

**FACTORS INFLUENCING THE SUCCESS OF FOOD SECURITY
PROJECTS IN KENYA: A CASE OF MBOONI EAST DISTRICT**

MAKUENI COUNTY

BY

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**A Research Project Report Submitted in Partial Fulfilment of the
Requirement for the Award of the Degree of Master of Arts in
Project Planning and Management of the University of Nairobi**

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DECLARATION

This research project report is my original work and has not been presented for any award of a degree in any other university.

Signed.....

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This research project report has been submitted to the University of Nairobi for examination purposes with my approval as the university supervisor

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DEDICATION

This research work is dedicated to my Mother Yusabia Kemunto, Wife Jane and Children Emmah, Davis, Enosh and Becky, Workmates and to all my friends.

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LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|----------------|--|
| ASAL | Arid and Semi Arid Lands |
| BPS | Budget Policy Statement |
| DFID | Department for international development |
| EAAPP | East African Productivity Project |
| FAO | Food and Agriculture Organization |
| FAOSTAT | Food and Agriculture Organization statistics |
| GMO | Genetically Modified Organisms |
| KAPAP | Kenya Agricultural Productivity and Agribusiness Project |
| MOA | Ministry of Agriculture |
| MRA | Multiple Regression Analysis |
| NALEP | National Agriculture and Livestock Extension Programme |
| NCK | New constitution of Kenya |
| NGO | Non Governmental Organization |
| NMK | Njaa Marufuku Kenya |
| PPP | Public Private Partnership |
| PSDA | Private Sector Development in Agriculture |
| R and D | Research and Development |
| RoK | Republic of Kenya |
| SIDA | Swedish International Development Agency |
| SRA | Simple Regression Analysis |

| | |
|----------------|--|
| T and V | Training and Visit |
| THVC | Traditional High Value Crops |
| USAID | United States Agency for International Development |
| WBS | Work Breakdown Structure |

ABSTRACT

Food insecurity persists in Mbooni East Sub County as over 60% of the population in the Sub County rely on relief food distribution every drought year. Despite significant food security projects initiatives in the Sub County, food insecurity and extreme rural poverty has continued to pose major socio-economic problems to many households in the Sub County. The transition rate of food poor households to self-reliance of food supplies has largely remained inadequate. Many of the beneficiaries of the state sponsored food security project interventions have frequently failed to put in place measures for self reliance once the sponsored project interventions get to an end and therefore food security has remained elusive. This study was carried out purposed to assess the factors which influence food security projects success in the Sub County. The specific objectives of the study were to: establish the extent to which institutional capacity factors influence the success of food security projects in Mbooni East Sub County; assess the extent to which project operation influence the success of food security projects in Mbooni East Sub County and to investigate the extent to which technological input influence the success of food security projects in Mbooni East Sub County. The research was conducted in Mbooni East Sub County in Makueni County, Kenya. It mainly targeted all the food security project initiatives implemented in the Sub County, the farmer committee members and officers who implement these projects as its target population. The study adopted a descriptive survey design and studied all the nine food security initiative projects implemented in the Sub County. Respondents were 128, consisting of 64 committee members of the projects, 12 Ministry of Agriculture staff and 52 Chiefs and their assistants. The committee members were farmers elected by beneficiaries who were seven per project and one overall stakeholder chairman. Data was collected using questionnaires, interview schedules, observations and document analysis checklists. The collected data was analyzed using descriptive statistics, content analysis, and regression. The Statistical Package for Social Sciences (SPSS version 20) Computer Application Package tool was used. The findings showed that institutional capacity factors investigated, the projects' operations strategies used to implement the projects and technological inputs earmarked for these projects influenced their success but they are applied to low extents in the Sub County. The findings revealed that the factors investigated (institutional capacity, project operation strategies and technological inputs) accounted for 42.1% variability in food security projects success in the Sub County while the remaining percentage was due to other factors. The study concluded that the projects are not delivering what they are supposed to, do not get results, and do not meet stakeholders' expectations. They were found to be failing due to low extent application of desired institutional capacity factors, low extent applications of designed success strategies and very low application of targeted technological inputs meant to drive these projects to success. The study therefore, recommended all inclusive trainings on leadership and management, enhanced operation strategies where input subsidies provisions and adequate resource allocations are given priority. It also recommended sustainable technological inputs like water harvesting for irrigation and locally adapted drought tolerant seed varieties use to be given emphasis.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Project success can be defined as one which accomplishes complex endeavours that meet specific set of objectives within the constraints of resources, time, and performance objectives (Cleland, 1964; Thilmany, 2004). Globally, there are two distinct views about project success. There is the view which perceive project success solely in terms of traditional project objectives of time, cost and quality and the view which considers project success in terms of these objectives and the effectiveness of the project's product (Guru, 2008).

Whereas the traditional project management success criteria seems to have strong hold on the project management community, the most important success criteria is considered to be the product criteria of meeting the owners needs. Neither the practitioners nor the academicians seem to agree on what constitutes project success. There is wide divergence of opinions in this field and the only agreement seems to be the disagreement on what constitutes 'project successes (Murphy, Baker and Fisher, 1974; Pinto and Slevin 1988; Gemuenden and Lechler, 1997 and Shenhar, Levy, and Dvir 1997). Madhu,(2006), defined Project success as meeting customer expectations, quality, budget and time lines. Lewis (2005), views a successful project as one that delivers what it is supposed to, gets results, and meets stakeholder expectations.

Most of the failed projects are either over budget, late or are simply not good enough and still different lobbies of people claim that those projects have been successful. Pinto and Slevin (1988) argue that; those involved in project implementation perceive them as successful, while the very same projects are poorly received by customers; while De Wit (1986) argues that, "there are other projects that consume excessive resources and are considered internal failures, but are later hailed as successful by their customers and become a source of revenue for the organization for many years". Pinto and Slevin (1988) further argue that, project success is something much more complex than simply meeting cost, schedule, and performance specifications. They argue that, client satisfaction with the final result has a great deal to do with the perceived success or failure of projects. According to Cleland (1964) and Thilmany (2004), determination of a successful project outcome is measured by

the extent to which the project accomplishes complex endeavours that meet specific set of objectives within the constraints of resources, time, and performance objectives, but Johnson (1999) says that, indications of successful project outcomes are the accomplishment of the specific objectives of the project as defined by the project stakeholders and are dependent on the combined efforts of project management and the project team. According to Nicolas (1989), several principles of project management are important and even essential to project success. He further observes that a project is usually said to be successful when it satisfies its project objectives. Further; Baker, Murphy and Fisher (1983, 1988) in their studies concluded that, “what really matters is whether the parties associated with and affected by a project are satisfied”. Generally, the views on project success have evolved over the years from simple definitions that were limited to the implementation phase of the project life cycle to definitions that reflect an appreciation of success over the entire project and product life cycle (Jugdev and Muller, 2005).

Project success factors are inclined to organizational context, external environmental influence and technological adaptation, innovation or change. Robertson and Williams (2006), observe that; despite advances in project management methodologies many projects continue to fail for a number of reasons. One explanation for this continued failure is an inability to adapt, change or innovate. The failures to adapt change and innovate rotate around the institutional capacity, technological change and adoption and the external environment. The external environment in this case is mostly the project operation and what normally influences the mode of implementation. Madhu, (2006) grouped these factors into individual related and organizational related. The individual related factors are generally attributed to managerial styles and leadership abilities while organizational related are corporate factors ranging from Stakeholder and management dedication, leadership from the organisation and line managers, training and development, Proper team selection and allocation of duties to setting of proper organisational priorities in addition to top level management support.

Other main causes of failure are; the lack of effective leadership and/ or the style of leadership applied by project managers (Ellemers, DeGilder, and Haslam, 2004; Schmid, Berg and Karlsen, 2007 and Adams, 2008). According to Guru (2008), there are umpteen numbers of factors that may have a bearing on project success and they may differ from one project to another. Tornatzky and Fleischer (1990) found

that; projects failed to achieve successful results because of three factors; the institutional capacity, the external environment, and the technological framework. The researchers attributed 'Failure in the organizational context to leadership, corporate culture, corporate project knowledge base, and top level support. They linked failure in the external environment, to competitors, suppliers, customers, vendors, Government, and education and finally failure in the technological framework as due to hardware, software, and telecommunications or a combination of the three areas.

Kumar (2000), in a study of reengineering projects in India, found that failure was primarily linked to the organizational context and could attribute it to the lack of leadership, organizational culture, the lack of integration, and the lack of commitment by senior management. According to Hauschildt et al (2000), the success of a project depends more on human factors, such as project leadership, top management support, and project team, rather than on technical factors. They also found that human factors increased in importance as projects increased in complexity, risk, and innovation. The researchers found that the critical role of the project manager's leadership ability had a direct correlation to project outcome.

Leadership, management styles and innovativeness have also been found to influence project success. Cathcart and Samovar (1992), argue that, a team requires leadership in order to function effectively. According to Shore (2005), leadership affects corporate culture, project culture, project strategy, and project team Commitment. It also affects business process reengineering, systems design and development, software selection, implementation, and maintenance. Shore (2005), further argues that without appropriate leadership, the risk of project failure increases.

A research study by Cambridge University's School of Business and Economics concluded that 80% of projects failed because of poor leadership (Zhang and Faerman, 2007). The findings further suggested that poor leadership skills reflected limited or no teamwork, inadequate communication, and an inability to resolve conflicts as well as other human related inefficiencies. Scott-Young and Samson (2004), argue that, people management drives project success more than technical issues do. A competent manager is critical to other project elements, such as the success of the project team, including team members' motivation and creativity (Rickards, 2001). This strong link with success ensures that project manager competencies are of particular interest.

Studies by Schmid and Adams (2008); sought to highlight the importance of project leadership as a key aspect of project success. Their findings suggested that more demanding market conditions required a stronger focus on leadership, knowledge, and skills to ensure project success. They also believed that successful project outcomes would require an increased emphasis on the organizational and human aspects of project management.

The Chaos reports by the Standish Group (2009) suggested that problems related to successful project outcomes and inevitably the solution to achieving project objectives that meet stakeholders' expectations, originates with people in leadership roles and the procedures adopted by project managers. While leadership may be singled out as an individual contributor to failure, it transcends all other organizational factors (Roepke, Agarwal, and Ferratt, 2000).

1.1.1 The Concept of Food Security

Food security has had several definitions but it is basically defined as the availability of food and one's access to it. Food security when looked at from a more complex definition, focuses at the individual, household, national, regional and global levels. Under this broad view it is said to be achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO,2009). A household is considered food secure when its occupants do not live in hunger or fear of starvation. Stages of food insecurity range from food secure situations to full-scale famine. Household food security is the application of this concept to the family level, with individuals within households as the focus of concern.

Food insecurity exists when people do not have adequate physical, social or economic access to food. Based on the previous definitions by Lewis(2005) and Madhu (2006); the success of food security projects will mean; all the beneficiaries of the food security projects, at all times, having physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active healthy life after the food security projects implementations.

The world produces enough food to feed everyone with at least 2,720 kilocalories per day, which is well above the Food and Agriculture Organization of the United Nation's (FAO's) recommended minimum of 2250 (FAO, 2003a). Ironically food insecurity remains globally widespread and stubbornly high (FAO,

2006). Over 900 million people globally experience the hardship that hunger imposes, a figure which continues to rise even amidst the riches of the 21st century (FAO 2010). Of these, 855 million (95 percent) are in the developing world, 10 million in industrialised countries and 35 million in countries in transition (FAO 2010).

The developed and industrialized world have confronted food insecurity by putting in place strategies that enable access to livelihoods, assets, strong institutional support and favourable external environment which play crucial roles in agricultural productivity and hence reduced food insecurity.

In Sub Saharan Africa alone, over 218 million people live under extreme poverty and hunger (MOA 2011). Agriculture provides livelihoods for about 80% of African population, most of whom are subsistence farmers. Three-quarters of those affected live in rural areas and include those who have been displaced by civil conflicts and also those who scratch their living from dry lands where adequate rainfall for crop production is a constant challenge (FAO, 2003a; 2006). The most affected countries are those in the Central, Southern and Eastern Africa.

In Malawi the introduction of large scale input subsidy program has seen the country switch from being a food beggar to becoming a net exporter of food. According to (Dorward and Chirwa 2011), 'the program has changed the severe food shortage situation to increased food availability, higher real wages, economic growth and poverty reduction in Malawi.

Recently, the global rises in prices and droughts have had drastic effect on household food security in Kenya. In April, 2008, about 3.5 million people in the country were reported to be in need of emergency food aid (USAID, 2009). A concerning problem of food insecurity in Kenya is concentrated in the rural areas and ASAL areas in particular. Kenya has been getting increasingly dependent on food imports (Nyangito et al., 2004). To meet the growing demand for food, the government has to import cereals against scarce foreign exchange. Currently, over 10 million people in Kenya alone, suffer from chronic food insecurity and poor nutrition of which two to four million require emergency food assistance at any given time (MOA 2011). Lemba, (2009) alludes that household food insecurity is widespread and chronic in the larger Makueni County and that these areas are among the least developed in the country.

In response to this situation in Kenya, food security initiative projects have been implemented over the years in arid and semi-arid areas but success of these

initiatives seem to be far from realization. According to Lewis, (2005), the only truly successful project is the one that delivers what it is supposed to, gets results, and meets stakeholder expectations. The food security projects in Mbooni East Sub County in particular; have never delivered results as per the stakeholders' expectation. This is because food security still continues to be elusive in this area and the community is depended on relief food provisions from year to year.

1.1.2 Food security initiatives in Mbooni East Sub County

Mbooni East Sub County is one of the ASAL Sub Counties in Lower eastern region of Kenya which experience widespread and chronic food insecurity. It came into being from 2008 and is divided into two operational divisions with a projected population of about 89,000 people. The Sub County and the area are among the least developed in the country (Lemba, 2009). It receives low amounts of rainfall and experiences frequent droughts leading to crop failures and famine to the community. As a result of frequent crop failures, the community depends mostly on relief food supplies from the Government and other donor agencies. In addition to relief food supplies, the Government and other development agencies have been implementing food security initiative projects in the Sub County to address the food insecurity. The food security initiative projects have always been labelled a failure because the customers / beneficiaries have never been satisfied for the simple reason that food security has remained elusive and therefore the projects have not delivered what they are supposed to, have not got results, and have not met stakeholder expectations. This concurs with Madhu (2006)'s definition that a project will be termed successful once it meets customer expectations, quality, budget and time lines and also with Lewis (2005)'s definition that; a successful project is the one that delivers what it is supposed to, gets results, and meets stakeholder expectations.

To enhance the achievement of the Ministry of Agriculture's mandate of food security, employment creation and poverty alleviation, specific food security projects have been implemented over the years through the Government or its development partners in Mbooni East Sub County. These projects have varied objectives and approaches but their overall goal has been to contribute to reduction of poverty, hunger and food insecurity among the Mbooni East community. The projects implemented include; Water harvesting for small scale irrigation; Njaa marufuku Kenya (NMK); Traditional high value food crops promotion project (THVC);

Promotion of private sector development in agriculture (PSDA); Kenya agricultural productivity and agribusiness project (KAPAP), East African Agricultural Productivity Project (EAAPP) and NALEP-SIDA. Apart from EAAPP and KAPAP which started two years ago, the rest of the projects have been in the Sub County since its creation.

Unfortunately, despite the fact that food security initiatives have been implemented in form of projects in the sub county, 64% of the community are still poor and dependent on relief food distribution each year, (Mbooni East Sub County development report 2011). These projects have not solved the issue of food security in the Sub County despite the fact that their objectives rotate around improved food security and livelihoods. This study investigated why these projects have been failing in the Sub County leaving the community to continue languishing in poverty and hunger and perennially depended on food reliefs from the Government. The study was intended to find out the factors which influence the success of food security projects in the Sub County to identify the success factors and recommend appropriate interventions.

1.2 Statement of the Problem

Food insecurity persists in Mbooni East Sub County as over 60% of the rural population in the Sub County rely on relief food distribution every drought year (Sub County Development report, 2011). Despite significant food security projects initiatives in the Sub County, food insecurity and extreme rural poverty has continued to pose major socio-economic problems to many households in the Sub County to date. The transition rate of food poor households to self-reliance of food supplies has largely remained inadequate. Many of the beneficiaries of the state sponsored food security projects interventions have frequently failed to put in place measures for self reliance once the sponsored project intervention get to an end and therefore food security has remained elusive. This has raised concern to stakeholders as there are always huge budgetary allocations to emergency relief food distributions.

The Government and other development agencies have been spending huge sums of money to address food security concerns through projects and programmes but minimal success is realized. For instance, the government of Kenya has been increasing budgetary allocations to the agriculture sector from Kenya shillings 10 billion in 1992 to 104 billion in 2012 (BPS 2012). This increased funding to the sector

is geared towards the improvement of access to inputs (seeds and fertilizers), expansion of irrigation schemes and post harvest management. In the 2012/2013 financial year budget, the Government of Kenya allocated Kshs 20 billion to fund existing and new irrigation projects around the country in an endeavour to address food insecurity of which, Mbooni East Sub County alone received Kshs.10 million for small scale water harvesting to promote irrigation. At the same time, the ministry of Special Programmes sought Kenya Shillings 1 billion from the treasury to buy maize from farmers to boost the country's strategic grain reserves for relief food security measures (BPS, 2012), an indication that the food security initiatives are not succeeding. Whereas it appears that there are many factors influencing projects failure or success, this study sought to investigate the factors influencing success of food security projects in Mbooni East Sub County of Kenya.

