



DETERMINANTS OF PERFORMANCE OF AGRICULTURAL PROJECTS IN KENYA: A CASE OF NYERI COUNTY

GRACE W. IRUNGU, DR. MORONGE MAKORI

DETERMINANTS OF PERFORMANCE OF AGRICULTURAL PROJECTS IN KENYA: A CASE OF NYERI COUNTY

¹Grace W. Irungu, ²Dr. Makori Moronge

¹Student, Jomo Kenyatta University of Agriculture & Technology (JKUAT), Nairobi, Kenya

²Lecturer, Jomo Kenyatta University of Agriculture & Technology (JKUAT), Nairobi, Kenya

Accepted October 13, 2016

ABSTRACT

Agricultural projects play an increasingly important role in terms of employment, food security, wealth creation, and the development of innovation in an economy. However, their contribution to the national economy is still relatively small due to many challenges encountered by these projects and as a result, many projects do not reach their full potential and fail to perform as expected. The purpose of this study was to investigate determinants influencing performance of agricultural projects in Kenya. The target population under study was 75 agricultural projects in Nyeri County. The study adopted a census survey design to collect primary data. The study used a questionnaire to collect the required primary and secondary data. A pilot study was conducted to pre-test the validity and reliability of instruments for data collection. The raw information was analyzed to yield qualitative and quantitative data. Quantitative data was analysed with the use of statistical package for social sciences (SPSS) version 21 and excel. The variables were regressed at 5% level of significance to establish their relationship. The analysis showed that stakeholder involvement had the strongest positive influence on performance of agricultural projects. In addition project team was positively correlated to performance of agricultural projects. The study established that project team and stakeholder involvement had a positive impact on the overall performance of agricultural projects. It was established that projects were not able to manage their costs, execution time, project risks and the project quality were not able to not only execute their projects on time, at cost and on schedule affecting the productivity. A review of literature indicated that there has been limited amount of research on determinants of performance of agricultural projects in the Kenyan context. Thus, the findings of this study should serve as a basis for future studies on performance of agricultural projects. This study confined itself to the project team and stakeholder involvement. A comparative study should be carried out to compare whether the findings also apply for other projects in different areas in order to validate whether the findings can be generalized to others in Kenya.

Key Words: Project Team, Stakeholder Involvement, Performance of Agricultural Projects in Kenya

INTRODUCTION

The value of agricultural projects in relation to the fight against poverty among the rural families has been underscored in the Strategy to Revitalize Agriculture (SRA) (RoK 2014). The declining effectiveness of the agricultural projects practices has been identified as one among the factors impeding agricultural farm productivity projects in Kenya (RoK, 2003). In this regard, SRA has suggested reform of the agricultural projects, create more effective linkages between research, extension and farmers, who are the ultimate beneficiaries. Agricultural projects are thus one among the six SRA first-tracked areas requiring urgent fix. Inefficient public extension projects have triggered a debate in the developing Countries that is calling for a greater role by the private sector (ASwallow & Goddard, 2013). The debate is anchored on the premise that the private sector is more efficient in extension services delivery.

Over three quarters of population in many developing Countries live in rural areas where they depend on rural income from agriculture and livestock farming (Benin & Yu, 2014). From the agricultural point of view, farmers in rural areas play an important role to provide fresh produce and food supplies, quality and safe products demanded by the agricultural projects actors like the traders, agro-processors, supermarkets and exporters (Mwanda, 2008). These actors need to work together and the government needs to support the private sector for their participation and investment.

Moreover, Consumer demand in industrialized Countries is raising the bar for food quality and safety. The trend among consumers, who have ample purchasing power and little spare time, is to purchase precooked foods and prepared fresh fruits and vegetables, thereby making many products acquire considerable value addition in

their trek from farm to table(Webber & Goddard, 2013).However, in order to improve small holder revenue, all levels of the agricultural projects must be strengthened. Production, processing, storage and marketing, all require upgrading so they can collectively sustain a growing food economy (Rutten,2014).

