which influences implementation of agricultural projects.

Table 4.4 Analysis of extent in which farmers' access loans for agricultural activities

	Frequency	Percent%
Yes	32	40.0
No	48	60.0
Total	80	100.0

According to the information on table 4.4, it is quite evident that most farmers have not accessed loans for agricultural activities in the previous seasons. As a result, 60% of the interviewed farmers have not accessed loans leaving 40% to those who have. This means that lack of accessibility to loans has hindered farmers to participate fully in agricultural implementation.

Table 4.5 Reasons why farmers engage in farming and levels of incomes from farming

Reason for farming	Frequency	Percent%
Food consumption	52	65.0
Source of income	28	35.0
Farm income 5-10Kshs	70	87.5
11-20 Kshs	10	12.5

According to the information given by respondents, it clearly indicates that 65% of the farmers engage in farming activities mostly for food consumption followed by 35% who farm for source of income as the secondary reason. The information and distribution of respondents by scale shows that most of the farmers are small scale earning an average income of not more than 10,000Kshs in a season. This was due to drastic weather fluctuations which cause farmers to have very limited crop productivity hence making it a challenge to implement agricultural projects. Small scale farming due to limited resources was also an influencing factor to agriculture implementation.

4.5 Land factors and implementation of agricultural projects

The second objective of this study was to examine how land factors influenced implementation of agricultural projects in Kilifi County. To achieve this objective the respondents were asked to respond to questions analyzed in Table 4.6; Table 4.7; Table 4.8 and 4.9 as shown below.

Table 4.6 Land ownership

Response	Frequency	Percent%
Yes	27	33.8
No	53	66.2
Total	80	100.0

From the table, 66.2% of the farmers do not own land yet the same land has been their ancestral land while 33.8% owned land and even those who owned, it was only in small portions of less than 3 acres. Farmers felt that land issues have been a contributing factor influencing implementation of agricultural projects.

Table 4.7 The rate of respondents who owned land title deeds

Response	Frequency	Percent%
Yes	12	15.0
No	68	85.0
Total	80	100.0

From the table above, out of the farmers who owned land, only 15% owned title deeds for their farms while 85% did not. Farmers felt that if they had title deeds they could access loans hence improve their productivity and consequently agriculture implementation.

Table 4.8 The size of land cultivated

Response	Frequency	Percent%
1-2(acres)	76	95.0
3-6(acres)	4	5.0
Total	80	100.0

According to the information given, it clearly indicates that 95% of the farmers cultivate a range of 1-2 acres while 5% more than 3 acres. This shows that most of the farmers are small scale cultivating small portions of land.

Table 4.9 Legal ownership of land cultivated

Response	Frequency	Percent%
Family land	55	68.8
Leased land	25	31.2
Total	80	100.0

According to information on the table 4.9, legality of land ownership is at 68.8% where land is owned by family while 31.2% is leased. Hence farmers only cultivate small portions of land which they own and only few lease extra land to farm of which may influence implementation of agricultural projects.

4.6 Gender factors and implementation of agricultural projects

The third objective of this study was to examine how gender factors influenced implementation of agricultural projects in Kilifi County. To achieve this objective the respondents were asked to respond to two questions analyzed in Table 5.0; Table 5.1; and 5.2 as shown below.

Table 4.10 Analysis on gender issues on who owns land

Response	Frequency	Percent%
Women	3	3.8
Men	77	96.2
Total	80	100.0

According to information on the table 5.0, it clearly shows that women do not own land. Only 3.8% of women own land as compared to 96.2% of men who own land. This may challenge agriculture implementation because land ownership influences on access to resources like loans which assist in implementation of agricultural activities.

Table 4.11 Analysis on decision making of farming activities

Response	Frequency	Percent%
Wife	12	15.0
Husband	68	85.0
Total	80	100.0

From the table, only 15% of the women make decisions on what to be planted of which most of them were either widowed, single or divorced. It clearly shows that men are the main decision makers on what is planted yet most of the women are the ones who farm.

Table 4.12 Analysis on women participation in agriculture training

Response	Frequency	Percent%
Often	5	6.2
Seldom	40	50.0
Never	35	43.8
Total	80	100.0

From the table, only 6.2% of the women often participate in training activities offered either by the Ministry of agriculture or other agriculture implementers. 50% seldom participates while 43.7% never participate. This influences implementation of agriculture activities because trainings on various aspects of agricultural productivity are provided during such trainings. Most men attend these trainings even when the women are the ones who farm the most and require this knowledge.