1.3 Purpose of the study

The purpose of the study was to assess the factors influencing the success of food security projects in Mbooni East Sub County.

1.4 Objectives of the Study

The objectives of the study were:

1. To establish the extent to which institutional capacity influenced the success of food security projects in Mbooni East Sub County.
2. To assess the extent to which project operation influence the success of food security projects in Mbooni East Sub County.
3. To investigate the extent to which technological inputs influence the success of food security projects in Mbooni East Sub County.

1.5 Research Questions of the study

The study sought to answer the following questions;

1. How does institutional capacity influence the success of food security projects in Mbooni East Sub County?

2. To what extent do project operation initiatives influence the success of food security projects in Mbooni East Sub County?
3. To what extent do the technological inputs influence food security projects in Mbooni East Sub County?

1.6 Significance of the Study

It was hoped that the outcome of this study, was to assist in reviewing national and local food security policies particularly in the accuracy, design and implementation of food security initiatives and rural development projects. The study also hoped to assist decision makers particularly on the funding policy modes to review the policies to target the resource poor, vulnerable people and appropriate areas and ways of implementation of projects in addition to exploring other ways of funding projects. Finally the study outcomes hoped to enable policy makers to formulate, design and implement policies that would create enabling environments for sustainable project successes and private sector involvement in development projects.

1.7 Basic Assumptions

The study assumed that respondents would cooperate in providing accurate and truthful information; and that respondents were conversant with the projects implemented in the area. The study also assumed that there were to be no political interferences during the data collection period as it was during the transition into new government structures.

1.8 Limitations of the study

Lack of accurate understanding of who funded food security projects and project objectives among the focus group were likely to affect the outcome of the study. Further, time and financial limitations were major constraints to the study. The study would have explored more on the interrelationships of the three broad factors' influences on project success but financial limitations were a major constraint.

1.9 Delimitations/scope of the Study

This study was delimited to the food security projects and the food security project implementers in Mbooni East Sub County, Kenya. They were the focus group of this study because they are always involved whenever food security initiative

projects are implemented due to their official assignment and the semi-arid nature of their environment and their vulnerability to climate change.

1.10 Definition of Significant Terms

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| Food security | Refers to when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. A household is considered food secure when its occupants do not live in hunger or fear of starvation. |
| Input Subsidy | A benefit given by the government to groups or individuals usually given to remove some type of burden for example to reduce the cost of production. In this study it refers to the certified seeds or planting materials and commercial fertilizers given to farmers free to boost their farm productivity. |
| Institutional Capacity | Refers to organizational Management, leadership, culture, knowledge base and top-level support of the projects teams. |
| Project Operation | Refers to the integration of project resources to concretely achieve its goals. In this study it refers to the implementation strategies that are used in order to meet the objectives of the food security projects initiatives. |
| Sub County | It refers to the area which was previously called district. In the new dispensation the word district was replaced with the word Sub County. In this study, Sub County means District. |
| Technological Input | Refers to use of modern technology. In this study it referred to use of certified seeds and other planting materials, fertilizers and irrigation technologies. |

1.11 Organization of the study

This study was organized into five chapters; chapter one dealt with background to the study in which the definition and concept of project success are discussed. The chapter also discussed concept of food security, food security projects in Mbooni East District, Problem statement, purpose, objectives, research questions, significance, limitations, assumptions and delimitations of the study.

Chapter two covered literature review where; related studies and their findings about project success concept, Food security concept, Institutional capacity, project operation and technological input in relation to projects' success were covered. The chapter also covered the theoretical and conceptual frameworks of the study.

Chapter three dealt with research methodology where; research design, target population, size and procedure, instrumentation, data collection instruments, validity and reliability of the research instruments, data collection procedures and methods of data analysis were covered.

Chapter four covered; Data analysis, presentations and interpretations where each of the three objectives' findings were covered. Finally chapter five covered; the summary of the findings, discussions, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter highlights some of the related studies and their findings about project success concept, Food security concept, Institutional capacity, project operation and technological input in relation to projects success. The literature review was organized into the following sub headings; Institutional capacity on project success in which; the concept of project success, management and leadership, organizational culture and project success factors were discussed; Project operation on project success in which; implementation strategy, project funding, agricultural farm input subsidy and agricultural extension service are discussed; Technological input on food security project success in which; certified seeds, fertilizers, Biotechnology and irrigation are discussed. The chapter also covers the theoretical and conceptual framework of the study.

2.2 Concept of project success

Globally, there are two distinct views about project success. There are those who perceive project success solely in terms of traditional project objectives of time, cost and quality and those who consider project success in terms of these objectives and the effectiveness of the project's product. Whereas the traditional project management success criteria seems to have strong hold on the project management community, the most important success criteria is considered to be the product criteria of meeting the owners needs. Madhu (2006) defined Project success as meeting customer expectations, quality, budget and time lines. According to Lewis (2005), a successful project is the one that delivers what it is supposed to, gets results, and meets stakeholder expectations.

Most of the perceived failed projects are either over budget, late or are simply not good enough and still different lobbies of people claim that those projects have been successful. While Pinto and Slevin (1988), argue that those involved in project implementation perceive them as successful yet the very same projects are poorly received by customers; De Wit (1986), argues that there are other projects that consume excessive resources and are considered internal failures but are later hailed

as successful by their customers and become a source of revenue for the organization for many years.

According to Stuckenbruck (1986), the criteria for measuring project success must reflect different views. Crawford (2002), argues that; project success is an important project management issue while Pinto and Slevin 1988; Freeman and Beale 1992; Shenhar, Levy and Dvir 1997 and Baccarini 1999 argue that; there is a lack of agreement concerning the criteria by which project or project success is judged. Pinto and Slevin (1988) after sampling over 650 project managers concluded that “project success is something much more complex than simply meeting cost, schedule, and performance specifications”. They argue that, client satisfaction with the final result has a great deal to do with the perceived success or failure of projects. Further, Baker, Murphy and Fisher (1983, 1988) in their studies concluded that; what really matters is whether the parties associated with, and affected by, a project are satisfied.

Cleland (1964) and Thilmany (2004) say that; determination of a successful project outcome is measured by the extent to which the project accomplishes complex endeavours that meet a specific set of objectives within the constraints of resources, time and performance objectives. According to Johnson (1999), indications of successful project outcomes are the accomplishment of the specific objectives of the project as defined by the project stakeholders and are dependent on the combined efforts of project management and the project team.

Baccarini (1999) identified two distinct components of project success as; Project management success, which focuses upon the project process and, in particular, the successful accomplishment of cost, time, and quality objectives. It also considers the manner in which the project management process was conducted and Product success which deals with the effects of the project's final product. He notes that it is common for project management literature to confusingly intertwine these two separate components of project success and present them as a single homogenous group. In order to properly define and assess project success, a distinction should be made between product success and project management success, as they are not the same,

Nicolas (1989) in his studies found out that, several principles of project management are important and even essential to project success. He further observes that a project is usually said to be successful when it satisfies its project objectives. Most project objectives, however, have multiple criteria including time, cost, quality

and safety. Clarke (1999) also states that, in order to ensure that a project is completed successfully, project plans need to be updated regularly. He continues to profess that success will be measured more easily when the objectives are clearly stated at the outset of the project. Neither the practitioners nor the academicians seem to agree on what constitutes project success. There is wide divergence of opinions in this field and the only agreement seems to be the disagreement on what constitutes 'project successes'. This study assessed the factors that influence project success as perceived by the beneficiaries in the study area.

2.3 Institutional Capacity on the success of food security projects.

Institutional capacity in this case refers to organizational leadership, culture, knowledge base and top-level support of the project teams. According to Chaos report (2009); problems related to successful project outcomes and inevitably solution to achieving project objectives that meet stakeholders' expectations, originates with people in leadership roles and procedures adopted by project managers. The success of a project depends more on human factors, such as project leadership, top management support, and project team, rather than on technical factors (Hauschildt et al.2000). Leadership affects corporate culture, project culture, project strategy, and project team commitment and also affects business process reengineering, systems design and development, software selection, implementation, and maintenance (Shore 2005). A competent manager is critical to other project elements, such as the success of the project team, including team members' motivation and creativity.

2.3.1 Management and leadership on project success

Tornatzky and Fleischer (1990) found that; projects fail to achieve successful results because of the institutional capacity, the external environment, and the technological framework. The researchers attribute 'Failure in the organizational context to leadership, corporate culture, corporate project knowledge base, and top level support. They link failure in the external environment, to competitors, suppliers, customers, vendors, Government, and education and failure in the technological framework as due to hardware, software, and telecommunications or a combination of the three areas. Kumar (2000),in a study of reengineering projects, found that failure is primarily linked to the organizational context and can be attributed to the lack of

leadership, organizational culture, the lack of integration, and the lack of commitment by senior management.

A research study by Cambridge University's School of Business and Economics concluded that 80% of projects failed because of poor leadership (Zhang and Faerman, 2007). The findings further suggested that poor leadership skills reflected limited or no teamwork, inadequate communication, and an inability to resolve conflicts as well as other human related inefficiencies. According to Shore (2005); Leadership affects corporate culture, project culture, project strategy, and project team Commitment. It also affects business process reengineering, systems design and development, software selection, implementation, and maintenance. He eventually concludes that; without appropriate leadership, the risk of project failure increases.

Scott-Young and Samson (2004), argue that, people management drives project success more than technical issues do. Hauschildt et al. (2000) argue that; the success of a project depends more on human factors, such as project leadership, top management support, and project team, rather than on technical factors. They further argue that; human factors increase in importance as projects increase in complexity, risk, and innovation. The researchers also showed that; leadership, management styles and innovativeness had influence to project success and therefore the critical role of the project manager's leadership ability had a direct correlation to project outcome.

The Chaos reports (2009), Suggested that problems related to successful project outcomes and the solution to achieving project objectives that meet stakeholders 'expectations, originates with people in leadership roles and the procedures adopted by project managers.

A competent manager is critical to other project elements, such as the success of the project team, including team members' motivation and creativity. This strong link with success ensures that project manager competencies are of particular interest

Schmid and Adams (2008); carried out a study which sought to highlight the importance of project leadership as a key aspect of project success and found out that; more demanding market conditions required a stronger focus on leadership, knowledge, and skills to ensure project success. He also believed that successful project outcomes would require an increased emphasis on the organizational and human aspects of project management. Cathcart and Samovar (1992), argue that, a

team requires leadership in order to function effectively. Thite (2000), states that, in the project environment, possessing management skills is not sufficient to be Successful. He suggested that integrating leadership concepts allows project managers to apply logic and analytical skills to project activities and tactics. He further suggested that project managers can integrate leadership concept by being sensitive to and working with project team members as individuals with needs and desires related to their work.

Project management practices require that managers have knowledge and experience in management and leadership, and the relationship to project success(Berg and Karlsen, 2007).In business environment it is believed that a manager makes sure tasks and duties are completed, while a leader is sensitive to the needs of people and what followers need to be exceptional employees (Maccoby, 2000). While leadership may be singled out as an individual contributor to failure, it transcends all other organizational factors (Roepke, Agarwal, and Ferratt, 2000). In an increasingly competitive environment, one explanation for this continued failure is an inability to adapt, change or innovate. Despite advances in project management methodologies many projects continue to fail for a number of reasons (Robertson and Williams, 2006).One of the main causes of failure is the lack of effective leadership and/ or the style of leadership applied by project managers (Berg and Karlsen, 2007; Ellemers, DeGilder, and Haslam, 2004; Schmid and Adams, 2008). However; Kenneth (2010), notes that; despite some study in the area of project management leadership, the extent to which leadership influences project success is not clear, nor is the style of leadership apparent.

2.3.2 Organizational culture on project success

Organizational culture is defined as the collective behaviour of humans who are part of an organization and the meanings that the people attach to their actions. Culture in this context includes the organization values, visions, norms, working language, systems, symbols, beliefs and habits. Ravasi and Schultz (2006), state that organizational culture is a set of shared mental assumptions that guide interpretation and action in organizations by defining appropriate behaviour for various situations. The organizational culture may have negative and positive aspects.

Organizational culture affects the way people and groups interact with each other, with clients, and with stakeholders. According to Tharp (2005), a strong, unique, and appropriate corporate culture has the ability to: reduce uncertainty by

creating a common way to interpret events and issues; create a sense of order in that members know what is expected; create a sense of continuity; provide a common identity and a unity of commitment; and provide a vision of the future around which the company can rally. Tharp (2005), also notes that organisational culture is now understood as an asset that should be managed and that can be leveraged in support of company goals. According to Hampden-Turner (1994), organizational culture defines appropriate behaviour, motivates individuals and asserts solutions where there is ambiguity. It governs the way a company processes information, its internal relations and its values and functions at all levels from the subconscious to the visible. Organizational culture is also believed to influence the success or otherwise of strategy, mergers, acquisitions and diversifications, integration of new technologies, meetings and communications in face-to-face relationships, and socialisation (Deal and Kennedy, 1982; Peters and Waterman, 1982; Graves, 1986; Thompson, 1993 and Mullins, 2005). It also accounts somewhat for the existence of inter-group comparison, competition and conflict, and the productivity of the organisation (Schein, 1985).

These views emphasise the important role of organizational culture and provide further support for the perception that Organizational culture does have an impact on performance. According to Newcombe (2003), the stakeholders within the project coalition interact with the project in two primary arenas; cultural and political, with the cultural arena represented by the ideology or shared values of the project participants. Cultural issues are therefore always at the fore (Fore, 2000).

Schein (2009), Deal and Kennedy (2000), Kotter (1992) and many others state that organizations often have very differing cultures as well as subcultures. They argue that; in order to increase productivity, growth, efficiency, success and reduce counterproductive behaviour and turnover of project teams, organizations should strive for what is considered a "healthy" organizational culture.

Healthy organizational culture has a variety of characteristics including: Acceptance and appreciation for diversity; regard for and fair treatment of each project team member as well as respect for each member's contribution to the organization; project team members' pride and enthusiasm for the organization and the work performed ; equal opportunity for each project member to realize their full potential within the project ; strong communication with all project employees regarding policies and project issues; strong project leaders with a strong sense of

direction and purpose ; ability to compete in industry innovation and customer service, as well as price ; lower than average turnover rates (perpetuated by a healthy culture) and investment in learning, training, and employee knowledge.

Additionally, performance oriented cultures have been shown to possess statistically better success. In addition, organizational cultures that explicitly emphasize factors related to the demands placed on them by industry technology and growth will be better performers in their industries. According to Kotter and Heskett (1992), organizations with adaptive cultures perform much better than organizations with un-adaptive cultures. An adaptive culture translates into organizational success; it is characterized by managers paying close attention to all of their constituencies, especially customers, initiating change when needed, and taking risks. An un-adaptive culture can significantly reduce a firm's effectiveness, disabling the firm from pursuing all its competitive/operational options.

2.4 Project operation influence on the success of food security projects

Project operation in this case focused on the implementation strategies adopted like; farm input subsidies provision, extension services and training provision, and funding. To increase the chances of food security project succeeding, it is necessary for the implementing team to have an understanding of what are the critical success factors, to systematically and quantitatively assess these critical factors, anticipating possible effects, and then choose appropriate methods of dealing with them. Once these critical factors are identified, the success of the project can be achieved by addressing them appropriately. Food security projects often possess a specialized set of critical success factors which if addressed and attention given will improve the likelihood of successful implementation. On the other hand when these factors are not taken seriously failure of the projects becomes eminent. Food security projects implementation is open to all sorts of external influence, unexpected events, ever-growing requirements, changing constraints and fluctuating resource flows.

For the cases of food security projects in Mbooni East, critical project success factors were; the implementation strategies like; farm input subsidies provision, extension services and training provision and funding. This study therefore was intended to find out how these factors could influence the success of food security projects in the area of study.

2.4.1 Project implementation strategy on project success.

Project implementation is concerned with the integration of project resources to concretely achieve its goals. Project implementation requires skilled staff with integrated management and technical skills to allocate resources and harness skills needed to implement project plans (Mwangi, 2006). Project management practices require that managers have knowledge and experience in management and leadership, and the relationship to project success (Berg and Karlsen, 2007).

Clear project plan in place, recruitment of personnel based on the required level of competence and experience with clearly spelt out job descriptions and terms of employment by top leadership, an efficient and effective communication plan and project management strategy in the project design requires to be adhered to for effective project implementation (Locker and Gordon 2009). A good and effective project management should be fast and robust and should contain features like; Scheduling, Cost control, Budget management, Resource allocation, Collaboration, Communication and Documentation.

As elaborated by Locker and Gordon (2009), effective project implementation requires several factors and considerations. These include, having a clear project plan in place. The plan will always have a time table for the whole work to be done. It should be related to the availability of resources required to carry out planned activities. It should be noted that the project management plan is an iterative process which requires judicious, quick reviews and updates as information becomes available throughout the life of the project.

Secondly, the top project management must have or recruit personnel based on the required level of competence and experience. The management should clearly spell out their job descriptions and terms of employment, which should include responsibilities and sufficient authority. Team building and development of personnel should be enhanced through appropriate training and motivation.

Thirdly, the project management should put in place an efficient and effective communication plan. This should specify what and why information will be collected and when, who will be responsible for the collection and analysis of the data and to whom and when it will be distributed. It should be noted that information overload can be as damaging as lack of appropriate information.