Nin Pratt & Yu(2014) further describes agricultural projects financing as a structured way of financing agriculture that links stakeholders operating within the agricultural projects and lending institutions, and reduces the risks that are commonly associated with traditional agricultural financing. It permits lending institutions such as banks to diversify their investment portfolio and create a win-win scenario. With agricultural finance, agricultural projects can be transformed, unlocking economic growth in rural areas. In essence, agricultural projects financing acts as a catalyst for driving economic growth in rural areas. It helps to increase household incomes for a large proportion of the population, and results in poverty reduction and guaranteed food security. It helps women, who account for the major part of production but who often do not own the traditional collateral (land) on which banks tend to rely, to raise finance on the back of their ability to supply into agricultural projects(Rutten, 2014).

Porter(1998) illustrates how companies can achieve “competitive advantage” by adding value within their organizations. Competitive advantage has also been used for agricultural purposes to guide development interventions in the field (Kaplinsky & Morris 2014). Value chain projects are designed to capture value for all actors by carrying out activities to meet the demand of consumers or of a particular retailer (Porter,1998).

The interdependent linkages of the chain and the security of a market-driven demand of the final product provide the producers and processors

with an assured market for their products. This reduces risk, thus making it easier to obtain financing and at lower cost from banks and other financiers. The linkages also allow financing to flow up and down the chain (Miller, 2007).

Agricultural projects provide farmers with important information, such as patterns in crop prices, new seed varieties, crop management, and marketing. Exposure to such activities is intended to increase farmers' ability to optimize the use of their resources. If the projects are properly designed and implemented, improve agricultural productivity (Hope 2011). The projects are intended to offer advisory and other services that help rural families to make the best possible use of the productive resources at their disposal. Awareness of existing agricultural projects is intended to generate effective demand by providing a critical signal to input distribution systems (Chepkurui, 2012). Thus, agricultural projects financing practices, extension systems and input distribution systems are mutually reinforcing – the contribution of extension to agricultural productivity growth depends on functioning input distribution systems of these projects, and vice versa. In addition, ideal extension system provides feedback from farmers to research centres.

In developed Countries, agricultural projects management has been shown to result in more satisfied consumers, stronger business relationships, reduced costs and more profitability (Taylor, 2005; Fearne, 2009; Gooch, 2011). With a significant portion of the world's poor dependent on rural and agricultural livelihoods, the development of dynamic agricultural projects can play a vital role in reducing poverty by creating jobs and income. Agriculture has long been a key sector in the Peruvian economy, representing 9%-10% of GDP over the past 12 years (USAID, 2006). Agricultural production has focused heavily on traditional crops, such as coffee, cotton,

sugarcane, rice, potatoes, corn, plantains, grapes, oranges, coca; as well as poultry, beef and dairy products. For instance, recent positive developments suggest Peru has an opportunity to expand its high value, non-traditional agricultural subsectors, such as processed artichokes. The processed artichoke agricultural projects provide an expanding market for farmers to sell high value added products and recent global changes have created an opportunity for the citrus agricultural value chain to increase exports (USAID, 2006).

At the same time in Peru, WOCCU provides technical assistance to the credit unions, through a four-phase agricultural projects finance methodology designed to assess and mitigate the specific risks associated with financing existing rural agricultural projects and to determine at which point in the process that financing adds value to the participants(WOCCU,2009).

In many ACP (Africa, Caribbean and Pacific) Countries, agriculture is the main source of rural livelihoods. The Food and Agriculture Organization of the United Nations (FAO,2013) reports that close to 80% of those living in rural areas rely on farming for their livelihoods. Majority of them are small-scale farmers, who farm on less than 5 ha of land on average. In recent years, there has been a global focus on smallholder farmers that has seen experts devise innovative methods to improve their productivity, and companies strive to better integrate smallholders in global agricultural projects(Rutten,2014).

In Pakistan, agriculture contributes 22 % to Gross Domestic Product(GDP), making agriculture the largest source of foreign exchange earnings (Economic survey 2007). There are two types of credit advanced to the farmers in Pakistan i.e. institutional and non institutional. As is the case in many developing Countries, Pakistan's main sources of agriculture credit were relatives and

friends, landlords, shopkeeper's commission agents. The credit was advanced on high interest rates on the condition that the borrower will sell their output to the lender. In this way the lender was benefited in two ways. One, by charging higher interest rate on these loans, and second, by purchasing the farmers' output at comparatively lower prices (Shah et al.,2008). To avoid exploitation of poor farmers the government extended institutional credit facility through Commercial banks, Taqavi loans, cooperatives societies and Zari, similarly in Kenya the government formed AFC to give loans to farmers at an affordable interest rate and with flexible mode of repayment. Like AFC ,ZTBL advances, short, medium and long term loans to the growers. Short term loans are given for raising, processing, and marketing of crops. Medium loans are provided for the purchase of farm implements, leveling of land and setting up of agro based industries. Long term loans are provided for the purchase of farm machinery, installation of tube wells, construction of warehouses, etc. ZTBL has disbursed short term, medium term and long term loan facilities to all the categories of farmers (Shah et al.,2008).