4.5 The relationship among the variables

There was one type of test used to determine the relationship between independent and dependent variable. The test conducted was chi-square test. The relationship between economic factors, land, culture in agriculture and implementation of agricultural projects was

Data collection instruments – Interview Guide

Introduction and Seeking Consent

Hello my name is RACHAEL. I am pursuing Masters in Project Planning and Management at the University of Nairobi and I am conducting a study in this area.

I am conducting a study to familiarize myself with the current status in agricultural productivity in Kilifi County in order to identify factors that are likely to influence the implementation of agricultural projects. Participation in the study is voluntary. Whatever information you provide will be treated with confidentiality and will not be used for any other purpose other than the objectives of this study.

Signature of interviewer: _____

Date: _____

Seek to proceed: Can I proceed?

Respondent agreed to be interviewed

1. Yes.....	<input type="checkbox"/>
2. No.....	<input type="checkbox"/>

Start time: _____

Section A

101. Name of Respondent.....

102. District Name

103. Name of organization.....

104. Job Title.....

Section B: Economic factors

101. What is the economic level of farmers in this community; how do you range the levels?

102. What is the average income level in a season in this area?

103. What support does your organization provide to farmers?

b) Hypothesis test : Farm technology

H₀B: There is no relationship between the use of farm technology and implementation of agricultural projects.

H₁B: There is relationship between the use of farm technology and implementation of agricultural projects.

A Pearson chi-square test was conducted to examine whether there was a relationship between farm technology and implementation of agricultural projects in Kilifi County. The results revealed that there is no significant relationship between the two variables (Chi square value = 23.214, df =2, $p = .000$) since the p value $< \alpha=0.05$ (Table5.4), we accept H₀ and reject the H₁. More research should be done to identify other economic factors that hinder implementation of agricultural projects in Kilifi County.

Table 4.14:Chi-Square Test- Relationship between farm technology and implementation of agricultural projects

	Value	df	Asymp. Sig.	(2-
Pearson Chi-Square	23.214 ^a	2	.000	
Likelihood Ratio	25.021	2	.000	
Linear-by-Linear Association	22.898	1	.000	
N of Valid Cases	80			

a. 0cells (0%) have expected count less than 5. The minimum expected count is 7.00.

4.5.2 Hypothesis test Two: Land

H₀: There is no relationship between land factors and implementation of agricultural projects

H₁: There is relationship between land factors and implementation of agricultural projects

a) Hypothesis Test : Land ownership

H₀A: There is no relationship between land ownership by respondents and implementation of agricultural projects

H₁A: There is relationship between land ownership by respondents and implementation of agricultural projects.

P value in Table 5.5 is more than 0.05 ($p = .193$) means there is significant relationship between land ownership and implementation of agricultural projects in Kilifi County. This therefore points to the rejection of null hypothesis and acceptance of alternative hypothesis. To sum up land ownership has an impact on implementation of agricultural projects in Kilifi.

Table 4.15: Chi-Square Test- Relationship between land ownership and implementation of agricultural projects

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.295 ^a	2	.193
Likelihood Ratio	3.197	2	.202
Linear-by-Linear Association	3.250	1	.071
N of Valid Cases	80		

a. 2 cells (22.0%) have expected count less than 5. The minimum expected count is 4.50.

b) Hypothesis test : Land size and use

H_0 : There is no relationship between land size and Use by respondents and implementation of agricultural projects.

H_1 : There is relationship between land size and use by respondents and implementation of agricultural projects

A Pearson chi-square test was conducted to examine whether there was a relationship between land size in form of acreage and implementation of agricultural projects in Kilifi County. The results revealed that there is significant relationship between the two variables (Chi square value = 3.275, $df = 2$, $p = .194$) since the p value $> \alpha = 0.05$ (Table 5.6), we reject H_0 and therefore accepts the H_1 . This means that the size of land in acreage hinders the implementation of agricultural projects.

Table 4.16: Chi-Square Test-Relationship between land size and use;and implementation of agricultural projects

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.275 ^a	2	.194
Likelihood Ratio	4.766	2	.092
Linear-by-Linear Association	2.892	1	.089
N of Valid Cases	80		

a. 0cells (0%) have expected count less than 5. The minimum expected count is 15.67.