Fourthly, the project design must have a project management strategy. This should include the identification and assessment of risks together with the

development of strategies to minimize them, and when they do occur, to mitigate any adverse effects or take advantage of beneficial ones. As a process it must be a key element in the formation of the project management plan which must continue throughout the life of the project. Risk management is not an option but an essential technique for projects which must have its place in the project management plan. At the same time risk management does not itself guarantee project success more than any other single technique. Whereas it is a very important key, other techniques are equally important and need to be considered.

Locker, (2009) emphasises that risk analysis and management are central to the project manager's understanding of the project and difficulties to face in achieving the agreed project objectives. If these difficulties are severe enough, one extreme response might be to modify the project objectives; another might be to find alternative methods or technologies or alternative ways of managing the project.

There are several strategies to manage risks (Nokes, and Kelly, (2007). These include; risk avoidance, risk mitigation, risk transfer and accepting some risks. In all the above strategies, different approaches are put in place to minimize or manage the un-attractive outcomes. They include; putting measures in place to ensure that the risk does not arise for risk avoidance, putting measures in place to limit the probability that the risk occurs for mitigation, transferring the risks to a third party for risk transfer and having a standby contingency response strategy in place in cases of risk acceptance. Food security projects implementation in Mbooni East, are open to all sorts of external influence, unexpected events, ever-growing requirements, changing constraints and fluctuating resource flows all of which require risk analysis and contingent strategies. When seed subsidies are given for example; severe drought as an external un-expected influence leads to total crop failure and hence project failure. This call for a contingency measure to be always in place in case of an external un-expected influence occurs.

2.4.2 Project funding on the success of food security projects

Funding is the act of providing resources usually in form of money (financing), or other values such as effort or time (sweat equity), for a project, a person, a business or any other private or public institutions. Projects are investments made by a company or organization to achieve something of worth. For food security projects initiatives it is the Government's investment to achieve food security for its citizens.

Whether it is developing or promoting a new technology or improving the way the Government operates, there is value in successfully completing the projects. As such, there is always a cost involved with initiating, planning, executing, monitoring, and closing projects. For instance, food security projects not only cost the Government in paying the allowances of the project implementing teams, but there are potentially many other costs incurred. Some of these include equipment/technology, overhead (taxes, utilities, and leases) and transportation or other materials needed to complete the work.

Project funding is crucial as no project gets started until a thorough analysis is done on how much funding is required to complete the project and what the return on investment will be and also the sources of the funding. These determinations help establish the project's cost baseline. In most cases by the time a project is approved there must be funding in place to begin the work.

Managing costs, as well as other project attributes that contribute to cost, is a significant challenge faced by project implementers. There are various tools available to project implementers that can be used to effectively manage project costs while successfully accomplishing all project tasks and deliverables. The challenge is to understand all of the factors that contribute to project costs and using the tools available at the right times and for the right reasons. In order to better understand this, the project management will need to apply the cost management approach. Five inputs need to be understood in order to manage these costs. These inputs are; The scope baseline, Project Schedule, Human Resource Plan, Risk Register and existing Organizational Policies, Culture, Systems, and Lessons Learned.

The scope baseline consists of the project scope statement, the work breakdown structure (WBS), and the WBS dictionary. The components of the scope baseline provide the detail of what is being estimated; what is in and out of scope; any constraints placed on the project; and the activities that must be accomplished to complete the project. The project schedule provides the quantities and types of resources needed to accomplish the project as well as when the work for each activity will occur. A project cannot be estimated without a project schedule because timing of purchases or resources may affect their cost and the project team will need to establish a budget which determines expenditures for specific periods of time throughout the project. All labour rates for project members and any costs for a reward system must be known in order to develop project cost estimates. There are always costs associated

with risk management efforts. Understanding project risks and estimating the costs of managing those risks are integral parts of cost estimating. The risk register is also an important part of estimating the amount of reserves a project will need. By analyzing the risks and understanding the costs of these risks if they occur, the project team can establish the risk reserve amount required to deal with these known risks if they happen. Many organizations have a more standardized approach to cost management. Additionally, it is wise for project managers to consider established methodologies and lessons learned to ensure mistakes in estimating are not repeated and that best practices are utilized for more accurate estimating.

There are many ways to fund sustainable projects. Funds can be allocated for either short-term or long-term purposes. Some projects receive all of the required funding up front and others receive funds incrementally based on project phases of the accomplishment of milestones. The project team and sponsor must determine the most effective way to allocate project funds and incorporate any reserves identified. Sources of funding include credit, donations, grants, savings, subsidies and taxes. Funding such as donations, subsidies and grants that have no direct requirement for return of investment are described as "soft funding" or "crowd funding". These are the most common funding modes in food security projects. Funding that facilitates the exchange of equity ownership in a company for capital investment is known as "hyper funding". Whichever type of funding, projects, funding has always been the limiting factor to most project success. Donor funding has been the major funding mode of most development and emergency projects.

One of the recent funding modes which have grown popular is Public Private Partnerships (PPPs). PPPs funding mode has become a popular type of funding in many sectors of the economy around the world. In one form or another, partnerships between public institutions and private individuals or organizations have existed for centuries. Empirical evidence suggests that public-private partnerships have achieved a high level of efficiency and quality of service. Thus, proponents suggest that introduction of a private partner can bring about efficiency and expertise that would otherwise not be available to the public sector. Public-private partnerships can provide improvements in financing, pricing, efficiency, risk distribution, environmental compliance, human resource management, and service delivery. According to United Nations Development Project (2010), the quality of service achieved under a PPP is often better than that achieved by other traditional procurement systems. The report

further lists other benefits of PPP as: Reduction in public capital investment, better environmental compliance, and Shared resources between both sectors and Mutual rewards for both sectors.

There is also a growing realization of the value of PPP in agriculture, and particularly for projects that benefit farmers in developing countries. So far, however, very few agricultural PPPs exist. Those that do are largely experimental, and form a new field of practice and inquiry for the participants. In Kenya the Ministry of Agriculture has recognized the importance of financial services in agricultural development and has made deliberate efforts to support farmers through PPP geared towards financial intermediation (Mwangi 2011). Whatever form they take, successful PPPs have a number of features in common. The rationale for their creation is always the same: to achieve more through partnership than any of the parties could do on their own (Marco and Paul 2008). Collaborations among public organizations, private firms, and civil society are important in reducing poverty and food insecurity.

According to USAID report (2003), overall long term causality of high levels of households' food insecurity and poverty has not been adequately addressed, because of Poor planning implementation or both and insufficient resources. It is further Indicated that the capacity to respond to short term emergencies, too, has been inadequate and the ability to better confront the causes is still largely lacking. This therefore calls for collaboration and partnerships to confront the poor planning, lack of implementation, insufficient resources and response to emergencies. PPPs are said to be results-oriented interactions with a potential to improve the efficiency and effectiveness of research, extension and education services; thereby enhancing access to new products and services that target the rural poor; and fostering greater pro-poor innovative activity in the food and agricultural sector.

According to Ping and Zhilin,(2010), Poor infrastructure is a problem that adversely affects both food production and food distribution. PPP can be used to attend to this problem as infrastructure needs huge budgets which are not easy to fund through tax allocations. Partnerships enable sustainable outcomes that no single party could achieve alone. Ideally, a PPP's output is more than the sum of its parts. Overall, PPPs currently remain a greatly underused option in the range of solutions available to tackle the challenges of enhancing smallholder productivity and livelihood.

2.4.3 Agricultural Farm Input subsidies on the success of food security projects

According to FPAP (2008), agriculture in Sub Saharan Africa is still characterized by low levels of use of improved input technologies with only 5 percent of the producers making use of marketed inputs such as improved seed varieties and fertilizers. Low fertilizer use efficiency, poor seed germination and poor quality seed usage have been singled out as some of the serious problems limiting the productivity of food crops in Kenya. Small scale farmers have little access to mineral fertilizers and certified seeds, and cannot always afford them. Heavy reliance on imported fertilizers, combined with high transport costs and the absence of suppliers in the countryside, has meant that the local farmers pay much higher than the average world price for fertilizer despite their poverty levels. Worsening the problem are weak input output local markets, unfavourable policies, poor transport systems, frequent droughts, erratic rainfall, inadequate access to credit and worst of all climate change variability leading to frequent crop failures.

Agricultural input subsidies were a common and major feature of agricultural development policies in poor rural economies from the 1960s to the 1980s (Dorward 2009). The use of fertilizer subsidies have been found to assist to reduce the economic vulnerability of the poor and in supporting market development (Minot, 2009). Poverty and food insecurity are still prevalent in Kenya largely because of low agricultural productivity as a result of no or low farm input use. The argument for farm input subsidies are attractive because; they are politically attractive, easy to implement and the problems of food insecurity they are intended to address remain compelling at the local, national and international levels (Crawford, Jayne and Kelly, 2008). This makes it a success factor for food security projects simply because of the support it gets from leaders and beneficiaries. Whereas it can be difficult to attribute the success of food security projects in Mbooni East to the issuance of input subsidies, the project can be termed highly successive once they receive the inputs. From the understanding that project success is meeting the objectives and in this case the objective is to issue inputs, then success is said to be achieved, however the real objective of food security is not achieved but stakeholders are satisfied with the issuance of the inputs. While other ways of overcoming food insecurity are complicated with success uncertain, subsidies are relatively straight forward to implement and meet a wide range of objectives in economic, social and political terms. The objectives of farm input subsidies are to provide a basic level of farm input to

households that have lost the ability to source such inputs themselves, to encourage crop diversification, and to promote farming practices for food security (Ellis et al., 2009). Beneficiaries receive maize seeds and fertilizers, pulses seeds, cassava cuttings and sweet potato tubers to plant and achieve crop diversification and improved yields for food security. The diversification aspect is risk mitigation as well as a contingent measure in case of one crop failure due to drought.

Regardless of the positive attributes of agricultural farm input subsidies several concerns have been raised: firstly, it is suggestive of conventional intervention approaches that have been criticised for being incapacitating and doing development for the people (Chambers, and Cornway, 1992; Pretty, 1995; Long; 1997; Adams, 2003; Mulwa, 2004). Taking development to the people has been criticized over the years and emphasis has been on let the people decide by employing participatory approaches to development projects. Secondly, it is contrary to the principle of structural adjustment projects of liberalization and economic sustainability which was noble although it failed most of the African economies. The failure of the structural adjustment programme to African economies is actually a failure like any other project like food security. Farm input subsidies are not sustainable and hence this study will investigate whether it is really a success of food security projects factor when input subsidies are provided by the Government to project beneficiaries.

Some individuals argue that there is need to reduce Government subsidies and relief assistances as they do not promote the spirit of economic independency. The concept of state-led development has been subjected to scepticism. Direct intervention in the market systems and subsidies undermines sustainability and encourage dependency. Contrary to expectation, subsidies have been reported to encourage unprofitable production systems (Bezlepkina and Lansink, 2006).

2.4.4 Agricultural extension service on the success of food security projects.

Anderson (2007) defines the terms agricultural extension and advisory services as “the entire set of organisations that support and facilitate people engaged in agricultural production to solve problems and to obtain information, skills and technologies to improve their livelihoods. Extension services can be organised and delivered in a variety of forms, but their ultimate aim is to increase farmers’ productivity and income. According to Birner et al. (2009) and Davis (2009), “agricultural extension, or agricultural advisory services, support people engaged in

agricultural production and facilitate their efforts to solve problems; link to markets and other players in the agricultural value chain; and obtain information, skills, and technologies to improve their livelihoods''. Availability of extension services and frequency of contacts with the extension agents contributes significantly to the extent of farm enterprise diversification (Caroline 2005). Extension helps in transfer of technology to improve productivity, especially for staple food crops. Progress in poverty and hunger reduction crucially depends on the increased productivity and profitability of farmers, which in turn depends on the successful delivery of agricultural extension (Claire J. *et al* 2011).

Extension proves important as it provides Farmers with information related to the following: most appropriate technological options, management of technologies including optimal use of inputs, changing farm system options (mixed farming and diversification, animal husbandry, fisheries), sourcing reputable input suppliers, collective action with other farmers, consumer and market demands for products, quality specifications for produce, time to buy inputs and sell produce, off-farm income-generation options, implications of changing policies (input subsidies, trade liberalization), access to credit and loans, sustainable natural resource management and coping with climate change (Van den Ban 1998). The entire above have a bearing on food security programmes and hence the role of extension service provision as a success factor in project implementation cannot be overemphasised.

Agricultural extension plays a wider role of developing human and social capital, enhancing skills and knowledge for production and processing, facilitating access to markets and trade, organizing farmers and producer groups, and working with farmers toward sustainable natural resource management practices (Swanson 2008). Within this expanded role, the breadth of information that agricultural extension can support through provision and facilitating access and sharing is much larger. In addition, as the agriculture scenario has become more complex, farmers' access to sources of reliable and relevant information has become increasingly important. Farmers require a diverse range of information to support their farm enterprises. Information is needed not only on best practices and technologies for crop production, which the traditional public-sector extension system provide, but also information about postharvest aspects including processing, marketing, storage, and handling.

Researchers at the global, regional, and national levels continue to generate new information. This information is channelled to farmers through extension services. As agriculture systems become more complex, farmers' access to reliable, timely, and relevant information sources becomes more critical to their competitiveness. Information must be relevant and meaningful to farmers, in addition to being packaged and delivered in a way preferred by them (Diekmann, Loibl, and Batte 2009). The repackaging of the researched information for the farmers consumption is done through extension service provision. Context-specific information has a greater impact on the adoption of technologies and increases farm productivity for marginal and small agricultural landholders and extension services are crucial in playing this role (Sammadar 2006).

Quality extension services are usually vital in facilitating effective adoption of enterprise diversification (Caroline 2005). Agricultural extension and advisory services play an important role in agricultural development and can contribute to improving the welfare of farmers and other people living in rural areas. According to Anderson and Feder (2003) productivity improvements are only possible when there is a gap between actual and potential productivity. Extension can contribute to the reduction of the productivity differential by increasing the speed of technology transfer and by increasing farmers' knowledge and assisting them in improving farm management practices (Birkhaeuser et al., 1991; Feder et al., 2004b). Additionally, extension services also play an important role in improving the information flow from farmers to scientists (Anderson, 2007; Birkhaeuser et al., 1991).

Agricultural extension is the defining metaphor for all technology transfer activities and models (Eveland, 1987, Rogers 2002). Despite the mentioned roles extension services provide, they have been criticized for excluding poor people and being supply-driven, highly centralized and non participatory (dominated by a single channel of knowledge transfer (Asenso-okyere et al., 2008). This has important implications for extension projects, particularly where information failures in public-sector extension systems (such as limited feedback and reach to farmers) have reduced content relevance and thus extension impact (Anderson and Feder 2004, 2007).

Approaches to agricultural extension in developing countries and worldwide continue to evolve. Since the Green Revolution in the 1970s and 1980s and the acknowledged unsustainability of the training and visit (T and V) project (Anderson,

Feder, and Ganguly 2006; Moore 1984), agricultural extension, with its focus on increasing production via technology transfer, has adopted decentralized, participatory, and demand-driven approaches in which accountability is geared toward the users (Birner et al. 2006; Birner and Anderson 2007; Davis 2008; Hall et al. 2000; Kokate et al. 2009; Sulaiman and Hall 2008; Swanson 2009). While the call for demand-driven agricultural extension has existed for several decades now, new modes of reaching out to farmers could have significant impact, as they might better reflect the local information needs of farmers.

2.5 Technological inputs on the success of food security projects

Use of modern technology for agricultural production is the most plausible solution to combat food insecurity and related challenges. Agricultural research and technological infusion are the keys to strengthening domestic agriculture, ensuring sustainable growth, reducing farm losses and augmenting farmers' incomes. The farmers' standards of living cannot be enhanced without transferring the technology directly to them. With the help of technology, farmers will produce more, reduce input costs and augment their income. Farmers must change with times to enhance their efficiency in view of the fact that more food demands are on the rise. There is need to augment crop yields because there is no much land and water as the agricultural land area is just not increasing. Production per unit area is required to meet the growing demands. Agricultural production needs to be increased to meet the demands of population growth. There is need for making crops to grow in high temperature and saline areas. Crops must be developed to put up with the impact of drought, floods and harsh climatic conditions.

Employing advanced technology for production, undertaking research for developing disease-resistant varieties and formulating strategies for dealing with climate-driven events such as droughts, floods and temperature fluctuations form part of the solution to these gaps. These gaps can be filled through the use of technology, development of stress-tolerant plants, protection of plant varieties and better water management. Plant biotechnology can help address issues related to limited resources like water and fertile land, impact of climate change and growing dependence on chemicals such as fertilizers and pesticides although this is facing a lot of resistance when it comes to GMO foods. Machinery use is important for effective and quick agricultural operations. The farm machinery are useful for the works of deep

ploughing, land levelling and other operations like threshing, harvesting and for drying crop grains.

2.5.1 Certified Seed and fertilizer use on success of food security projects

Innovation is vital to enhancing agricultural production, reducing rural poverty, and fostering every sector and economy-wide growth and development. In many developing countries, however, conventional approaches to farming and traditional methods are increasingly challenged by a rapidly changing scientific, social, and economic environment, and the rapid entry of new actors, technologies, and institutions. Gains from new agricultural technology can influence the poor directly, by raising incomes of farm households, and indirectly, by raising employment, wage rates of functionally landless labourers, and by lowering the price of food staples (Pinstrup-Andersen et al., 1976; Hossain et al., 1994; Winters et al., 1998; de Janvry and Sadoulet, 1992, 2001; Irz et al., 2001).