According to the International Monetary Fund (IMF) report, agricultural sector continues to dominate Kenya's economy .It is the second largest contributor to Kenya's gross domestic product (GDP), after the service sector. In 2005 agriculture, including forestry and fishing, accounted for about 24 percent of GDP, as well as for 18 percent of wage employment and 50 percent of revenue from exports (IMF,2014).

The performance of the agricultural projects in Kenya has been a controversial subject (Gautam & Anderson 2009). The project systems have been perceived as top-down, inflexible and considered a major contributor of the poor performing agricultural sector (RoK, 2005). Thus, there has been a desire to reform agricultural projects financing practices into a system that is

cost effective. Responsive public agricultural extension service projects in Kenya have been a very controversial to farmers' needs, broad-based in service delivery, participatory, accountable and sustainable. Smallholder farmers not only require advice to increase farm productivity, but also advice on a diverse range of rural development options including markets, value addition, and diversified income opportunities. The agricultural projects financing practices that does not significantly contribute to improving the lives of its clientele is inappropriate (Taylor, 2015; Fearn, 2009; Gooch, 2011).

Kenya's small farmers have traditionally benefited from agricultural projects implemented by the government of Kenya whereby the ministry in charge of agriculture has played a leading role. These projects focus mainly on food crops and livestock. The government has tried a number of extension models and styles, including the progressive (or model) farmer approach, integrated agricultural rural development approach, farm management, training and visit, attachment of officers to organizations, farming systems approaches and farmer field schools. All these approaches have emerged with varying levels of challenges on performance (RoK, 2005). Githaiga(2011) discussed the effect of access to information in accessing credit, policy regulatory framework, cost of credit and human capital as some of the effects of agricultural projects financing to farm productivity but she did not consider monitoring an evaluation and stake holder involvement as having any effect to farm productivity projects in agricultural projects financing.

Statement of the Problem

Kenya's small farmers have traditionally benefited from agricultural projects implemented by the government of Kenya whereby the ministry in charge of agriculture has played a leading role.

These projects focus mainly on food crops and livestock (RoK, 2012). The agricultural projects provide an important contribution towards economic expansion and poverty alleviation (GoK, 2015). However, the success rate of the agricultural related projects to their original plans, is somewhere between 30 and 50 percent (NALEP, 2013).

In Nyeri County, out of the 110 projects initiated in the year 2012 and 2015, among them livestock farming, horticultural farming, bee keeping and home economics, 32 of the projects were terminated due to issues related to project management such as project team, stakeholders participation, financing, monitoring and evaluation and top management support (NALEP, 2013). Despite the high failure rate of agricultural projects in Nyeri County, no empirical research study has been found in local libraries, journals, or any other form of peer reviewed publications that have reported any investigation into the determinants of performance of agricultural projects in Kenya. This has posed a knowledge gap, which this study sought to fill.

Objectives of the Study

The purpose of this study was to examine the determinants of performance of agricultural projects in Kenya.

The specific objectives of the study were to:

- Find out how project team influence performance of agricultural projects in Kenya.
- Examine how stakeholder involvement influence performance of agricultural projects in Kenya.

LITERATURE REVIEW

Theoretical Review

Theoretical frameworks are explanations about a phenomenon and according to Marriam (2001)

theoretical framework provides the researcher the lens to view the world.

Human Capital Theory

From an organizational perspective, the human capital theory hypothesizes that in a perfectly operating labor market, organizational productivity increases as individuals become more highly trained. The overall link between training and development to productivity at the workplace is based on a concept referred to as factor pricing, Maglen (2008). According to Livingstone(1999), human capital theorists insist on the importance of investment in education and imparting of the value of the worker. The theory assumes that organization specific training, such as in the events of changes, is likely to increase the organization long term productivity results on their training investment. The employees are more likely to have a better understanding of the structures resulting from the change and will use them appropriately to ensure productivity to the project Bosworth, Wilson & Assefa (1993). Hence, Maglen (2008) asserts that this leads to employees' satisfaction and will also influence the level of employee engagement thus project performance.