4.5.3 Hypothesis test Three: Gender

H_0 : There is no relationship between gender in agriculture and implementation of agricultural projects

H_1 : There is relationship between gender in agriculture and implementation of agricultural projects.

a) Hypothesis testing : Gender and Landownership

H_{0A} : There is no relationship between gender and land ownership by respondents and implementation of agricultural projects

H_{1A} : There is relationship between gender and land ownership by respondents and implementation of agricultural projects

The P of 0.298, which is greater than 0.05 at 2 degree of freedom (Table 5.7), this leads to rejection of the H_0 and acceptance of H_1 . Therefore the chi-square is not statistically significant. There is therefore enough evidence to conclude that, there is a significant relationship between gender issues and implementation of agricultural projects in Kilifi. We therefore reject the H_0 and accept the H_1

To sum up, the data analysis suggests that gender related issues such as gender roles has impact on implementation of agricultural projects in Kilifi County. Women absentee in

extension programs due to their domestic roles at home has contributed negatively to the implementation of agricultural projects in Kilifi County.

Table 4.17: Chi-Square Test- Relationship between gender issues and implementation of agricultural projects

	Value	df	Asymp. Sig. (2-
Pearson Chi-Square	2.424 ^a	2	.298
Likelihood Ratio	3.543	2	.170
Linear-by-Linear Association	2.141	1	.143
N of Valid Cases	80		

a. 0 cells (0%) have expected count less than 5. The minimum expected count is 8.77

b) Hypothesis Testing: Women and agriculture knowledge

H₀A: There is no relationship between women and agriculture knowledge by respondents and implementation of agricultural projects

H₁A: There is relationship between women and agriculture knowledge by respondents and implementation of agricultural projects

A Pearson chi-square test was conducted to examine whether there was a relationship between agricultural training and implementation of agricultural projects in Kilifi County. The results revealed that there is no significant relationship between the two variables (Chi square value =48.917, df =4, $p = .000$) since the p value $< \alpha=0.05$ (Table 5.8), we accept H₀ and reject the H₁. More research should be done to identify other cultural factors that hinder implementation of agricultural projects in Kilifi County.

Table 4.18: Chi-Square Test- Relationship between women and agricultural knowledge and implementation of agricultural project

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	48.917 ^a	4	.000
Likelihood Ratio	23.341	4	.000
Linear-by-Linear Association	11.125	1	.001
N of Valid Cases	80		

a. 0 cells (0%) have expected count less than 5. The minimum expected count is 6.56

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The research study sought to find out the factors influencing implementation of agricultural activities in Kilifi County. This chapter presents a summary of findings, conclusion and recommendations of the study and proposes suggestions for further research.

5.2 Summary of Findings

Data was collected using the research instruments to find out if economic, land and gender factors influence implementation of agricultural projects. Economic factors included the income levels and technology adoption. It was found out that lack of funds and high cost of technology influenced implementation of agricultural projects. This concurs with a study by IFAD 2008 which stated that incomes from farming make up only a small fraction of total income by farmers and in this case, smallholders who mainly grow for food consumption. The study also found out that most farmers did not access to credit facilities to boost their agricultural activities. It was established that most farmers were small scale cultivating an average acreage of between 1-2 acres hence limiting their output growth of incomes from their agricultural activities. These findings coincide with a study by Hazell & Haddad, 2001 where technology adoption was linked to limitations of lack of access to inputs and knowledge to use the technology. According to Abara & Singh, 1993, with small farms, technology becomes a constraint especially if the technology requires a substantial amount of initial set up. El Oster & Morehart, 1999 also concurs with his study which observed that technologies are capital intensive and are mostly affordable by wealthier farmers hence limit adoption rates.

Land in agriculture is a major resource as a source of livelihood. The study found out that out of the sampled respondents, only 33.8% owned land with title deeds. This translated to limitations to land use in agriculture hence a factor that influence implementation of agricultural projects. More so, women respondents who owned land was 3.8% compared to 96.2% male respondents who owned land. This meant that despite the fact that women actively participate in agriculture, they could not access other productive resources due to

cultural influence which does not allow them to own land. It was found out that women also involved themselves less with acquisition of agricultural knowledge and allowed men to attend agricultural trainings. This was attributed to gender roles which impede them to be away from family and also the culture and leadership roles in households. The research findings agree with a study done by Biswanger & Roserizweig, 1986, where it was found out that financial institutions prefer land as collateral in advancing credit because of its immobility and it's less depreciation of value over time. Nayenga 2008 also concurs with findings of this study where he noted that there are gender biases in land ownership rights where male-headed households held between 80%-90% of land ownership rights. Female often have limited access to information and knowledge resulting to poor networking as they are less mobile than their male counterparts.