Small scale, resource poor farmers can double or triple the productivity of cereal by using quality hybrid seeds, improved management practices and use of modern farming technologies (Negeri , 2001). Adoption of seed-fertilizer technologies alone can more than double cereal yields and will be profitable to farmers in moisture-reliable areas (Howard et al. 2003). Use of adequate amount of fertilizers along with development of other production technologies has played a key role in augmenting food grain production (Milkha and Dinesh, 2008). Rapid development of plants after planting increases the accumulation of nutritious elements such as nitrogen in the plants (Harris ,2006) . These have direct effects on yields on the plants and their nutrient components. Seeds are basic agricultural input and more importantly, quality seeds of any preferred varieties are the basis of improved agricultural productivity since they respond to farmers needs for both their increasing productivity and crop use Pelmer (2005). The use of improved seeds helps to overcome some of the farm-level constraints that hinder production. It has been proved that those farmers who receive the certified seeds from known sources get better yields and per capita income from cereal production and household expenditure than those farmers who do not. Improved seed is an important input in all crop based farming system and is a key factor in determining the upper limit of yields. According to Morris et al. (1999), of all inputs used in crop based agriculture none has the ability to affect productivity more than improved seeds. If farmers can obtain seed of

improved varieties that performs well under local conditions and also adopt it, the efficiency with which other inputs are converted into economically valuable outputs increases and productivity rises. A study carried out in Malawi to consider the seed component found that nearly half of the yield gains from Malawi's input subsidy program came from increases in improved seed use (Chibwana et al. 2012). According to Friis-Hansen, (1994), hybrid varieties can potentially out yield the conventional cross or open pollinated varieties. For a number of technical reasons, hybrids have only been possible for cross pollinated crops, such as maize, sorghum, millet, sunflower, faba beans and pigeon peas. Hybridization in Africa has been especially important for maize and is the technology that can boost crop yields especially cereal grains.

2.5.2 Irrigation technology on food security project success

Irrigated agriculture is one of the most critical human activities sustaining civilization. The current world population of 6.8 billion people is sustained in a large part by irrigated agriculture. USDA statistics show that 17% of cultivated crop land in the United States is irrigated. Yet this acreage produces nearly 50% of total US crop revenues (FAOSTAT 2009). According to FAOSTAT (2009), “approximately 1,260 million hectares under rain fed agriculture, corresponding to 80% of the world's total cultivated land, supply 60% of the world's food; while the 277 million hectares under irrigation, for the remaining 20% of land under cultivation, contribute the other 40% of the food supplies”. On average, irrigated crop yields are 2.3 times higher than those from rain fed ground. These numbers demonstrate that irrigated agriculture will continue to play an important role as a significant contributor to the worlds food supply.

Agricultural growth is clearly the key to rural poverty reduction and can make an important contribution to achieving the Millennium Development Goal of halving poverty by 2015 (Rosegrant *et al.* 2005).Irrigation development is considered by many as an important cornerstone for agricultural development. Irrigated crop yields can be double or more compared to rain fed yields. Due to the realized irrigation technology benefits, there was a call to double the area of irrigated arable land by 2015 as a strategy of achieving the millennium development goal number one from the 2005 commission for Africa. Faures and Santini (2008), allude that 58 percent of the rural population in Sub-Saharan Africa can benefit from some type of investment

in water and irrigation in particular. According to FAO (2009), increased food security can be realized for vulnerable small farm households affected by malnutrition through the use of treadle pumps, drip irrigation, and extension to mitigate drought effects and to increase food production. Irrigation allows for a more consistent food supply and higher productivity.

2.6 Theoretical Framework

Projects targeting rural poor form an integral component of any strategic effort to reduce the incidence and severity of poverty (Jean and Sen, 1989). According to Norton, Conway and Foster(2001), projects like those of food security interventions taken to rural areas can form part of the public actions taken in response to levels of vulnerability, risk and deprivation which are deemed socially unacceptable within a given polity or society.

This study was grounded on the Theory of Social Protection. It conveys the belief that, systems of social protection enable societies to advance the well-being and security of their citizens by protecting them from vulnerability and deprivation so that they can pursue a decent life (Gracia and Gruat, 2003). The theory was adopted for this study because evidence suggests that the poorest households in Kenya and in Mbooni East in particular, rarely benefit from direct state support. They instead rely on assistances from non-state sources such as kin, community and religious organisations.

It is the role of the national Government to protect the citizenly from extreme hunger and poverty through the creation and management of safety net programs such as food security and livelihood projects targeting resource poor farmers to strengthen their household food security and income generation. This is anchored in the Bill of Rights as contained in the New Constitution of Kenya 2010, which guarantees every person the right to be free from hunger and to adequate food of acceptable quality (NCK, 2010). Additionally, the Millennium Development Goal number one of 2000 also advocates for Governments in developing countries to halve the number of people suffering from extreme hunger and poverty by the year 2015 (Mwape and Kanyagirire, 2009).

Effective social protection policy must be underpinned by the following strategic policy priorities: Policy development should start from the needs, realities, vulnerabilities and priorities of the poor (DFID, 1997). This should also begin with

understanding their assets and capabilities that they can mobilize as individuals, households and communities. It must be designed so as to provide for basic material needs while fostering the inclusion of the recipients in the mainstream of society (Jean and Sen, 1989).

Notwithstanding the need for social protection, the social protection programs have been criticised. The criticisms are based on the grounds that they: create a negative impact on overall economic performance, are too costly and are a financial burden. They deplete public funds and reduce opportunities for investing in other priority areas and finally their policies create disincentives in the labour market leading to dependency in public support, undermining the work ethic and hinder structural change in addition to causing disharmony to other communities who are perceived to be hard working and not depended on social protection interventions. However these criticisms can be invalidated by the experience of countries successful in economic, political and social terms that show that, economic development and social protection are mutually reinforcing (Gracia and Gruat, 2003).

INDEPEDENT VARIABLES

DEPENDENT VARIABLE

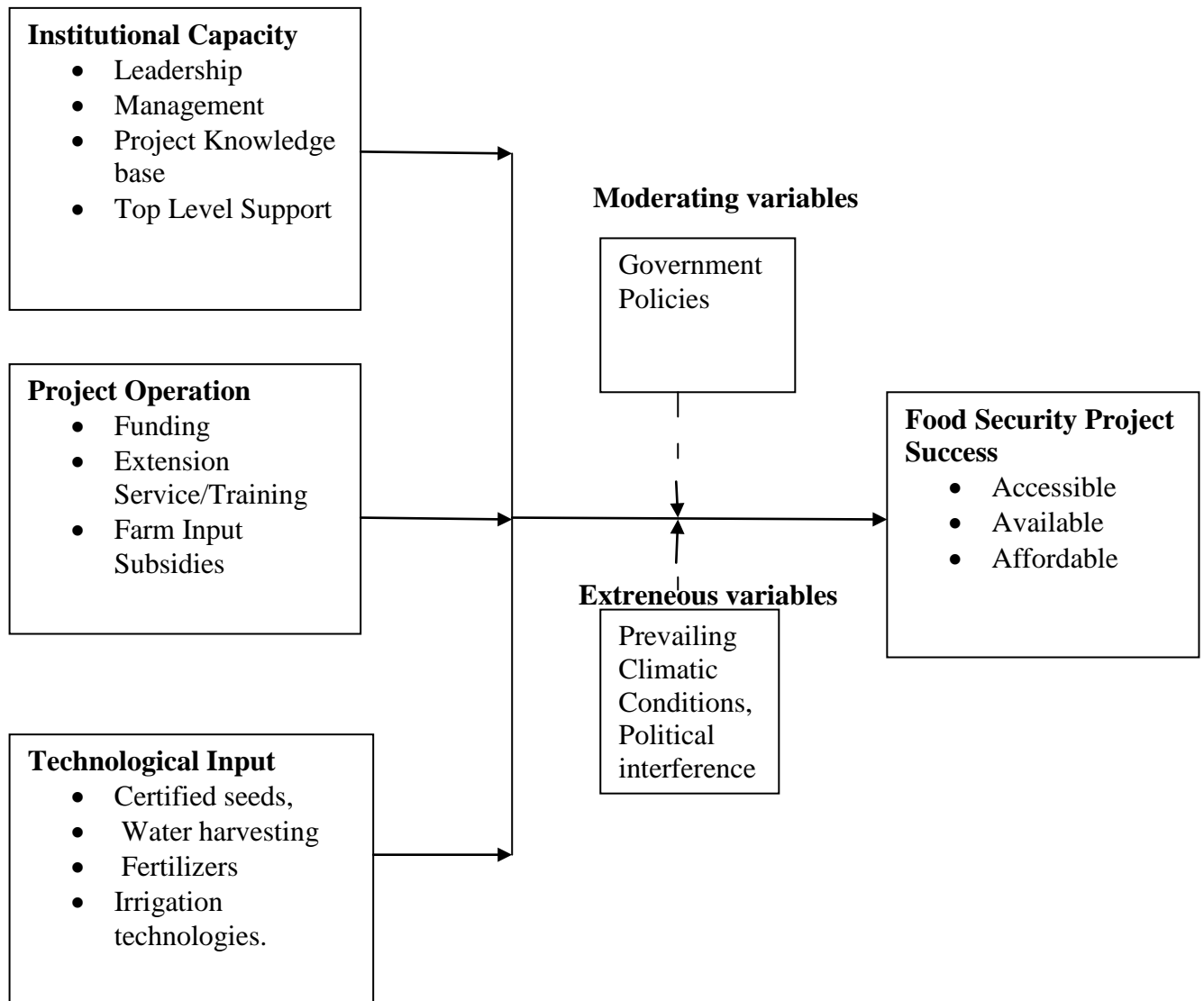


Figure 1. Conceptual framework

The conceptual framework shows the relationship between the independent variables and dependent variable. The dependent variable in this study is the success of food security projects measured in terms of availability, accessibility and affordability by the stakeholders. The independent variables are institutional capacity (Management and Leadership, organizational culture, project knowledge base and top level support); Project operation (Implementation strategy, Funding, Extension service/ training, Farm input subsidies) and Technological input (Use of certified seeds and fertilizers and Irrigation technologies).

2.7 Summary of literature review

This section summarizes the literature reviewed on each of the objectives of the study. It looks at the food situation concept at global, regional, national and local levels. It also summarizes literature reviewed in each of the objective where literature was reviewed.

2.7.1 Food security situation

The literature reviewed revealed that, the world produces enough food to feed everyone with at least 2,720 kilocalories per day, which is well above the recommended minimum of 2250. Over 900 million people globally experience the hardship that hunger imposes, of which, 855 million (95 percent) are in the developing world, 10 million in industrialised countries and 35 million in countries on transition. In Malawi the introduction of large scale input subsidy program show the country switch from being a food beggar to becoming a net exporter of food. The program changed the severe food shortages situation to increased food availability, higher real wages, economic growth and poverty reduction in Malawi.

Global rises in prices and droughts have had drastic effect on household food security in Kenya. A concerning problem of food insecurity in Kenya is concentrated in the rural areas. Kenya has been getting increasingly dependent on food imports. To meet the growing demand for food, the government has to import cereals against scarce foreign exchange. Currently, over 10 million people in Kenya alone, suffer from chronic food insecurity and poor nutrition of which two to four million require emergency food assistance at any given time. Household food insecurity is widespread and chronic in the larger Makeni County and that these areas are among the least developed in the country.

2.7.2 The concept of project success

Literature reviewed revealed that, Project success is a topic that is frequently discussed and yet rarely agreed upon. There is a lack of agreement concerning the criteria by which project or project success is judged. Client satisfaction with the final result has a great deal to do with the perceived success or failure of projects. Most of the failed projects are either over budget, late or are simply not good enough. Different lobbies of people claim that those involved in project implementation perceive them as successful yet the very same projects are poorly received by

customers. Similarly some people argue that some other project consume excessive resources and are considered internal failures but are later hailed as successful by their customers and become a source of revenue for the beneficiaries for many years. Neither the practitioners nor the academicians seem to agree on what constitutes project success. There is wide divergence of opinions in this field and the only agreement seems to be the disagreement on what constitutes 'project successes'.

2.7.3 Institutional capacity on food security project success

Projects fail to achieve successful results because of the institutional capacity, the external environment, and the technological framework. Failure is primarily linked to the organizational context and can be attributed to the lack of leadership, organizational culture, the lack of integration, and the lack of commitment by senior management. Poor leadership skills reflect limited or no teamwork, inadequate communication, and an inability to resolve conflicts as well as other human related inefficiencies. Leadership affects corporate culture, project culture, project strategy, and project team Commitment. It also affects business process reengineering, systems design and development, software selection, implementation, and maintenance. Leadership, management styles and innovativeness have influence to project success and therefore the critical role of the project manager's leadership ability has a direct correlation to project outcome. Possessing management skills is not sufficient to be successful, integrating leadership concepts and applying logic and analytical skills to project activities and tactics allows managers to succeed. There is an existing gap in that, despite some study in the area of project management leadership, the extent to which leadership influences project success is not clear, nor is the style of leadership apparent.

2.7.4 Operational strategies on food security project success

Clear project plan in place, recruitment of personnel based on the required level of competence and experience with clearly spelt out job descriptions and terms of employment by top leadership, an efficient and effective communication plan and project management strategy in the project design requires to be adhered to for effective project implementation. Overall long term causality of high levels of households' food insecurity and poverty has not been adequately addressed, because of poor planning, implementation or both and insufficient resources.

Agricultural extension facilitate farmers' efforts to solve problems; link to markets and other players in the agricultural value chain; and obtain information, skills, and technologies to improve their livelihoods''. Availability of extension services and frequency of contacts with the extension agents contributes significantly to the extent of farm enterprise diversification. Additionally, extension services also play an important role in improving the information flow from farmers to scientists. The existing gap is the extent to which extension service influences project success.

Small scale, resource poor farmers can double or triple the productivity of cereal by using quality hybrid seeds, improved management practices and use of modern farming technologies. Use of adequate amount of fertilizers along with development of other production technologies has played a key role in augmenting food grain production. Existing gap, the extent to which input subsidy influences food security project success.

2.7.5 Technological inputs on food security project success

The farmers' standards of living cannot be enhanced without transferring the technology directly to them. With the help of technology, farmers will produce more, reduce input costs and augment their income. Agricultural research and technological infusion are the keys to strengthening domestic agriculture, ensuring sustainable growth, reducing farm losses and augmenting farmers' incomes.

Use of technology, stress-tolerant plants, protection of plant varieties and better water management can be achieved. Plant biotechnology can help address issues related to limited resources like water and fertile land, impact of climate change and growing dependence on chemicals such as fertilizers and pesticides although this is facing a lot of resistance when it comes to GMO foods. GMO foods are facing legislative challenges despite their usefulness in addressing food insecurity. On average, irrigated crop yields are 2.3 times higher than those from rain fed ground. These numbers demonstrate that irrigated agriculture play an important role as a significant contributor to the worlds food supply.

The existing gap is the extent to which technological inputs influence food security project success in the study area.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents details of the research design, target population, size and target population procedure, instrumentation, data collection instruments, validity and reliability of the research instruments, data collection procedures and methods of data analysis.

3.2 Research Design

The study adopted a descriptive survey design. According to (Orodho, 2009) a survey is a method of collecting information by interviewing or administering a questionnaire to individuals. Survey design was suitable for this study due to the fact that it allowed interviewing real people directly and was useful in getting primary data.

3.3 Target population

The study targeted all food security initiative projects in Mbooni East Sub County and all the implementers of the projects. There are nine food security initiative projects in Mbooni East Sub County. These projects are duplicated in two divisions of the Sub County and they are implemented by Ministry of Agriculture technical staff together with the administration department of the Government at these levels. There are 128 implementers consisting of 64 committee members elected by the community, 12 Ministry of Agriculture technical staff and 52 Chiefs. According to the Government sponsored food security projects implementation guidelines, implementers are the Ministry officials drawn from Sub County headquarters, Divisional headquarters and Location levels. Provincial administrations at Location and sub-location level are also involved in implementation of these projects in one way or the other and therefore are implementers. The target projects are categorized into four according to their objectives and activities. The Ministry implementers are usually multi-disciplinary as each plays a specialized role as stipulated in individual work assignments. Beneficiaries are usually drawn from subsistence farmers who are perceived to be food insecure and therefore their livelihoods need to be improved by the projects' interventions.

3.4 Sample and Sampling Procedure

The study adopted a census type whereby all implementers were the respondents. Census was appropriate for this study because the target population was small and therefore easier to cover in addition to it not having any statistical sampling error associated with it. Respondents were all committee members of the projects, all Ministry of Agriculture staff and all Chiefs in the Sub County. The committee members of these projects are usually carefully chosen by beneficiaries to represent the villages of the project implementation area. Gender representation is also considered when electing these members though constitutional requirements of 30% are not followed, therefore the committee members represented the beneficiaries from all the villages. There were seven committee members per project and one overall chairman totalling to 64 committee members.

3.5 Data Collection Instruments

Four types of research instruments were used in the study namely; questionnaires, interview schedules, observation and document analysis checklists.

3.5.1 Questionnaire

Questionnaire was the main research instrument used in this study. These were administered to the 128 respondents by the researcher with the help of two assistants. The 128 respondents who filled the questionnaires were the Ministry of Agriculture officers together with Chiefs and all committee members of the nine projects. The questionnaire was divided into five parts. Part one dealt with background information of the area and respondents of the study, part two focused on the effect of institutional capacity, part three featured on effects of the project operation, part four focused on the effects of technological inputs and part five dealt with general success perceptions. The questionnaire was designed to align with the objectives of the study. Likert type questions of questionnaire were largely used whereby respondents indicated the extent to which the variables are practiced on a four point Likerts scale. The structured questions were considered in order to communicate easily with the respondents as well as to save time during questionnaire administration. Such structured questions were favoured because they made analysis easier and understandable.