A proper investment in training and development by an organization on its employees increases their understanding of their duties, tasks and obligations. Training also creates a conducive environment for cooperation and collaboration within employees in performing their work. This, based on the human capital theory, results in both individual and firm-wide productivity Juan (2010).The human capital theory proposes that sustainable competitive advantage is attained when an organization has a human resource pool that cannot be imitated or substituted by its competitors. According to Ngugi(2013), human capital theory emphasizes the value addition that people are assets and emphasizes investment in people generate worthwhile returns for

competition key among them in performance, productivity, flexible and capacity to innovate. The above theory relates to project team on performance of agricultural projects.

Stakeholder Theory

Stakeholder involvement is well explained by the Stakeholders Theory. Stakeholder perspectives on organizations have rapidly increased in popularity and now represent a mainstream method of organizational performance management; stakeholder analysis and a managerial response to greater organizational complexity; stakeholder management. The relevance of stakeholder theory is demonstrated by its standing as the “dominant discourse” in organization theory (Pesqueux & Damak-Ayadi, 2005), and by its application across a range of management disciplines. Its key proposition is that sustainable organizational success in large part depends on systematic consideration of the needs and goals of salient stakeholders (Fraser and Zarkada-Fraser, 2003).

According to Lozano (2005), recent advances in stakeholder theory have moved from “hub and spoke” conceptions of the firm as the focal organization to a view of the corporation and its stakeholders as embedded in a complex network of relationships. In addition according to Pettijohn, Pettijohn, & Taylor (2007), the stance taken is consistent with evidence from management and HR contexts that the quality and acceptability of decision-making in stakeholder-accountable organizations is enhanced by incorporating stakeholder perspectives. While the studies cited and conclusions drawn relate to employee stakeholders, the paper demonstrates that the proposition has validity across internal and external business environments. According to Greenwood (2002), there is increasing interest in the relationship between ethics, employee and corporate governance. Gago & Antolin (2004), added that stakeholder theory is seen as key to

developing a more practical view of corporate social responsibility (CSR). However, what the debate lacks is an ethical philosophy of performance management and an organization development technique for implementing this (Introna & Pouloudi, 1999). According to Niebuhr (1963), a philosophical rationale for the ethical use of stakeholder theory can be developed from Niebuhr's concept of “the responsible self”. This suggests individuals act responsibly if they consider the consequences of envisaged actions in terms of their likely impact on those affected by them. The paper relates this to the contemporary business context to develop the concept of “the responsible organization”.

Conceptual Framework

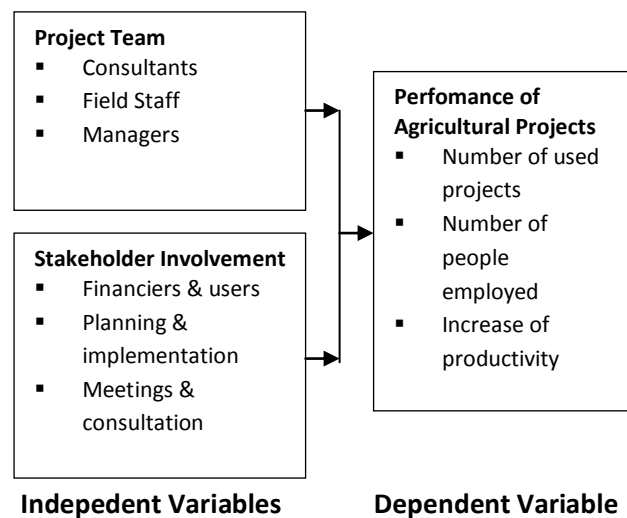


Figure 1: Conceptual Framework

Project Team

Every project design employs a hierarchy of basic elements known as: inputs, activities, outputs, outcomes, and impacts. These elements of project design are also components of a logical framework and a results framework and of the M&E system for that particular project which the project team need to familiarize with (Owuor, 2008). Management can be defined as the act of getting things done by other people in order to achieve organizational goals (Kootz & O'Donnell,

2008). Members of the PMCs are supposed to act as leaders in projects where they are selected to oversee implementation. CIC (2009) states that it is essential to ensure that sufficient project team are available to support monitoring and evaluation activities. Planning for project team needs ensures that you have employees who have the required skills and competencies for the job assigned. A project management skill is defined as ability to influence activities of others through communication they may be as a group or a single person towards achievement of specific goals or objectives of a project (Ivancevich et al., 2003).