To determine if there was any relationship between economic, land and gender factors and implementation of agricultural projects, chi-square test was used to establish if there was any relationship. The study found out there was a strong relationship between farm economy and implementation of agricultural projects. It was also found out that there was a significant relationship between land ownership and implementation of agricultural projects. The study also found that there was a relationship between gender issues and implementation of agricultural activities hence gender issues have an impact on implementation of agricultural projects.

5.3 Discussions

Data of this study was obtained through administering questionnaires to 80 farmers from Kilifi County of whom 75 were small scale and 5 large-scale. Stratified random sampling was used to select the sample farmers. 5 key respondents from agriculture implementing organizations in Kilifi County were also sought through scheduled interviews to collect data. Research analysis was done using SPSS program to obtain frequency tables and percentages. Research findings revealed the following findings;

Information from farmer respondents indicated that most farmers lack finances to adopt agriculture activities including cultivating large acreages, high cost of adopting new technologies, lack of access to credit which is also attributed to lack of title deeds to those who own land, lack of enough land to cultivate which influence sustainability of agriculture

implementation. Cultural factors were also a major factor of which according to the community members, lack of agriculture implementation was also associated with gender issues. For instance, the study found out that women did not own land and in cases where they did, it was due to widowhood or separation or women were single. This meant that women could not access to credit to help them sustain their agricultural activities. More so, most of the farm decisions are made by men yet women are the laborers in the farms. It was noted that women lacked sufficient knowledge in agriculture and received minimal trainings as compared to men. This could be attributed to cultural chores which limit women to travel far away from their homes to acquire such knowledge and skills as opposed to their male counterparts. Women also believe that since men are the decision makers on the farms, they should get the priority of getting such trainings.

It was also found out that there was poor monitoring and extension services offered by the ministry of agriculture officials of which influenced agriculture implementation. This was attested by both the farmers and the ministry of agriculture officials; Farmers responded that the officials seldom offered extension services while the officials concurred with the farmers' responses and attributed it to lack of enough funding for very expansive areas covered by an individual official in each district. This calls for the government to allocate more resources in the budget which will ensure frequent visits by the district officials to offer extension services/trainings to the farmers hence improve agriculture sustainability/implementation. Other stakeholders involved in agriculture, lobby groups like NGOs need to actively participate and collaborate more with the relevant agriculture ministries in order to enhance agriculture sustainability in Kilifi County.

5.4 Conclusion

Successful agriculture implementation of projects has been a major challenge and in this study, it was attributed to various factors including economic, land and gender issues. Results of the research show that economic factors were due to lack of resources by farmers, inadequate funding to implementers including the government agencies. This meant that there was need for stakeholders to collaborate more in order to supplement the missing gaps hence ensure successful implementation. Land was found out to be a major resource for agricultural productivity yet many of the farmers interviewed had limited land for agricultural use either

due to lack of ownership including title deeds hence could not expand production. According to information gathered, small scale farmers need to be empowered especially by the government through trainings, finance allocation to farmers in order to sustain agricultural projects and in the process create income and food security. Emphasis need to be done to ensure women farmers receive these kind of trainings since they are involved more in agricultural activities yet had very limited knowledge on agricultural productivity and also did not own land due to cultural ties and as a result could not make decisions on farm use neither have the ability to access credit to facilitate their agricultural activities. This would ensure a food-secure nation especially if the small scale farmers are empowered to participate in sustainable agriculture programs/activities.

5.5 Recommendations

The study recommends the following:

To enhance agriculture implementation in the county and other areas facing similar challenges as Kilifi, the project implementers should design programs which are adaptable in terms of affordability by farmers which was attributed to lack of resources by most of the scale farmers. Lack of finances to adopt agriculture technologies was a major hiccup to farmers to sustain agriculture activities. More collaboration with MFIs should be done to provide such finances to farmers who do not have access to banking facilities in the rural areas. The government could also offer interest free or low interest loans to farmers to enhance productivity both for food security and for alternative source of income and as a result ensure sustainability of agriculture implementation. Due to drastic weather conditions where there are prolonged droughts, alternative low cost irrigation systems could be introduced to farmers. Most farmers rely on water for agriculture production hence resulting to poor implementation of agriculture activities due to lack of water for irrigation when the rain seasons are over.