3.5.2 Interview schedule

Interviews allow a researcher to collect data from respondents with low literacy levels; collect information that cannot be directly observed, obtain historical information and gain control over the line of questioning. Some committee members were interviewed to enrich the data collected which could not be obtained using the other instruments.

3.5.3 Document Analysis checklist

Robson (2002), points out the advantages and disadvantages of content analysis. The advantage is that documents are unobtrusive and can be used without imposing on participants; they can be checked and re-checked for reliability. A major problem is that documents may not have been written for the same purposes as the research and therefore conclusions will not usually be possible from document analysis alone. According to Fraenkel and Wallen (1993), document analysis has the following merits; it is un-obstructive, researcher can observe without being observed since the contents being analyzed are influenced by the researcher's presence. Information that might be difficult or even impossible to obtain through direct observation or other means can be gained through analysis of reports and other available communication materials without the author or publisher being aware that it is being examined. Document analysis was therefore very relevant in the study and was used extensively.

3.5.4 Observations Checklist

This instrument was used to check some of the critical departmental records like pictures that are usually kept by the implementing organization on particular projects and their implementation with a view to identifying success areas for up-scaling; and challenges that will be utilized as opportunities for improved future project design and implementation. The instrument was further used to gain first-hand experience without informants, recorded information as it occurred, explored topics that were uncomfortable to informants and noticed unusual aspects. Further the instrument was helpful in getting data on food situation and success stories on the ground.

3.6 Validity and Reliability of Research Instruments

3.6.1 Validity

According to Mugenda et al (2003), validity refers to the accuracy and meaningfulness of inferences, which are based on the research results. It is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. Sommer, (2007), alludes that validity of a research instrument is asking the right questions framed in the least ambiguous way. According to Arun, S.H. (1986), experts should determine validity of research instruments.

Mugenda and Mugenda (2003), states that an instrument is valid when it measures what it purports to measure. It was necessary to test the content validity of the research instruments to ascertain whether all the areas that were critical for this study were included in the research instruments. Robson (2002) argues that prior to using the research instrument, the content validity of the instruments should be determined by the researcher discussing the items in the instrument with the supervisor and colleagues. The research instruments for this study were validated through the help of the University supervisors and the classmates. Their comments were used to modify the instruments to required standards.

3.6.2 Reliability of Research Instruments

According to Mulusa (1990) an instrument is consistent when it produces the expected results. Split half was used to determine the reliability of the instruments. According to Cohen and Swerdlik, (2001), Split-Half reliability test is fast and cheap as it does not require having two test administrations. This test was useful in this study because it saved time and costs. The questions in the questionnaire were divided into two halves using odd and even numbers of the questions. This was done by assigning odd numbered items to one half of the test and even numbered items to the other. A coefficient of 0.8 was obtained and therefore the instrument was found to be reliable to use in this study.

3.7 Data collection Procedures

The researcher sought permission from the Ministry of state for provincial Administration at the Sub County Commissioner's Office through the assistance of the School of Graduate Studies of the University of Nairobi before proceeding to the

field. Using the permission and an introductory letter from the Sub County commissioner, the researcher proceeded to the field to collect data together with his assistants.

The researcher administered interview schedules with adequate instructions and an assurance of confidentiality to the participants in the research. The questionnaires were administered by two research assistants for two weeks during week days. Use of observations and document analysis ran concurrently during the same period. Document analysis was done by the researcher. Upon the expiry of the two weeks period and confirmation from the research assistants that all the targeted participants had been reached, the questionnaires were handed in for analysis by the researcher.

3.8 Methods of Data Analysis

The completed questionnaires were edited for completeness and consistency. The data was then coded to enable the responses to be grouped into various categories that ensured easy tallying. The data collected was organized into frequency tables and cross tabulations and then analyzed using descriptive analysis techniques. Linear regression analysis was done as second level test to determine relationships and significance among the dependent and independent variables within the objectives guiding the study. Content analysis was also used for the secondary data collected. Statistical Package for Social Sciences (SPSS version 20) tool was used.

In this study, a four (4) point Likert scale was used to indicate the level of response to all items as follows:- 4. Very high extent, 3. High extent, 2. Low extent, 1. Very low extent. This is consistent with Strachota (2006) who used a likert scale in a study titled “the use of research to measure student satisfaction in online courses” and later subjected the study findings to a multiple linear regression.

Multiple linear regression (MRA) analysis was done to show the relationship between independent variables and dependent variable. According to Hair *et al.* (2006), MRA is a statistical technique used to analyze the relationship between a single dependent variable and several independent variables. In addition, MRA was used to reveal possible interactions among the dimensions within one independent variable and the dependent variable. MRA was done to get multiple coefficient of determination, to give a measure of the proportion of the food security project success that was explained by the independent variables (Institutional capacity, project

operation, and technological inputs) combined. T-test figures were used to answer the question whether there were significant relationships between the dependent variable Y and the explained Independent variables x_1 , x_2 , and x_3 suggested by the regression equation under consideration.

$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \varepsilon$ Where Y represented the dependent (Response) variable (food security project success); x_1 , x_2 , and x_3 represented the independent variables (Predictor variables) which were; institutional capacity (**IC**), Project operation (**PO**), Technological inputs, (**TI**) respectively; β_1 β_2 and β_3 represented the regression coefficients of independent variables x_1 , x_2 , and x_3 , respectively; ε represented the error term while β_0 represented the Y-intercept.

A null hypothesis $H_0: X_1 = X_2 = X_3 = X_n = 0$ and the alternative $H_1: X_1 = X_2 = X_3 = X_n \neq 0$ Was accepted or rejected based on the outcome.

Table 3:1 Operationalized Variable Indicators

| Research Objective | Type of Variable | | Indicator | Measure | Level of Scale | Data Collection Methods | Type of Analysis |
|--|--|---|---|---|-----------------------|--------------------------------|--|
| To establish the extent to which institutional capacity influence the success of food security projects in Mbooni East Sub County. | Independent Variable(X) Institutional capacity (Leadership, Management organizational culture, project knowledge base and top level support) | Dependent Variable (Y) Success of food security project (Achieved objectives, food availability, accessibility and affordability | Implementers’: Extent of leadership abilities, Management capabilities, Project knowledge base and top level management support (X) Food stored, Price per unit, distance to source and number of meals taken(Y) | Number of implementers and stores, quantities (Kilograms) | Nominal | Survey | Descriptive statistics , content analysis and regression |

| | | | | | | | |
|---|---|---|---|--|----------------------------|---------------|---|
| <p>To assess the extent to which project operation influence the success of food security projects in Mbooni East Sub County.</p> | <p>Project operation (Implementation strategy, Funding, extension service/ training, farm input subsidies)</p> | <p>Success of food security project (Achieved objectives, food availability, accessibility and affordability)</p> | <p>Trainings, resources allocated, and quantities of inputs supplied(X) Food stored, Price per unit, distance to source and number of meals taken(Y)</p> | | <p>Nominal and ordinal</p> | <p>Survey</p> | <p>Descriptive statistics , content analysis and regression</p> |
| <p>To investigate the extent to which technological inputs influence the</p> | <p>Technological input (certified seeds and fertilizers , Irrigation, Greenhouse,</p> | <p>Success of food security project (Achieved objectives, food availability, accessibility and affordability)</p> | <p>Type and number of technologies in use/promoted, quantities of certified inputs supplied, number of water harvesting and storage</p> | <p>Numbers of technologies and quantities in Kilograms or Tonnes</p> | <p>Ratio and interval</p> | <p>Survey</p> | <p>Descriptive statistics , content analysis and regression</p> |

| | | | | | | | |
|---|---|--|--|--|--|--|--|
| success of food security projects in Mbooni East Sub County | water harvesting ,im proved storage) technologies) | | structures, irrigation schemes and greenhouses(X) Food stored, Price per unit, distance to source and number of meals taken(Y) | | | | |
|---|---|--|--|--|--|--|--|

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

The study sought to look into the factors influencing food security projects success in Mbooni East Sub County in Makueni County. It sought to establish the extent to which institutional capacity, project operation strategy and technological input factors influence food security projects in the Sub County. In this chapter, these factors are analyzed and presented.

4.2 Questionnaire Return Rate

The study covered all the target population of 128 respondents in collecting data with respect to factors influencing food security projects in Mbooni East Sub County, Makueni County, Kenya. The questionnaires, interview schedule and document analysis checklists were personally administered with the help of two research assistants to the respondents. All questionnaires filled by respondents were returned reflecting 100 percent return rate as indicated in Table 4.1.

Table 4.1: Response Rate

| Response | Frequency | Percentage |
|--------------------|------------|------------|
| Target Respondents | 128 | 100 |
| Actual Respondents | 128 | 100 |
| Total | 128 | 100 |

The 100% return rate was possible because of the type of target population. The target population comprised of officials who implement the target projects at the grass root. These were Ministry of agriculture officers, chiefs, assistant chiefs and project committee members who expressed readiness to cooperate. According to Mugenda and Mugenda (1999) a response rate of 70% and over in social sciences is considered high. This study achieved 100% response rate as the officers could easily be traced and reached in their stations of work. This was further complimented by seeking authority from the Sub County Commissioner Mbooni East and the Sub County Agricultural officer of the Sub County who assisted with contacts of the target respondents. Through the mobile numbers of the respondents' phones obtained, they were contacted in advance to be ready for the survey.

4.3 Demographic Characteristics of the Respondents

The study targeted all state sponsored food security projects and their implementers. Section one of the questionnaire investigated the demographic characteristics of the respondents. The obtained demographic data is presented under gender, age group, highest education level attained and the experience gained in project implementation of the respondent.

4.3.1 Gender of the Respondents

The research sought to establish the gender of the respondents. The results obtained are as tabulated in table 4.2.

Table 4.2: Gender of the Respondents

| Gender | Frequency | Percent |
|--------------|------------|--------------|
| Male | 97 | 75.8 |
| Female | 31 | 24.2 |
| Total | 128 | 100.0 |

According to the results obtained, 75.8% were males while 24.2% were females. 50% of the targeted respondents were government employees (Agricultural officers, Chiefs and Assistant chiefs); information obtained from interviews revealed that, up to recently very few women were recruited as Chiefs and Assistant chiefs due to cultural and attitudinal beliefs which were prevailing in the community. Furthermore, this area is classified as hardship and it is mostly men who are posted there by the Ministry of Agriculture apart from those women who are residents of the area.

4.3.2 Age of Respondents

The research sought to establish the age of the respondents by indicating the age category in the questionnaire. The age was important in this study since in many rural areas in Kenya, age has a correlation with literacy levels and also productivity. In addition rural areas are known to be deserted by the youth out of school to cities yet we need the integration of this category in development agenda. The obtained results were as in table 4.3

Table 4.3: Age of Respondents by categories

| Age category | Frequency | Percentage |
|----------------|------------|------------|
| 20-30 years | 3 | 2.3 |
| 31-40 years | 34 | 26.6 |
| 41-50 years | 47 | 36.7 |
| Above 50 years | 44 | 34.4 |
| Total | 128 | 100 |

According to the study results, 71.1% of the respondents are aged 41 years and above and only 28.9% was in the 20-40 age bracket. These findings imply that the majority of food security project implementers (71.1%) are over 40 years, an age group that is not as productive compared to the 28.9% (20-40 years), youthful age group which is considered most productive. The results imply that there is a large group of old men and women playing the role of project implementation in the Sub County.

4.3.3 Highest education level of respondents

The highest educational level attained by the respondents as sought by the researcher was as in table 4.4 below. The study sought to know the highest education level attained by the respondents because project implementation requires some level of education necessary for reading and understanding of the project documents and even proceedings of the planning and trainings carried out in the process.

Table 4.4: Highest educational level attained by the Respondents

| Education level | Frequency | Percentage |
|-----------------|------------|------------|
| None | 4 | 3.1 |
| Primary | 14 | 10.9 |
| Secondary | 79 | 61.7 |
| Tertiary | 20 | 15.6 |
| University | 11 | 8.6 |
| Total | 128 | 100 |

The results indicated that 75.7% of the respondents have attended up to secondary level of education, while the remaining 24.3% have attained training of tertiary and university levels. The findings revealed that most respondents have basic education

necessary for project implementation, while very few (3.1%) of the target group had no education at all.

4.4 Institutional capacity factors influencing success of food security projects

This section used cross tabulation and frequency tables to analyze variables while trying to establish how and the extent to which institutional capacity factors influences the success of food security projects in Mbooni East Sub County. The institutional capacity factors investigated were; leadership skills, management capability, project knowledge base and top level management support. A second level test of regression analysis was also done to show the relationship between parameters in this independent variable and the dependent variable.

4.4.1: Leadership capability of implementers of food security projects

Various dimensions of leadership capability were examined in relation to food security project success in Mbooni East Sub County. The dimensions examined included; extent of leadership capabilities of the implementers, creativity and innovativeness, situational decision making, rewards, direction setting, accountability and role modelling. A cross tabulation was done on general leadership capability and food security project success and the results obtained are tabulated below;

Table 4.5: Extent of leadership capability of implementers and general food security project success in Mbooni East

| Extent of leadership capability and General food security success | Frequency | Percentage |
|--|------------|------------|
| Very low | 8 | 6.2 |
| Low | 70 | 54.4 |
| High | 42 | 32.8 |
| Very high | 8 | 6.2 |
| Total | 128 | 100 |

The results obtained depict a 60.6% low extent of leadership capability by those who implement food security projects in Mbooni East Sub County. This means that successful implementation of food security projects with regards to leadership capability is low in the Sub County. The study further sought to find out whether implementers depicted creativity and innovativeness and also the extent to which food

security projects implementers in the Sub County possess adequate leadership skills for successful project implementation. The results obtained showed 66% of the implementers depicting low abilities of creativity and innovativeness, while 64.1% lacked adequate leadership skills to successfully implement the food security projects. Other factors investigated under leadership were situational decision making, rewards to subordinate roles, vision and direction setting, accountability and role modelling whose extents were found to be low in the Sub County.

4.4.2 Management capability of implementers of food security projects in Mbooni East

The study sought to establish the extent to which management capability of the food security projects implementers influence food security projects success in the Sub County. Cross tabulation analysis was used and results tabulated in table 4.6 below;

Table 4.6: Extent of Management capability of implementers and food security project success in general in Mbooni East Sub County

| Extent of management ability and Food security project success | Frequency | Percentage |
|--|------------|------------|
| Very low | 9 | 7 |
| Low | 66 | 51.6 |
| High | 43 | 33.6 |
| Very high | 10 | 7.8 |
| Total | 128 | 100 |

From the results obtained, 58.6% of the respondents said that successful implementation of food security projects with regards to implementers' management capability is generally low. This implies that the majority of those who manage the food security projects in the Sub County depict low capabilities of management. The study further investigated the extent to which the implementing teams possessed managerial skills for successful project implementation. 63.3% said that the implementing teams possess low extents of managerial skills for successful project implementation. This further implies that most of the implementers lack necessary managerial skills to successfully implement the projects. Other dimensions of management capability investigated were; good communication, team work and

strong sense of commitment are depicted by the implementers. The results obtained indicated a, 56.2% high extent of good communication, 57.8% high extents of team work promotion and 56.3% low extents of sense of commitment. The results therefore indicated that, there is good communication and team work but lack of strong sense of commitment among the implementation teams. The revelations implied that, inabilities depicted in management by majority implementers are unlikely to drive food security projects to success and may affect the projects' strategies and teams' commitments negatively.

4.4.3: project Knowledge base of implementers of food security projects in Mbooni East

A cross tabulation analysis of extent of project knowledge base of implementers and food security project success yielded the results tabulated in table 4.7 below:

Table 4.7: Extent of Project Knowledge base and food security project Success.

| Extent of project knowledge base and food security project success | Frequency | Percentage |
|--|------------|------------|
| Very low | 8 | 6.2 |
| Low | 70 | 54.4 |
| High | 42 | 32.8 |
| Very high | 8 | 6.2 |
| Total | 128 | 100 |

78.1% of the respondents said that the, extent to which those who implement food security projects in Mbooni East possessed project knowledge base was low. This implied that successful project implementation with regard to project knowledge base is low in the Sub County. The study sought further to find out whether, the respondents/implementers were trained before assuming implementation roles, and whether their levels of knowledge, skills and attitude affected implementation. Results obtained revealed that 60.9% of the respondents underwent training before assuming implementation role while 85.9 % affirmed that the level of knowledge, skills and attitudes can facilitate implementers' role in project implementation. This implied that the respondents understood the need for acquiring the skills although some (39.1%), had not had training before assuming their roles as implementers. Further findings on

whether the organization and implementers had competencies for successful implementation of food security projects revealed that, both the organization and implementers have the competencies required for these projects' successful implementation. 51.6% said that there is organizational and implementers' competence depicted to high extents and a further 74.3% of the respondents said that technical competencies are to high extents among the implementers. This implies that the ministry concerned with these projects has sufficient technical competencies for implementation of these projects in the Sub County and therefore these aspects are unlikely to be bottlenecks to successful implementation of these projects but asset.

4.4.4: Top level support to projects and implementers of food security projects in Mbooni East.