The project manager should assign roles for staff and volunteers in conducting monitoring and evaluation be it in data collection, analysis, reporting, etc. and allocate time for staff/volunteers accordingly. The staff can be acquired through poaching, inward sourcing that is in-house or outward sourcing through advertisements. One of the ways of managing the monitoring and evaluation team is by taking them through the team development models which entails these processes namely forming, storming, norming, performing and adjourning. The project manager should also allocate someone to take charge of evaluation to ensure that all the necessary pieces of work are happening. The lead person must also be able to count on the help of other key team members. These responsibilities should be made clear from the beginning, in the planning phase of a public engagement project, and should be valued by the organization as a whole on an ongoing basis (CIC, 2009).

Owuor (2013) argues that project management faces varied challenges, some of which include: The organization structure in managing projects, project identification criteria, political interference and corruption. In order to realize the full potential of an M&E system, it is critical that project team acquire project management skills to continually track the changing levels of

risk, vulnerability and coping strategies in order to effectively manage responses to contextual shifts and establish needs for appropriate intervention (program design). Monitoring and evaluation should be approached as a “continual learning process rather than a single information gathering exercise by the project team” (Guijt et al. 2002).

Stakeholder Involvement

According to Pollnac & Pomerey (2005) donor led and top-down projects generally fail to bring sustainable benefits because they don't lead to stakeholder ownership and commitment. The client consultation as that first stage in a program to implement change. Client consultation expresses the necessity of taking into account the needs of the future clients or users of the project. It is therefore important to determine whether the stakeholders for the project have been identified this way, the project manager is able to accurately determine in their needs are met.

Stakeholders include target groups, direct beneficiaries, those responsible for ensuring that the results are produced as planned, and those accountable for the resources that they provide to the programme or project (Nabris 2002). According to Gray (2007), one of the objective of team building sessions it to establish the “we” as opposed to “us and them” attitude among different participants towards the project. According to Pomerey & Carlos (1997) one critical actor of promoting sustainability of any project is the role played by stakeholders and target groups and their participation in project activities.

For an organization to be truly effective, every single part of it, each department, each activity and each person and each level must work properly together, because every person and every activity affects and in turn is affected by others (Kerzner,2003). Central to this is the notion of the internal customer “every part of an organization contributes to external customer satisfaction by satisfying its own internal

customers" (Jem & Anne,2008). From emanating perspective this internal customer notion is also well accepted (Panayiotou *et al*, 2004) has led to the concept of internal marketing (Beamon, 2008). However, the application of notion of the internal customer service level strategy to e-procurement is relatively new. The impact of e-procurement on an organization process and routines has concentrated primarily on the internal alignment characteristics of systems and practices within IT/IS strategy (Venkatraman, 2001).

Government participation is identified as a cutting edge for enhancing the apathy levels of stakeholders in agricultural farm productivity. Participants argue that providing government as stakeholders will increase their knowledge level in agricultural projects financing practices and what role they need to play for farm productivity(Matanda, 2010). This government extension education on how to finance agricultural projects is very vital for "local stakeholders" (farmers) who do not normally understand their role in the implementation and agricultural projects practices in their farms(Ochieng, 2012).

Financiers participation in provision of the needed monitoring and evaluation equipment such as vehicles for efficient and effective monitoring of agricultural projects(UNDP,2010). If these materials are not available, the only way with the financing body is to enhance farm productivity alone which does not promote such projects. Therefore, the appropriate financing authority must always make sure that, the required monitoring equipments are always available at the right time and place as well to farm productivity to provide value for money(Jem & Anne,2008).

Farmer involvement by recognition of patriotic stakeholders/Motivation of stakeholders will be a way of fuelling the zeal in them to get involved in

enhancing farm productivity(Ochieng, 2012). These recognition/ motivations can be in the form citations, materials gifts, and free access to some farming places or facilities.. This will make them put on more effort and also encourage those who do not participate to participate (Beamon, 2008).