The government should integrate systems to ensure farmers at the Coastal and especially Kilifi County, are allocated with title deeds or land allotment to enable them access to credit hence improve agriculture sustainability and implementation.

Women should be empowered to participate more in agriculture trainings since they mostly involved with farming activities. Women should also be encouraged to own land to enable

them access to credit easily and as a result improve sustainability in agriculture implementation.

5.6 Suggestions for future Research

The study covered only Kilifi County and therefore there is need to extend the study to other counties with a larger sample size especially areas facing similar challenges as Kilifi County so as to correlate the findings. More investigations should be done to establish other factors influencing agriculture implementation of agricultural activities in the county.

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APPENDICES

Appendix I. Letter of Transmittal

Rachael Ndune

P.O. Box 84367 – 80100 GPO

Mombasa

April 18, 2012

The
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Dear Sir/Madam,

RE: ACADEMIC RESEARCH

I am a student at Nairobi University currently pursuing a Master’s Degree in Project Planning and Management. As part of the course requirement, I have to undertake a research project. To this effect therefore, I am conducting a research on the factors that influence implementation of agricultural projects in Kilifi County. In addition to this, the information generated will be useful for improving agricultural activities in the area. The information generated will therefore be for public good. However, where confidentiality is required, this will be maintained.

To assist in the realization of the above, I am kindly requesting for your assistance in responding honestly to the interview questions.

Looking forward to your cooperation.

Yours faithfully,

Rachael Ndune

L50/64965/2010

2.0: Demographic Information

201. Gender A. Male () Please tick

B. Female () Please tick

202. Age A. below 20 Years

B. 21-30 Years

C. 31-40

D. Above 40

203. Marital status

A. Married

B. Single

C. Divorced

D. Widowed

3.0 Economic factors

301. How much do you earn from a crop cycle in a season?

1. Less than 5000Kshs

2. 5000- 10,000 Kshs

3. 10,000 – 20,000Kshs

4. above 20,000Kshs

302. Do you solely rely on agriculture for your income?

1. Yes

2. No

301. What are the major challenges you face in farming

1. Finances/high cost of technology
2. Pests and diseases
3. Market availability

302. Are there any financial services in your area?

1. Yes
2. No

303. Do you have access to credit facilities in your area?

1. Yes
2. No

304. Have you ever borrowed a loan for agricultural activities?

1. Yes
2. No

305. What are the major challenges you face in farming?

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.....

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306. What would you proposed as the best solutions to solve such challenges?

.....

.....

.....

4.0 Land and Agriculture

401. Do you own land?

1. Yes
2. No

402. If yes, do you have a title deed?

1. Yes
2. No

403. If yes, what is the size of your land (if any)?

1. 1-2 acres
2. 3-6 acres
3. Over 6 acres

404. What size of land do you cultivate?

1. 1-2 acres
2. 3-6 acres
3. Above 6 acres

405. What is the legal ownership status of the land under cultivation?

4. A. Sole ownership
5. B. Joint ownership
6. C. Family land
7. D. Community land
8. E. Leased land
9. F. Other (specify) _____

406. What are the land challenges do you face in farming?

.....
.....

407. What would you proposed as the best solutions to solve such challenges?

.....
.....

5.0 Culture and agriculture

501. Do women own land?

- 1. Yes
- 2. No

502. Who farms the most?

- 1. Women
- 2. Men
- 3. Both

503. Who makes decisions on what to be planted in the farm?

- 1. Men
- 2. Women
- 3. Both

504. How often do women participate in agriculture trainings?

- 1. Often
- 2. Seldom
- 3. Never

104. How is technology adoption in this area?

105. According to your opinion, what are the major economic factors influencing implementation of agricultural activities in the region?

106 .What do you think could be done to improve the situation?

Section C: Land

101. What is the average ownership acreage by a farmer in this community and do they own title deeds?

102. Ho do farmers utilize their land in this area?

103. According to your opinion, what are the major land issues influencing implementation of agricultural activities in the region?

104 What do you think could be done to improve the situation?

Section D: Gender in Agriculture

101. Do women own land in this area? If No; what are some of the reasons for this factor?

102. Do women participate in agriculture training to enhance their knowledge? What is the percentage compared to men?

103. According to your opinion, what are the major cultural issues influencing implementation of agricultural activities in the region?

104. What do you think could be done to improve the situation?

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