The research sought to establish whether there is adequate support given to these projects and implementers from the top level management and also the extent to which the support is given. The study used cross tabulation to analyze the extent of this parameter on food security project success and the findings are as in table 4.8;

Table 4.8: Extent of top level management support and general food security Project success in Mbooni East

| Extent of top level management support and food security project success | Frequency | Percentage |
|--|------------|------------|
| Very low | 8 | 6.3 |
| Low | 64 | 50.0 |
| High | 51 | 39.8 |
| Very high | 5 | 3.9 |
| Total | 128 | 100 |

From the results, 56.3% of the respondents said that top level management support is low while the remaining percentage said it is high. This means that there is low top level management support to these projects as revealed by the study results. Under top level support the study further sought to establish whether budget allocations to these projects are adequate. Results obtained were tabulated in the table below;

Table 4.9: Adequacy of budgetary allocations

| Response | Frequency | Percent |
|--------------|------------|--------------|
| Yes | 9 | 7.0 |
| No | 119 | 93.0 |
| Total | 128 | 100.0 |

93% of the respondents indicated that the budgets given to these projects are not adequate. This means that implementers perceive budgetary allocations to these projects as inadequate and therefore could be part of the constraints affecting successful implementation of the projects in the Sub County.

4.5 Project operation factors influencing success of food security projects in Mbooni East.

The research sought to find out the extent to which operational factors applied for the food security projects in the Sub County influenced the success of these projects. The research looked at implementation strategies commonly used in state sponsored food security projects to examine the extent to which they are applied and how they affect successful implementation of these projects. The operation factors examined were; formulation and implementation, funding, extension service and input subsidies. Inquiries were also made to find out whether there is; stakeholder involvement, clear participatory planning and Proper activity scheduling by all major stakeholders in the operations.

4.5.1 Formulation and Implementation strategies

The study sought to find out whether clear project plans known to stakeholders, scheduled activities and effective communication plans were in place. It also sought to establish the extent to which they are included in the projects' strategy design. The results were presented in table 4.10-4.13 below;

Table 4.10: Extent of clear project plans known by all stakeholders

| Extent of plans known by stakeholders | Frequency | Percentage |
|---------------------------------------|------------|------------|
| Very low | 13 | 10.2 |
| Low | 53 | 41.4 |
| High | 56 | 43.8 |
| Very high | 6 | 4.7 |
| Total | 128 | 100 |

The findings revealed that, on average there are clear plans known to all stakeholders in place although slight majority respondents indicated that it is to a low extent. Those who indicated low extents were 66 (51.6%) against 62 (48.4%) who indicated that the plans are available and known to all stakeholders. It implies that not all stakeholders (48.4%) are aware of these projects' plans.

The study further sought to establish the extent to which these projects' designs contained scheduled activities. The findings are depicted in table 4.11 below;

Table 4.11: Extent of scheduled activities for food security projects

| Extent of scheduled activities | Frequency | Percentage |
|--------------------------------|------------|------------|
| Very low | 11 | 8.6 |
| Low | 59 | 46.1 |
| High | 48 | 37.5 |
| Very high | 10 | 7.8 |
| Total | 128 | 100 |

70 (54.7%) out of the 128 respondents said that the extent of scheduled activities of food security projects in the Sub County is low as compared to 58 (45.3%) who said that the scheduling of activities for these projects is high. It therefore implies that scheduling of activities of these projects in the Sub County is not known by all the implementers. Further investigation on the extent to which these projects design embraced effective communication plans revealed the depicted results in table 4.12 below;

Table 4.12: Extent of effective communication plans

| Extent of effective communication plans | Frequency | Percentage |
|---|------------|------------|
| Very low | 8 | 6.3 |
| Low | 65 | 50.8 |
| High | 47 | 36.6 |
| Very high | 8 | 6.3 |
| Total | 128 | 100 |

The results obtained show that the extent to which food security projects in Mbooni East include effective communication plans in their strategies is low. This means that there are no adequate communication plans in the strategies of these projects. The implication here is that operation strategies used in these projects lack the effective communication plans and this could pose challenges to successful implementation of the projects.

4.5.2 Extension service provision as a project operation strategy factor influencing food security project success

The research endeavoured to find out the extent to which extension services provision strategy is employed as an operational factor in implementation designs of food security projects in Mbooni East. The findings were as presented in table 4.13

Table 4.13 Extent of Extension service provision

| Extent of extension service provision | Frequency | Percentage |
|---------------------------------------|------------|------------|
| Very low | 14 | 10.9 |
| Low | 54 | 42.2 |
| High | 54 | 42.2 |
| Very high | 6 | 4.7 |
| Total | 128 | 100 |

The results imply that extension service provision as a strategy is employed to a low extent since 53.1% attested that the extent of extension service provision is low for these projects. From the results, it is deducible that, there is lack or low agricultural advisory services provided to the farmers in the Sub County and therefore information dissemination to farmers is likely to be low and therefore may fail to put more efforts to solve their farming problems.

4.5.3: Farm input subsidies provision as an operation factor influencing food Security projects in Mbooni East.

The research endeavoured to establish whether farm inputs subsidies provisions are part of the operations strategy used in the food security projects' implementation in the Sub County. It also sought to find out the extent to which they are used if any. The revelations are presented in table 4.14 below;

Table 4.14: Extent of input subsidy provisions.

| Extent of input subsidy provision | Frequency | Percentage |
|-----------------------------------|------------|------------|
| Very low | 32 | 25.0 |
| Low | 57 | 44.5 |
| High | 32 | 25.0 |
| Very high | 7 | 5.5 |
| Total | 128 | 100 |

According to the responses obtained, 69.5 % said that input subsidy provision as a strategy is very rarely used in the implementation of some of these projects in the Sub County. This implies that input subsidy provision is not included in the strategic design of most of these projects. Further investigations revealed that farm input subsidies provided in the neighbouring areas of Makueni acted as incentives and encouraged farmers to plant more of the food crops compared to where these inputs are not provided. This acted as a proxy indicator that, input subsidy mitigates the risks avoided by farmers to buy these inputs due to uncertainty. Apart from one project (NAAIAP), which provides input subsidies the other projects do not have this strategy. Information gathered revealed that the other projects were less popular in the sub-county compared to NAAIAP.

4.5.4: Funding/Resource allocation as a strategic factor influencing food security Projects in Mbooni East.

On operation strategy factors, the study further sought to establish the extent to which funding / resource allocations to these projects are done. The findings are presented in table 4.15 below;

Table 4.15 Extent of resource allocation

| Extent of resource allocation | Frequency | Percentage |
|-------------------------------|------------|------------|
| Very low | 37 | 28.9 |
| Low | 67 | 52.3 |
| High | 22 | 17.2 |
| Very high | 2 | 1.6 |
| Total | 128 | 100 |

The results indicate that up to 104 (81.2%) of the respondents felt that the funding levels to these projects are to low extents. This implies that the food security projects are perceived to be funded inadequately by the implementers in the Sub County. Due to perceived low funding, there could be challenges posed to the success of these projects.

4.6 Technological input factors influencing success of food security projects

The study sought to find out the extent to which farming technological intervention are used in food security projects in Mbooni East Sub County. The researcher looked at the extent to which biotechnology, water harvesting, irrigation, locally adapted certified seeds, post harvest storage and green houses are used as farming technological inputs in food security projects in the Sub County. The above parameters were examined to find out the extent to which they are applied in the food security projects' interventions and the extent to which they can thus influence the success of these projects. The results obtained are illustrated in figures, 4.7-4.11 below:

4.6.1: Biotechnology as a technological intervention on food security projects in Mbooni East.

The study sought to establish the extent to which biotechnological interventions are used in the Sub County while implementing food security projects. The biotechnologies investigated were grafting for fruit trees, tissue culture for bananas and genetic modification to raise GMOs.

The results are presented in table 4.16 below;

Table 4.16 Extent of biotechnology use

| Extent of biotechnology use | Frequency | Percentage |
|------------------------------------|------------------|-------------------|
| Very low | 44 | 34.4 |
| Low | 54 | 42.2 |
| High | 28 | 21.9 |
| Very high | 2 | 1.6 |
| Total | 128 | 100 |

98 out of 128 (76.6%) of the respondents said that the extent of biotechnology use is low in the Sub County. This implies that biotechnology is used in the Sub County to a

minimal extent. Biotechnology includes genetically modified organisms, tissue culture and grafting techniques.

4.6.2: Water harvesting technologies use in food security projects in Mbooni East

Table 4.17: Water harvesting technology use

| Extent of water harvesting | Frequency | Percentage |
|----------------------------|------------|------------|
| Very low | 35 | 27.3 |
| Low | 56 | 43.8 |
| High | 30 | 23.4 |
| Very high | 7 | 5.5 |
| Total | 128 | 100 |

Majority 71.1% (91) respondents said that water harvesting for irrigation in the Sub County is to low extents. This means that water harvesting as a technological intervention input in the food security projects implemented in the Sub County is minimal. Further findings through observations and interviews revealed that, water is a major limiting factor in the production of food crops. The crops on many occasions wither and dry up before maturity and this has subjected the residents in this area to food insecurity. The respondents said that climate change has continued to affect and diminish their livelihoods as weather has become completely un predictable to them. These places need water harvesting on demand despite its low inclusion in the projects' interventions' strategies.

4.6.3: Green house technology use in food security projects in Mbooni East.

Table 4.18: Use of green house technology

| Extent of green house use | Frequency | Percentage |
|---------------------------|------------|------------|
| Very low | 54 | 42.2 |
| Low | 59 | 46.1 |
| High | 13 | 10.2 |
| Very high | 2 | 1.6 |
| Total | 128 | 100 |

Results obtained revealed that green house technology use on these projects interventions is very low in the Sub County. The projects do not use this as a technological input strategy necessary for food security projects in the Sub County. 86.3 % of the respondents confirmed that, this is a technological input that is used to low extent. Enquiries made revealed that the technology is new in the area and expensive which was likely to be the reason for low adoption.

4.6.4: Extent of locally adapted certified seeds use in the sub-County .

The research endeavoured to establish the extent to which locally adapted certified seeds are used as a technological intervention in food security projects. This was important as the area is ASAL and locally adapted seeds are always encouraged under normal farming conditions. The targeted seeds were the drought torelants and drought escaping varieties. The responses are as indicated below;

Table 4.19 : Use of locally adapted certified seeds

| Extent of locally adapted seeds use | Frequency | Percentage |
|-------------------------------------|------------|------------|
| Very low | 19 | 14.8 |
| Low | 37 | 28.9 |
| High | 58 | 45.3 |
| Very high | 14 | 10.9 |
| Total | 128 | 100 |

Results obtained revealed that, locally adapted certified seeds are used to high extents in these projects' interventions. 56.2% of the respondents said that the technology is highly used in the interventions. From the interviews carried out the respondents tended to say that the technology is easier and cheaper to adopt compared to the others and whenever there is rain however little, they at least get returns in form of harvests.

4.6.5: Irrigation technology use on food security projects in Mbooni East.

Table 4.20: Extent of irrigation technology use

| Extent of irrigation use | Frequency | Percentage |
|--------------------------|------------|------------|
| Very low | 60 | 46.9 |
| Low | 51 | 39.8 |
| High | 14 | 10.9 |
| Very high | 3 | 2.3 |
| Total | 128 | 100 |

Results obtained revealed that, irrigation use as technological intervention in these projects are very low. This implies that irrigation is rarely practiced as intervention input in these projects. Further findings through interviews and observations revealed that the Sub County is ASAL and efficient water use to produce crops is of greater value to the community. The respondents revealed that, apart from it being costly, irrigation is the main intervention which could enable realization of enhanced yields.

4.7: Success of food security projects in Mbooni East

The study endeavoured to find out whether food security projects are succeeding or failing by asking respondents to state the extent to which food security projects are perceived to be succeeding in general. It further sought to establish the extent to which these projects 'were meeting known success criteria factors. The success factors investigated included; completion on schedule, within budget, meeting end users requirements, improving end users' performance, accomplishing stakeholders' objectives and meeting stakeholders' satisfaction. The findings are tabulated in the tables 4.22- 4.30

4.7.1: General success of food security projects in Mbooni East Sub County

The study sought to find out the extent to which the food security projects are perceived as successful in the Sub County. Results obtained are as tabulated below;

Table 4.21: General rating of success of food security projects in Mbooni East

| Extent of success | Frequency | Percentage |
|-------------------|------------|------------|
| Low | 98 | 76.6 |
| High | 30 | 23.4 |
| Total | 128 | 100 |

76.6% of the respondents rated the extent of successes of these projects in the Sub County as low while 23.4% rated them as high. This meant that they are actually failing as perceived by the majority.

4.7.2: Project completion on schedule

The researcher sought to find out whether these projects are completed on schedule and findings are as in table 4.23 below;

Table 4.22: Food security project completion on schedule in Mbooni East

| Extent of completion on schedule | Frequency | Percentage |
|----------------------------------|------------|------------|
| Low | 102 | 79.7 |
| High | 26 | 20.3 |
| Total | 128 | 100 |

79.7% of the respondents said that the extent of completion of these projects on schedule is low. This implies that only 20.3% feel that the projects are completed on schedule. It therefore means that the projects are either delayed in completion or are never completed. Further interviews revealed that, the projects normally started late than anticipated due to reasons among them delayed funding. These delays made these projects to be perceived as failed because implementation started late in the season yet the rains subsided within short periods. Observations made and documents analyzed also revealed that some of these projects had components of farm input provision and once the provisions delayed it meant total failure in harvests and therefore implicated on the projects' perceptions as having failed as far as the beneficiaries were concerned.

4.7.3: Project completion within budget

The study further sought to find out the extent to which these projects are completed within budget and results obtained are tabulated in table 4.23.

Table 4.23: Food security projects completion within budget.

| Extent of completion within budget | Frequency | Percentage |
|------------------------------------|------------|------------|
| Low | 95 | 74.2 |
| High | 33 | 25.8 |
| Total | 128 | 100 |

The extent of food security projects completion within budget in the Sub County is low as 74.2% of the respondents confirmed this. This means that only a few of these projects are completed within the budgets provided. Those who were interviewed indicated that budgets to these projects are not adequate; this was augmented by information obtained from reports submitted to supervisory offices of these projects.

4.7.4: Projects scope Management

Table 4.24: Extent of effective scope management of food security projects.

| Extent of effective project scope management | Frequency | Percentage |
|--|------------|------------|
| High | 40 | 31.3 |
| Low | 88 | 68.7 |
| Total | 128 | 100 |

A minority 31.3% said that there are high extents of effective scope management of these projects while the majority 68.7% said that the extent of effective scope management is low. This implies that effective scope management of food security projects in the Sub County is low despite the contrary opinion by 31.3 % of the respondents.

4.7.5: Project end products meeting end users' requirements

The researcher had sought to find out whether the end products of these projects meet the end users' requirement and responses obtained are as in table 4.26

Table 4.25: Projects’ end products meeting end users’ Requirements

| Extent of meeting end users’ requirements | Frequency | Percentage |
|---|------------|------------|
| Low | 100 | 78.2 |
| High | 28 | 21.8 |
| Total | 128 | 100 |

From the results, majority of the respondents attested that the end products of these projects rarely meet the end-users’ requirements. This implies that end users are not satisfied with the outcomes of these projects and therefore success according to them is not achieved. Further enquiries and observations revealed that the target beneficiaries still remained poor and hungry despite them being listed as beneficiaries of these projects at some point.

4.7.6: Projects’ end products improving end users’ performance

Enquiries were made to find out whether these projects’ end products make any improvement on the beneficiaries’ performances in food security. The findings are tabulated in table 4.26.

Table 4.26: projects ‘end products improving end users’ performance.

| Extent of Improvement | Frequency | Percentage |
|-----------------------|------------|------------|
| Low | 81 | 63.3 |
| High | 47 | 36.7 |
| Total | 128 | 100 |

63.3% said that the extent of end users’ improvement in performance is either very low or low. It therefore means that improvement in performance of the end users is very rare, thus there is no significant improvement in performance of the end users of these projects in the Sub County on their food security situation as a result of these projects.

4.7.7: Project processes meeting stakeholders’ satisfaction

Table 4.27: Projects’ processes satisfying stakeholders in Mbooni East.

| Extent of stakeholders’ satisfaction | Frequency | Percentage |
|--------------------------------------|------------|------------|
| Low | 98 | 76.6 |
| High | 30 | 23.4 |
| Total | 128 | 100 |

Majority respondents as shown by the results indicated that the extent of stakeholders' satisfaction due to these projects processes is low. This implies that majority stakeholders are not satisfied with the food security projects' processes in the Sub County as 76.6% of the respondents affirmed to this.

4.7.8: Projects' accomplishment of stakeholders' objectives

Table 4.28: Projects' accomplishment of stakeholders' objectives.

| Extent of accomplishing stakeholders' objectives | Frequency | Percentage |
|--|------------|------------|
| Low | 100 | 78.1 |
| High | 28 | 21.9 |
| Total | 128 | 100 |

78.1% of the respondents confirmed that there are low extents of stakeholders' objective accomplishments from these projects. This implies that the objectives of stakeholders are not met from these projects' implementations.

4.8 Regression Analysis

A second level analysis was performed to determine the significance and magnitude of the effects of the independent variables (Institutional capacity, operational strategies and technical inputs variables) on the dependent variable (food security project success) in Mbooni East.