Perfomance of Agricultural projects

Rural development and, in particular, agricultural projects financing projects, can be influenced by several factors; one is access to credit. Access to credit may affect farm productivity because farmers facing binding capital constraints will tend to use lower levels of inputs in their production activities compared to those not constrained (Petrick, 2004). Improved access to credit may therefore facilitate optimal input use and have a major impact on productivity. Thus, access to credit allows farmers to satisfy their cash needs induced by the agricultural production cycle and consumption requirements. According to Mohammad(2002) reckons that productivity is someone's ability to produce more economically and efficiently . In this study therefore, agricultural productivity can be defined as ratio of output to inputs in relation to fertilizers, improved seeds, labour and technology (tractor and ox-plough) employed in agriculture.

The importance of regional agricultural projects financing range from providing more food, affecting region's prospects for growth and competitiveness on the agricultural market, income distribution and savings ,income distribution and savings as well as labor migration. An increase in a region's agricultural productivity implies a more efficient distribution of scarce resources. As farmers adopt new techniques and differences in productivity arise, the more productive farmers benefit from an increase in their welfare while farmers who are not productive enough will exit the market to seek success elsewhere(Mundlak 2007).

Agricultural projects are measured as the ratio of agricultural outputs to agricultural inputs (Dharmasiri, 2009). While individual products are usually measured by weight, their varying densities make measuring overall agricultural output difficult. Therefore, output is usually measured as the market value of final output, which excludes intermediate products such as corn feed used in the meat industry. This output value may be compared to many different types of inputs such as labour and land (yield). These are called partial measures of productivity.

Empirical Review

Okun (2005) in his study on "Factors affecting the sustainability of donor funded projects in arid and semi arid areas in Kenya; a case of Marsabit Central District" & Nduta (2008) "Factors influencing the performance of Kazi Kwa Vijana: A case of Githunguri District in Kiambu County" agree that stakeholder participation is critical to project performance. Nabris (2002) noted that project monitoring aims at providing regular oversight of the implementation of an activity in terms of input delivery, work schedule, targeted output. Taylor (2006) emphasised on the need to have sound project plans, an issue that Melton (2007) supported as it ensures that key activities are reviewed within the planning stage which defines how a project will be delivered and what will happen when these are not robustly performed.

A study conducted in South Africa by Fatoki & Garwe (2010), Stevenson & stone (2005) revealed that the problem of access and availability of finance to entrepreneurs in south Africa was ranked second after lack of entrepreneurial and management competencies in most inspiring and existing entrepreneurs in the MSEs sector in South Africa, consistent with the study by Hermington & Wood (2003) who also conducted their studies in South Africa. However, a research by Bowen et al (2006) relegates access to credit to fourth place with competition and poor security

ranking first and second respectively. However, the degree to which limited financial resources alone are a major obstacle is still debatable.

Okun (2009) in his study on factors that influence the performance of donor funded projects concluded that the key factors that were found to affect the sustainability of donor funded projects were donor policies and the management system adopted by the implementing organization, existing financial systems, technology adopted, participation and involvement of stakeholders and the target beneficiaries. Nduta (2008) in her study on factors influencing performance of kazi Kwa Vijana projects in Kenya: A case of Githunguri district noted that despite the high involvement of project beneficiaries, the project performance remained poor.

Okpara and Wayne (2000) in a study in Nigeria found that 65.6% of the firms studied depended entirely upon personal saving for capital, 10.9% had access to saving, 9.4% used commercial banks and 7.8% drew resources from partners, shareholders and other resources. While MSE owners often claim insufficient credit as their pressing obstacle, enterprises financial growth percentages may not always correspond to actual growth trends. Access to finance may be necessary but is not a sufficient condition for growth. MSEs often have limited financial resources to invest in innovations that are expensive to develop, require long development cycles, and long payback periods. They also cannot spread Research and Development expenses over large sales volumes nor spread the risk of failure across multiple projects. This tends to make them more cautious about innovation than larger enterprises. There is a strong correlation between Research and Development expenditure and innovation success in MSEs. Such expenditures are often underestimated in MSEs because investments are less in Research and more in Development such as

in design and engineering tools, prototypes, customization, etc.

RESEARCH METHODOLOGY

This chapter explains and outlines the methodology that was used in achieving the objectives of the study. This study was a descriptive research that employed a descriptive research design. The study considered this design appropriate since it contributed towards minimizing bias hence maximize reliability of the data.