Table 4.29: Influence of institutional capacity, Operational and Technological inputs factors on food security projects success in Mbooni East.

| | Coefficients ^a | | | | |
|---------------------|-----------------------------|------------|---------------------------|--------|------|
| | Unstandardized Coefficients | Std. Error | Standardized Coefficients | t | Sig. |
| | B | | Beta | | |
| (Constant) | .163 | .333 | | .490 | .625 |
| Improved varieties | .006 | .064 | .009 | .096 | .924 |
| Water harvesting | .007 | .066 | .010 | .107 | .915 |
| Irrigation use | .092 | .072 | .119 | 1.264 | .209 |
| Biotechnology use | .086 | .071 | .116 | 1.210 | .229 |
| Leadership skills | .014 | .099 | .013 | .137 | .891 |
| Managerial skills | .102 | .095 | .101 | 1.070 | .287 |
| Top level support | .193 | .130 | .115 | 1.480 | .142 |
| Risks mitigation | -.120 | .065 | -.153 | -1.864 | .065 |
| Resource allocation | .156 | .085 | .193 | 1.826 | .071 |
| Input subsidies | .142 | .066 | .205 | 2.162 | .033 |
| Corporate culture | .127 | .068 | .163 | 1.871 | .064 |
| Project knowledge | .090 | .074 | .092 | 1.224 | .223 |
| Trainings | .064 | .040 | .123 | 1.611 | .110 |

a. Dependent Variable: Food Security project success in the Sub County

The equation $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_n X_n$ from this model yielded the results below:

$Y = 0.163 - 0.120X_1 + 0.006X_2 + 0.007X_3 + 0.092X_4 + 0.086X_5 + 0.014X_6 + 0.102X_7 + 0.193X_8 + 0.156X_9 + 0.142X_{10} + 0.127X_{11} + 0.090X_{12} + 0.064X_{13}$ where X_{1-13} represented: Risk mitigation, improved seeds varieties, water harvesting technologies, irrigation technology use, biotechnology use, leadership skills, Managerial skills, top level management support, resource allocation, input subsidy provision, corporate culture management, project knowledge base of implementers and trainings of implementers respectively.

The results obtained from this regression model indicated that; improved seeds varieties use, water harvesting and leadership skills had the greatest significant relationships on food security project success in Mbooni East Sub County with significance levels of 0.924, 0.915 and 0.891 respectively.

The model results also gave the coefficient of determination (R^2) figure of 0.421.

The relatively low significance of other factors examined can be attributed to the composition of respondents and the nature of the instrument used for data collection. Although the significances for these factors are low, they have positive relationships to food security projects success.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS.

5.1 Introduction

This study aimed at establishing, assessing and investigating the extent to which institutional capacity factors, operational strategy factors and technological input factors influence the success of food security projects in Mbooni East Sub County of Makueni County, Kenya. This chapter gives the summary of the findings, discussions, conclusions and recommendations based on the objectives of the study.

5.2 Summary of the findings

The study found that institutional capacity; operational strategies and technological input factors influenced food security projects in Mbooni East and accounted for 42.1% variability in food security project success in the Sub County while the remaining percentage was due to other factors. Although, the magnitude seemed low and weak, target respondents might have had bias in their responses leading to these results. The institutional capacity factors revealed that leadership skills of implementers had the highest significant relationships on the food security projects success (0.891 significance) while on operational strategies, resource allocations followed by input subsidies were found to be of greater significance to food security projects success in the sub county. For the technological inputs, improved varieties use had 92.4 % real relationship to food security project success while water harvesting for small scale irrigation had very strong relationships (.915 significance) to food security projects success in Mbooni east Sub County. Other findings found these factors affecting food security project success in Mbooni East as follows;

5.2.1 Institutional capacity factors

The findings revealed that the leadership abilities of the projects' implementers are low. 64.1% of the respondents said that the extent of leadership skills of implementers are low, 66% said that they have no creative and innovative abilities while 61% said that the implementers have low extents of leadership capabilities to implement the projects successfully. On management abilities the findings revealed that it is also low. 63.3% of the respondents said that the

implementers possess low to very low extents of management skills and another 58.6% said that they have low management capabilities in general to successfully implement the projects. On project knowledge base of the implementers, a majority 78.1% of the respondents indicated that it is low to very low extents while 60.9% indicated that they underwent training before assuming their roles as implementers. 74.3% said that the implementers' technical competencies are high while 51.6 % indicated that the organization possessed the required general competencies to implement these projects. On top level management support to these projects, 56.3% of the respondents said that, the extent of support is low and 93% said that the budgetary allocations to these projects are inadequate. The general revelation is that leadership and management capabilities of implementers of these projects are low. Similarly project knowledge base, top level management supports and budgetary allocations to these projects are low.

5.2.2. Implementation strategy factors

On this objective the findings revealed that, implementation strategies under listed are used to low extents. On formulation and implementation of these projects, 51.6% of the respondents said that the extent to which clear project plans known to all stakeholders are in place is low while 54.7% indicated that scheduling of activities is done to low extents. 53.1% said that extension service provision as a strategy in these projects is very low to low extents while a majority 69.5 % said that input subsidy provision to beneficiaries as a strategy in these projects is to low extents. On general resource allocation to these projects, 81.2% of the respondents said that it is not adequately done. This implies that the strategies adopted as means of delivering the projects successfully are used to low or very low extents in mbooni East Sub County and therefore the projects are not successfully implemented according to plan.

5.2.3. Technological input factors

The extents of agricultural technological inputs in these projects were found to be low. On biotechnology use, 76.6 % of the respondents said that the extent of use is low while 71.1% categorized water harvesting technologies use as low. The extent of green house technology use was confirmed as low by 86.3% of the respondents while 56.2% confirmed high extent use of locally adapted certified seeds. 86.7% confirmed that the extent of irrigation use as technological input is low. This implies that the

technologies earmarked to take these projects to success are lowly used in the Sub County. The findings therefore revealed that the extent of technological inputs to these projects is low or very low and this casts doubt on success of these projects without these crucial inputs.

On the general success of food security projects in Mbooni East, the findings revealed that the projects are not successful as evidenced by 76.6% of the respondents who said that the extent to which these projects were succeeding was low. A further 79.7% said that these projects are never completed on schedule while 74.2% said that these projects are not completed within budget. Extent of scope management was said to be low by 68.7% while 78.2 % said that the projects do not meet end users' requirements. A further 63.3% revealed that the projects do not improve end users' performances and another 76.6% said that the processes of the projects do not satisfy stakeholders. Finally, 78.1% of the respondents affirmed that the projects do not achieve stakeholders' objectives.

5.3 Discussions of the findings.

5.3.1 Institutional capacity factors

The study found that a majority (61%) had the view that, implementers of food security projects in Mbooni East depicted low extents of leadership capabilities however a reasonable percentage (39%) had a different view that the implementers have high leadership capabilities. Further findings revealed that 33% of the respondents felt that the implementers are creative and innovative and another 36% felt that the implementers possess the necessary leadership skills to successfully implement food security projects in the Sub County. Contrary to the above opinions, 67% of the respondents said that the implementers are neither creative nor innovative, and another 64% said that, they do not have leadership skills necessary to successfully implement the projects. Although the majority's opinions could be taken as the situation prevailing, the varied thinking and perceptions could be attributed to the diverse organizations under which they (respondents) work. The implementers came from different organizations and played different roles and this could influence their response. It was observed that, while the agricultural officers involved, get clear communications and guidelines, the chiefs, their assistants and committee members were getting communications from different sources. This alone could account for the varied understandings, attitudes and expectations. Similarly it was revealed that, while

the officers' regularly go for leadership skills trainings the committee members rarely get the opportunity to go for these trainings and are mostly trained by the officers. The Regression analysis captured leadership skills as an institutional capacity factor with a strong significant relationship on food security projects success in the sub county.

These findings concur with, Schmid and Adams (2008); who highlighted leadership as a key aspect of project success without which failure becomes the obvious. They further say that, more demanding market conditions require a stronger focus on leadership, knowledge, and skills to ensure project success. The findings further, echo Shore (2005), who argued that without appropriate leadership, the risk of project failure increases. Zhang and Faerman, (2007) in their research on projects also concluded that 80% of projects fail because of poor leadership. Their findings further suggested that poor leadership skills reflected limited or no teamwork, inadequate communication, and an inability to resolve conflicts as well as other human related inefficiencies. Shore (2005); further argues that, leadership affects corporate culture, project culture, project strategy, and project team Commitment.

From the findings as revealed by the study, leadership is of particular importance to these food security projects because of the significance levels found. With the majority implementers lacking capability in leadership as revealed by majority 61% respondents, it then implies that, there is inadequate leadership skills and knowledge for these projects to succeed in the sub-county. Additionally, the regression analysis indicated that leadership is significant in food security projects success. It is therefore suggestive that, the implementing group is likely to lack team work, good communication and ability to resolve conflicts in addition to lack of innovative and creative ideas thus food security projects may continue to fail.

On management capability as an institutional capacity factor; the findings revealed that the majority implementers depicted low capabilities. This means that there are likelihoods of poor management of these projects. The cross tabulation analysis revealed that 58.6% of the respondents felt that the extent of successful implementation of food security projects with regards to implementers' management capability was low. This implies that the majority of those who manage the food security projects in the sub county depict low capabilities of management. Further investigations on the extent to which the implementing teams possessed managerial skills for successful project implementation showed 63.3% of the respondents saying that the implementing teams possess low extents of managerial skills for successful

project implementation. Investigations on other management characteristics perceived to be positive drivers of successful project implementation like; strong sense of commitment revealed that there was serious lack of sense of commitment by the management of these projects. The results obtained indicated that, 56.3% of the implementers depicted low extents of strong sense of commitment.

Pearce, (2011), argued that the future success of organizations will depend on ability of managers to make long-term decisions based not on long-standing rules and regulations but based on thorough scanning of internal and external environments. To ensure that projects succeed as expected, managers need the right information so that right decisions can be made to improve performance. Since the implementers were a complex group of varied backgrounds, need for adapting to changes becomes a factor to be highly valued. As argued in the Chaos report, (2009) problems related to successful project outcomes and inevitably the solution to achieving project objectives that meet stakeholders' expectations, originates with people in leadership roles and the procedures adopted by project managers. In these cases therefore, a competent manager is critical to drive other project elements, such as the success of the project team, including team members' motivation and creativity, a concurrence with an argument raised by Rickards, (2001). Failure can be caused by, the lack of effective leadership and/ or the style of leadership applied by project managers as argued in the findings of Ellemers, DeGilder, and Haslam, (2004); Schmid, Berg and Karlsen, (2007) and Adams, (2008). These findings imply that management abilities of those managing these projects in mbooni East is low and hence success of the projects is most unlikely. Further low management capabilities will mean making of short-term decisions based on long-standing rules and regulations without thorough scanning of internal and external environments leading to lack of motivation and creativity in the projects' teams and finally low or no achievements as desired by the stakeholders/ beneficiaries.

A cross tabulation analysis on project knowledge base on food security project success showed 78.1% of the respondents confirming that, the extent of project knowledge base of implementers in the subcounty is low. On whether the implementers valued project knowledge base, 85.9 % affirmed that the level of knowledge, skills and attitudes can facilitate implementers' role in project implementation a concurrence with Tornatzky and Fleischer (1990) who argue that, lack of corporate project knowledge base is one of the factors that can lead to

organizational failure in successful project implementation. Although the majority respondents had the view that implementers had low project knowledge base, 60.9 % of implementers were said to have had trainings before they assumed their roles and another 74.3 % said that the implementers were technically competent in their areas of operation. According to Madhu, (2006), competence levels and skill levels of the staff are major contributors of project success. This implies that technical competences and skills are assets in the Sub County that can propel the projects to success if the other factors are rectified.

On top level management support as an institutional capacity factor influencing project success, the study revealed that, the support is low as confirmed by 56.3% of the respondents. This means that there is low top level management support to these projects as revealed by the study results. From the literature review, top level management support is of particular importance for project success. According to Hauschildt et al. (2000), 'the success of a project depends more on human factors, such as top level management support'.

On corporate culture management from the project implementation team in the sub county, 62.5% of the respondents said that there were low extents of such, while 37.5% indicated high extents of corporate culture management. Organizational culture affects the way people and groups interact with each other, with clients, and with stakeholders. According to Tharp (2005), organisational culture is an asset that should be managed and that can be leveraged in support of organizational goals. He further argues that a strong, unique, and appropriate corporate culture has the ability to: reduce uncertainty by creating a common way to interpret events and issues; create a sense of order in that members know what is expected; create a sense of continuity; provide a common identity and a unity of commitment; and provide a vision of the future around which the organization can rally. According to Hampden-Turner (1994), organizational culture defines appropriate behaviour, motivates individuals and asserts solutions where there is ambiguity. It governs the way a company processes information, its internal relations and its values and functions at all levels from the subconscious to the visible. Organizational culture is also believed to influence the success or otherwise of strategy, mergers, acquisitions and diversifications, integration of new technologies, meetings and communications in face-to-face relationships, and socialisation (Deal and Kennedy, 1982; Peters and Waterman, 1982; Graves, 1986; Thompson, 1993 and Mullins, 2005). The study found out that,

the implementers had varied backgrounds, and worked for different organizations. These findings imply that there is no organizational culture to rely on despite its significance in the projects. It therefore means that high possibilities of uncertainty, lack of common ways of interpreting events and issues; lack of sense of order, members not knowing what is expected; lack of common identity and a unity of commitment among the implementers of food security projects in Mbooni East is in existence. Further there are high chances of lack of appropriate behaviour, motivation and solutions where there is ambiguity in the implementation teams of these projects.

5.3.2 Operational strategy factors

The study looked at the extent to which operational variables affected food security project success in Mbooni East Sub County. The operational strategy factors examined were; budgetary/ resource allocations, extension training, input subsidies and risk identification and mitigation measures of these projects.

On project formulation and implementation, 51.6 % of the respondents said that there were low extents of clear plans known to all stakeholders while 54.7% said that scheduling of activities were available to low extents. Further, the study revealed that low extents of project effective and efficient communication plans existed in the sub county. This implied that clear plans and scheduling of projects activities are sparingly done. Similarly there is no adequate effective and efficient communication in the designs of these projects. Locker and Gordon (2009) had argued that, successful project management strategy requires that, clear project plans known by all stakeholders, scheduling of activities and efficient and effective communication plans should be included in the project design. Contrary to their findings, the above design requirements lacked in the food security projects in Mbooni East's design though substantial percentage of the respondents indicated contrary opinions. Therefore going by their findings, the strategies employed by these projects meant that challenges to successful implementation could not be ruled out and therefore failure of these projects is likely.

Resource/ budgetary allocations' findings revealed 81.2% of the respondents saying that, the extent to which resources are allocated to these projects are low. Further investigations indicated that resources included transport facilities, funds, office space, and information technology equipments. These findings concur with USAID, (2003), report which alluded that, 'overall households food insecurity and

poverty has not been adequately addressed partly due to insufficient resources allocations'. This concurrence with the situation on the ground implies that the food security projects' success will be highly influenced by adequate resources allocations.

On operations, further revelation showed that, there is inadequate extension service provision which is supposed to accompany these projects' implementations. Documentary analysis done revealed that there are about 17,000 farm families in the sub county served by 12 members of technical staff, implying 1:1500 staff farmer ratio. According to the ministry of agriculture, a staff: farmer ratio of 1:400 is ideal for effective extension service delivery. 53.1% of the respondents admitted that the extent of extension service and training is low in the sub county. According to Birner et al. (2009) and Davis (2009), "agricultural extension, or agricultural advisory services, support people engaged in agricultural production and facilitate their efforts to solve problems and obtain information, skills, and technologies to improve their livelihoods". From the results, it is deducible that, there is lack of or low agricultural advisory services provided to the farmers in the Sub County and therefore the farmers are likely to put little efforts to solve their farming problems, obtain information, gain skills and technologies to improve their livelihoods due to lack of extension services. Caroline (2005), also argued that, availability of extension services and frequency of contacts with the extension agents contributes significantly to the extent of farm enterprise diversification. Extension helps in transfer of technology to improve productivity, especially for staple food crops. Progress in poverty and hunger reduction crucially depends on the increased productivity and profitability of farmers, which in turn depends on the successful delivery of agricultural extension (Claire J. et al 2011). Further documentary analysis revealed that, the government has been promoting pluralistic extension service provision involving private sector in the sub county but due to hardships and poverty levels of the farmers in the area, dependency on public extension service provision still remains high.

On farm input use strategy, 69.5% of the respondents said that there is very low extent of farm input subsidies. Out of the nine food security intervention initiatives in the sub county, only one (NAAIAP) partially addressed input subsidy issues. It was revealed that farm input subsidies provided in the neighbouring areas of Makueni acted as incentives and encouraged farmers to plant more of the food crops compared to where these inputs are not provided. The farmers are given free certified seeds and fertilizers to plant at least one acre of maize crop.

Minot, (2009) had argued that the use of fertilizer subsidies have been found to assist in the reduction of economic vulnerability of the poor. He further said that poverty and food insecurity are still prevalent in Kenya largely because of low agricultural productivity as a result of no or low farm input use. The findings from documentary analysis during the study concurred with this argument, as information gathered showed that some farmers who received the subsidies in the area had good yields and harvested more compared to those who did not and that they were not as vulnerable to food insecurity. Whereas it can be difficult to attribute the success of food security projects in Mbooni East to the issuance of input subsidies, the project can be termed highly successive once they receive the inputs. While other ways of overcoming food insecurity are complicated with success uncertain, subsidies are relatively straight forward to implement and meet a wide range of objectives in economic, social and political terms. As argued by Ellis et al., (2009), the objectives of farm input subsidies are to provide a basic level of farm input to households that have lost the ability to source such inputs themselves, to encourage crop diversification, and to promote farming practices for food security. Beneficiaries receive maize seeds and fertilizers, pulses seeds, cassava cuttings and sweet potato tubers to plant and achieve crop diversification and improved yields for food security. The diversification aspect is risk mitigation as well as a contingent measure in case of one crop failure due to drought.

5.3.3: Technological inputs factors

The findings showed that most of the technologies targeted and expected to make the food security projects successful in the Sub County were used to low extents meaning their influence on the outputs are very minimal. The respondents indicated that, Biotechnology, water harvesting for irrigation and green house technologies are used below reasonable extents.

On biotechnology use, 76.6% of the respondents said that the extent of biotechnology use in the sub county is low. This implies that biotechnology is used in the sub county to a minimal extent. Biotechnology in this case referred to genetically modified organisms, (GMOs), tissue culture and grafting techniques. These findings are contrary to the argument raised by Karembu, Nguthi, Ogero and Wafula (2012), who said that, biotechnology is one of the tools that can help the country to circumvent the various biotic and a biotic constraints facing farm productivity. They

further argued that, biotechnology crops contribute solutions to some of the major challenges facing global society including food insecurity, poverty and climate change and that biotechnology crops continue to contribute immensely towards the realization of the millennium development goal of reducing poverty and extreme hunger by 50% by 2015. This therefore affirms that embracing biotechnology in the food production systems, could free the Mbooni East community from the bondage of hunger and extreme poverty, however this is challenged by Kenya's policy standing on genetically modified organisms which has not been fully accepted on food crops. Despite the findings as revealed by the majority respondents, policy standing on GMOs could be a contributing factor to low uses of biotechnology in the sub county.

71.1%, of the respondents said that the extent of water harvesting for irrigation in the sub-county is low. This means that water harvesting as a technological intervention input in the food security projects implemented in the sub-county is minimal. Further findings through observations and interviews revealed that, water is a major limiting factor in the production of food crops. The crops on many occasions wither and dry up before maturity and this has subjected the residents in this area to food insecurity. The respondents said that climate change has continued to affect and diminish their livelihoods as weather has become completely unpredictable to them. These places need water harvesting on demand despite its low inclusion in the projects' interventions' strategies. Observations on the ground showed that those farmers who live next to some of the water pans in the area have alternative livelihoods from small scale horticulture using the pan waters for irrigation.

On irrigation technology use, the findings revealed that, the extent of irrigation use as a technological intervention in these projects is low. This implies that irrigation is rarely practiced as intervention input in these projects. Further findings through interviews and observations revealed that the district is ASAL and efficient water use to produce crops is of greater value to the community. The respondents revealed that, apart from it being costly, irrigation is the main intervention which could enable realization of enhanced yields. Interviews conducted revealed that the main reason as to why irrigation is not widely in use is the cost involved in purchasing the equipments and the existing policies that govern water use in the area.

The regression analysis done showed a significant relationship between water harvesting and food security project success. The results from the analysis, indicated that 91.5% of the relationship are real and only 8.5% were by chance. These findings

are in agreement with FAOSTAT, (2009), which reported that, globally, an estimated 1,260 million hectares under rain fed agriculture, corresponding to 80% of the world's total cultivated land, supply 60% of the world's food; while 277 million hectares under irrigation, for the remaining 20% of land under cultivation, contribute the other 40% of the food supplies. This implies that, on average irrigated crop yields are 2.3 times higher than those from rain fed. These numbers demonstrate that irrigated agriculture will continue to play an important role as a significant contributor to the world's food supply. It therefore follows that need for irrigation use in food security projects cannot be underestimated if food security has to be achieved in Mbooni East.

Use of improved seed varieties was found to have the strongest (0.924 significance) significant relationship to food security project success from the regression analysis. This implied that the prevailing climatic conditions of the area could only support the certified improved seed varieties of food crops. Further investigation revealed that use of locally adapted seeds yielded higher returns to the farmers as affirmed by 56.2% of the respondents who said that the extent of locally adapted seeds use is high. The respondents further said that the locally adapted certified seeds are cheaply produced locally and that they are drought tolerant and escaping varieties. Of importance to note was the case of use of improved varieties whose significant relationship with food security projects was strong alongside that of water harvesting for small scale irrigation. In general it was found that, whereas technological inputs are vital for the food security projects success, they are lowly applied in the implementation designs. It is then deducible that technological inputs though lowly integrated in these projects' designs, is the way to go for this area's food security interventions. These findings are contrary and non conforming to Cleland, (1964) and Thilmany, (2004) who defined project success as one which accomplishes complex endeavours that meet specific set of objectives within the constraints of resources, time, and performance objectives. The findings further antagonize Madhu, (2006), who defined Project success as meeting customer expectations, quality, budget and time lines and Lewis (2005), who views a successful project as one that delivers what it is supposed to, gets results, and meets stakeholder expectations. According to Benoit (2012), project failure can be traced to individual characteristics more particularly on leadership, scope management and communication.

5.4 Conclusions

The study revealed that factors influencing food security projects' success in Kenya and in Mbooni East Makueni County are varied. They include; technical (project management techniques), Personnel (project leadership, scope management and communication), strategic (implementation strategies adopted) and technological (technologies put in use). While each one of these factors is important, the extent of their influence varies. The study therefore concludes that, success of food security projects in Kenya and Mbooni East in particular, are far from being realized probably due to low capabilities of their implementers' management skills and leadership in addition to inadequate top level support as evidenced in the institutional capacity findings. Further, the failures could be due to inadequate resource allocations alongside lack of input subsidy integration evidenced in the projects' operational strategies and designs. Technological inputs factors and in particular; improved seeds varieties use and water harvesting for small scale irrigation had the most significant relationships to food security projects' success. It is therefore conclusive that, despite improvements in these projects' leadership methodologies and implementation strategies in the designs, many of these projects have continued to fail due to low leadership skills of implementers, inadequate top level support, inadequate resource allocations to these projects, lack of adequate use of improved seeds varieties and lack or low use of water harvesting for irrigation technologies in these projects.

5.5 Recommendations

The future success of food security projects in the Sub County will depend on ability of managers to make long-term decisions based not on long standing rules, regulations, procedures and guidelines but based on thorough scanning of internal and external environments. To drive these projects to success therefore, the study recommends that:

1. On institutional capacity factors; the lead agencies/organizations of these projects should endeavour to take into cognizance and put in place enhanced projects' management capabilities that can sustain and advance their competitiveness in combining, mixing, and expanding on past experiences to generate new non-obvious concepts, variations, or extensions of knowledge through training sessions to put them in the same level of projects' knowledge base, management skills and leadership capabilities. It is also recommended

that mechanisms of ensuring adequate top level support are inculcated in these projects' inceptions.

2. On operational strategy factors; the study recommends that adequate resources allocations be considered for these projects. Though resources have never been enough, the need for activity based planning and budgeting may suffice in addressing the issues of resource allocations. Alongside resource allocations, the study recommends consideration on how best farm input subsidies can be integrated in the implementation strategies of these projects. Low fertilizer use efficiency, poor seed germination and poor quality seed usage were singled out as some of the serious problems limiting the productivity of food crops in the sub county.
3. For the technological inputs, improved seeds varieties use and water harvesting were found to be the significant variables in food security projects' success. The study therefore recommends more focus to be put on these technologies in order to realize these projects' successes. The sub county was found suitable for fruits production, the study therefore recommends grafting, tissue culture rapid multiplication and top working technologies to be up scaled for alternative sources of livelihoods and hence food security.

5.6 Suggestions for further research

The study assessed the factors influencing success of food security projects in Mbooni East Sub County with reference to institutional capacity factors, operational strategy factors and technological input factors without considering other factors which would influence the projects other than factors investigated in this study. Notable areas not investigated included social economic factors and environmental factors. Social economic factors may reveal how the community has managed to cope with prevailing conditions and the value they give to the emergencies provided during the times of hunger and also the influence of free reliefs on community commitment on food security interventions. Socioeconomic factors may also reveal how water use policies in the area affect the implementations of these projects. Environment factors may reveal the climatic factors' influences on the strategies adopted. The study did not look at the inter-relation aspect of the factors investigated. This study therefore recommends other studies that will look into (i) social economic factors and environmental factors in success of food security projects (ii) another on how policies

in place affect success of food security projects in the sub county. The study also did not analyze the varied diverse groups' responses versus their roles in project implementation. (iii) Further studies and analysis are recommended to find out how the responses from diverse groups of respondents were affected by their roles in project implementation.

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APPENDIX I: Transmittal Letter

STUDIES

DEPARTMENT OF EXTRA-MURRAL
UNIVERSITY OF NAIROBI

28th March, 2013.

Hon/Mr/Mrs

.....

Dear Sir/Madam,

RE: REQUEST TO PARTICIPATE IN FILLING QUESTIONNAIRE

This is to request for your participation in filling the attached questionnaire on success of food security projects. I am a student at the University of Nairobi carrying out research on Factors Influencing the Success of Food Security Projects in Mbooni East Sub County, Makueni County.

The purpose of the research is to assess the factors influencing Success of Food Security Projects with a view to assessing the factors so that the findings could be used by policy makers and development agents while considering development projects and other intervention to improve success of food security projects. Please note that Food insecurity is a major socio-economic problem identified by the government as facing its people and consequently affecting economic growth and Vision 2030 strategy in general. Need for viable strategies towards improving success of food security initiatives and income among small scale farm holdings has triggered the need to carry out this research.

I therefore wish to request that; you give factual information that truly reflects the situation of factors influencing success of food security projects in the area. The information collected will be confidentially handled, and used solely for the purpose of research.

Thanking you in advance for agreeing to participate.

Mwencha Nyasimi

L50/65771/2010

APPENDIX II: Data Collection Instruments

Section A: Background Information

1. What is your Gender?
Male Female
2. Kindly specify your age group?
20–30 years 31–40years 41–50years 51 years and above
3. What level of education have you attained?
None Primary Secondary Tertiary University others (please specify).....
4. Are you an employee of any institution or company?
Yes No
5. If yes, for how many years have you served as an employee?
Less than 2yrs 2–5yrs 6–10yrs 11–20yrs more than 20yrs
6. For how many years have you gained skills and knowledge on project implementation and management as an experience?
Less than 2yrs 2–5yrs 6–10yrs 11–20yrs More than 20yrs

Section B: Institutional Capacity

1. In what capacity have you participated in project implementation?
Project Manager Project coordinator Team member
Customer / user Administrative support Others (please specify)...
2. Which of the following best describes the project about which you are responding?
Food crop Promotion Farm input provision Extension service provision Technology promotion Value chain Enterprise/agribusiness promotion others (please specify) -----
3. According to this project's strategy what do you think was its primary purpose? Please tick on the group you feel was most addressed.
Poor household Farmers All farmers in project area Both
4. To what extent should your organization or you possess the competencies for this projects' implementation?
Very low Low High Very high

5. To what extent should the organization's top level management support food security projects in Mbooni East Sub County?
 Very low [] Low [] High [] Very high []
6. To what extent can the size of budget affect project implementation?
 Very low [] Low [] High [] Very high []
7. In your opinion do you regard the budgets provided as adequate?
 Yes [] No []
8. To what extent can the size of the team influence successful project implementation?
 Very low [] Low [] High [] Very high []
9. Did you receive Management or leadership training before assuming your present role? Yes [] No []
10. To what extent would you regard food security project implementers in Mbooni East experienced in their line of operation?
 Very low [] Low [] High [] Very high []
11. In your opinion does your level of knowledge, skills and attitude facilitate or constrain your role in project implementation? Yes [] No []
12. If yes, to what extent? Very low [] Low [] High [] Very high []
13. To what extent are the following leadership characteristics depicted amongst those who manage food security projects in Mbooni East?

| | Very low | Low | High | Very high |
|--|----------|-----|------|-----------|
| Creativity and innovativeness | | | | |
| Situational decision making | | | | |
| Rewarding subordinates roles and tasks | | | | |
| Visionary and direction setting | | | | |
| Accountable and role modelling | | | | |

14. To what extent do you regard the majority food security project implementers in Mbooni East as possessing adequate leadership skills for successful implementation of the projects?

Very low [] Low [] High [] Very high []

15. The following factors contribute to good management and leadership in projects .

To what degree do you agree with the following?

| Those who manage and practice leadership roles in food security projects in Mbooni East should : | Very low | Low | High | Very high |
|--|----------|-----|------|-----------|
| Have ability to motivate | | | | |
| Be adaptable to change | | | | |
| Be visionary | | | | |
| Be decisive | | | | |
| Built relationships | | | | |
| Manage conflict resolution | | | | |
| Create a shared identity | | | | |
| Display credibility | | | | |
| Have emotional maturity | | | | |
| Be good communicators | | | | |
| Guide & energize teams | | | | |
| Inspire project teams | | | | |
| Lead by example | | | | |
| Manage corporate culture | | | | |
| Manage stress | | | | |
| Promote team work | | | | |
| Remove obstacles to progress | | | | |
| Have strong sense of commitment | | | | |
| Be technically competent | | | | |

16. To what extent do you find majority food security project implementers in Mbooni East possessing adequate managerial skills for successful implementation of the projects?

Very low [] Low [] High [] Very high []

17. On your own, how would you rank the manner in which food security projects are implemented in Mbooni East with regards to the below factors;

| | Very low | Low | High | Very high |
|--|----------|-----|------|-----------|
| Leadership characteristics of project implementers | | | | |
| Management capability of project implementers | | | | |
| Government policy | | | | |
| Project knowledge base of project implementers | | | | |
| Top level management support of project implementers | | | | |
| Other factors (Specify) | | | | |

Section C: Influence of Project Operation on Success of Food Security Projects

1. Project implementation requires a number of strategies to succeed. To what degree will you agree that the following strategies should be deployed in the implementation of food security projects in Mbooni East?

| In Mbooni East, implementation of food security projects deploy the following strategies: | Very low | Low | High | Very high |
|---|----------|-----|------|-----------|
| Good management | | | | |
| Efficient and effective communication. | | | | |
| Clear project plan known by all stakeholders | | | | |
| Competent staff | | | | |
| Scheduled activities | | | | |
| Clear responsibilities for each stakeholder | | | | |
| Clear documentation | | | | |
| Identified risks and mitigation measures put in place | | | | |
| Controlled costs | | | | |
| Budget management | | | | |
| Adequate resource allocation/ funding | | | | |
| Collaboration and partnerships | | | | |
| Agricultural extension service provision | | | | |
| Training of stakeholders about the project | | | | |
| Communication of policy direction | | | | |
| Dissemination of new technological information | | | | |
| Training on crop husbandry and productivity | | | | |
| Provision of input subsidies in terms of subsidized input costs | | | | |
| Provision of certified seeds and fertilizers for major food crops | | | | |
| Provision of credit at low interest rate and non stringent collateral | | | | |

2. In your opinion are the above strategies adequate for success of the food security projects in your Sub County? Yes [] No []

3. Please specify the extent to which the operation strategies deployed above are adequate in terms of;

- (a) User friendly: Very low [] Low [] High [] Very high []
- (b) Innovation: Very low [] Low [] High [] Very high []
- (c) Efficiency: Very low [] Low [] High [] Very high []

Section D: Influence of Technological Input on Success of Food Security Projects

1. Modern improved technologies can improve the success of food security projects if used. To what extent are you in agreement that the following technologies are utilized for successful food security projects in Mbooni East?

| Food security projects in Mbooni East should utilize; | Very low | Low | High | Very high |
|--|----------|-----|------|-----------|
| Agricultural machinery for farm operations | | | | |
| Biotechnology in breeding for high productivity | | | | |
| Effective irrigation technologies like drip kits | | | | |
| Water harvesting techniques for small scale irrigation | | | | |
| Improved crop varieties of staple food crops | | | | |
| Green house technology for high value crops | | | | |
| Improved storage and post harvest techniques | | | | |
| Basal fertilizers for crop production | | | | |
| Locally adapted certified seed varieties | | | | |

2. To what extent are the above technological inputs deployed in the implementation of food security projects in Mbooni East?

Very low [] Low [] High [] Very high []

Section E: General Success of Project implementation

1. In general, to what extent are food security projects in Mbooni East;

| | Very low | Low | High | Very high |
|--|----------|-----|------|-----------|
| Complete on schedule | | | | |
| Complete within budget | | | | |
| End products/ service meet end users' requirements | | | | |
| Accomplish stakeholders objectives | | | | |
| Processes meet stakeholders satisfactions | | | | |
| Make positive impacts | | | | |
| Improve performance of end users' | | | | |
| Effectively manages scope | | | | |

2. From a general perspective, how would you categorize the success of food security projects in Mbooni East?

Very low [] Low [] High [] Very high []

3. What other factors would you suggest necessary for the success of food security projects in Mbooni east?

.....
.....

THANK YOU FOR YOUR PARTICIPATION

Documentary analysis Checklist

- i. Food security project initiatives project documents.
- ii. Food situation reports
- iii. Documented process of committee elections
- iv. Funding levels and timeliness in funding
- v. Progress, quarterly, semi-annually and annual reports on food security projects
- vi. Committee members lists
- vii. Staff returns
- viii. Food prices reports

Observation schedule Checklist

1. Types of food crops grown
2. Food availability in the area
3. General health of the people
4. Whether foods are in stores

Interview schedule for some committee members

- 1 Number of food security initiative projects in the Sub County.
- 2 Monthly household food situation.
- 3 Types of organizations working in the area.
- 4 Knowledge about project management and operation
- 5 Lessons learnt and being implemented after being in the implementation team
- 6 What benefits they get when participating in the project
- 7 What do you consider when you say a food security project is successful?
- 8 What else can be done to make food security projects successful?
9. Apart from you (committee members) who else should be involved in implementing these projects.