The target population was the 75 agricultural projects that were implemented in Nyeri county in the year 2013 to 2015. The 75 projects represent the complete enumeration (census) of the projects that were seen to completion. The study adopted a census survey to collect data from 75 respondents. Census survey design was used to select the project managers for the reason that the population size was small and manageable hence no use resorting to sampling survey. The study used questionnaires to collect primary data from the respondents as research tools (Kothari, 2005). Young, (2009) points out that, questionnaires are appropriate for studies since they collect information that is not directly observable as they inquire about feelings, motivations, attitudes, accomplishments as well as experiences of individuals. The study used both primary and secondary data during the study. Primary data was collected using questionnaires that was given to respondents who formed the units of observation for the study. These respondents were specifically targeted for their ability to provide pertinent information to the study. The pilot study involved pre-testing the questionnaires on 7 respondents of the population. The study purposed to ensure validity of research instruments by using simple language free from jargon that made it easy to be understood by the respondents. The data collected was quantitative. Once the

questionnaires were received they were coded and edited for completeness and consistency. Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS) version 21 and excel.

DATA ANALYSIS, PRESENTATION AND DISCUSSION

This chapter presents the results of the study, data analysis and discussion. The study sought to establish the determinants of performance of agricultural projects in Kenya. The specific variables of the study were: project team and stakeholder involvement.

Out of the 75 questionnaires administered, 50 questionnaires were fully completed and returned making a response percent of 66.67%. This response rate was sufficient and representative and conforms to Mugenda (2008) with a stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. On pilot study results, this study adopted the lowest alpha as 0.7 upwards.

The research went further to establish the gender of the respondents. Majority (58%) were male respondents with (42%) being females respondents. Based on age, majority (45%) indicated that they ranged between 40-49 years, followed by those who indicated that they were 50 and above years at 30% with few (15%) and (5%) and indicating that they were 30- 39 years and 20-29 years respectively. This implies that respondents were well distributed in terms of their age during the study.

The respondents were requested to indicate their highest level of academic qualifications. The study established that majority (45%) indicated that they had university first degree, followed by those who indicated that they had college diploma at (35%) and (20%) indicating that they had master's degree. This implies that respondents were well

educated and that they were in a position to respond to research questions with ease. The respondents were asked to indicate the period they had had been in the respective projects, this was to ascertain to what extent their responses could be relied upon to make conclusions for the study based on experience. The findings indicated that a simple majority (50%) of the respondents indicated that they had been in the projects for a period ranging from 1-5 years followed by those who indicated that they had been in the projects for a period of 10-20 years at 30%, (10%) indicating that they had been in the project between 6 to 9 years and with only few (10%) indicating that they had been in projects for a period more than 20 years.

Project Team

The respondents were asked to show the total number of the monitoring and evaluation staff involved in the implementation of the projects. The study results as shown in Figure 4.6 showed that permanent staff in the projects were as 1% of the respondents indicated of 20 and above, 2% of the respondents cited 16 to 20, 5% of the respondents cited 11 to 15 staff and 55% of the respondents indicated less than 5 staff. Additionally, on temporal staff, 1% of the respondents indicated 20 and above, 15% of the respondents cited 11 to 15 staff, 33% of the respondents cited 6 to 10 staff and 47% of the respondents indicated less than 5 staff. Finally, on volunteer staff, 5% of the respondents indicated 11 to 15, 35% of the respondents cited 6 to 10 staff, and 55% of the respondents indicated less than 5 staff. This implies that the projects were understaffed thus hindering effective monitoring and evaluation of government funded water projects in the county.

The respondents were requested to indicate whether consultants influence performance of agricultural projects in the study area. The study results showed that 65% of the respondents

stated that increased the number of the completed projects, 55% stated that it increased the number of number of people served with projects and 70% stated that it led to sustainability of established projects. This could be deduced that consultants were important for consultants influence performance of agricultural projects in in the county. The study findings are in agreement with literature review by Ivancevich et al., (2003) every project design hire consultants to enhance performance of that particular project. 60% of the respondents stated that increased the number of the completed projects, 40% stated that it increased the number of number of people served with projects and 55% stated that it led to sustainability of established projects. This can be deduced that managers are important for enhancing performance of agricultural projects in the county.

The respondents were requested to indicate whether project planners influence performance of agricultural projects in the study area. The study results showed that 66% of the respondents stated that increased the number of the completed projects, 62% stated that it increased the number of number of people served with projects and 75% stated that it led to sustainability of established projects. This can be deduced that project planners influenced performance of agricultural projects in in the county.

The respondents were requested to indicate whether different personnel were being involved for the different activities to enhance performance of the projects. The study results showed that 56% of the respondents stated that data collection, 66% of the respondents cited on data analysis, 58% stated on report writing, 86% stated on dissemination of M & E funding and 76% of the respondents indicated on logical framework approach (Log frame).

The study sought to find out how long they normally monitor and control the activities of the agricultural projects. The study results as shown in Figure 4.11 shows that 6% of the respondents stated that they monitor activities weekly, 12% of the respondents stated monthly, 18% of the respondents indicated that quarterly, 23% of the respondents indicated that half yearly and 41% of the respondents indicated yearly. This can be deduced that project team do not meet adequately thus affecting performance of agricultural projects in the county.

The study results as showed that 32% of the respondents showed constant and intensive on site support, 23% of the respondents indicated offer enough materials and supplies, 45% stated security offered when encountered with hostile communities, 32% of the respondents indicated the staff is offered clear job allocation and designation befitting the expertise and 44% stated offer adequate training for the requisite skills. This can be deduced that project team was not adequately supported by the organizations thus hindering effective monitoring and evaluation of the government funded water projects in the county.

Regression analysis on Project team on performance of agricultural projects

The following Table 1 depicts regression model which highlights the relationship of project team and performance of agricultural projects and the findings are as outlined in Table 1 which shows that the study used correlation coefficient to check on the magnitude and the direction of the relationship between the variables, coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the dependent variables) and p-value were used to check on the overall significance of the model? The correlation coefficient of 0.789 indicates a very strong positive relationship

between the dependent and independent variables. On the other hand coefficient determination R square of 0.622 shows that 62.20% of the variation of performance of agricultural projects. The adjusted R square of 60.70% shows that the model is a good estimate of the relationship between the variables. To Test of significance of R square, Probability of Error (P/E)=R/S.E. Where R=0.789, S.E = 0.087 ; Therefore, P.E=0.789/0.087

P.E=9.069; R Square value= 9.069. Since R square value is less than 6 times the P.E, then the R square is not significant. This implies that there is a chance of making type I error

Table 1 Regression analysis on Project team on performance of agricultural projects

Model Summary

Model	R	R ²	R ²	Std. Error of the Estimate	Durbin-Watson
1	.789	.622	.607	.087	2.987

Stakeholder Involvement

The respondents were asked to indicate the key stakeholders involved in management of the projects. The study results illustrated that majority(44%) of the respondents stated that beneficiaries, 25% stated implementing staff, 24% indicated the donors and 17% of the respondents stated the government. This implies that there was no clear key stakeholders involved to enhance performance of the agricultural projects. The study established that majority (45%) of the respondents stated that they had performance meetings yearly, 25% stated half yearly, 15% indicated quarterly and 10% of the respondents stated monthly and 5% stated weekly. This implied that there was a long duration for

meetings to discuss progress of the projects thus affecting performance of the projects. The stakeholder involvement must come in brought in at the onset of the project and should incorporate key stakeholders and other parties interested in ensuring that the tool is effective (Achoka,2013).

Majority of the respondents (60% and 55%) stated that end of the project and interim evaluations they never had any M & E activities of the agricultural projects, 23 and 25% indicated for a few projects respectively, 14% and 15% respectively stated for some projects while 3% and 5% respectively of the respondents stated that for all the projects. The study results are in agreement with literature review by Achoka (2013) who stated that the stakeholder involvement must come in brought in at the onset of the project and should incorporate key stakeholders and other parties interested in ensuring that the tool is effective.

The study sought to find out from the respondents on how frequent the stakeholders involved on monitoring and evaluation of the projects. The study results showed that majority of the respondents (40%) never adequate, 30% indicated rarely adequate, 20% indicated adequate and 10% stated always adequate. This implies that stakeholders' involvement in monitoring and evaluation was never adequate thus affecting effective monitoring and evaluation of the government funded water projects in the county. Stakeholder participation should be taken seriously because it has a bearing on the effectiveness of the M&E process (Ivancevich, 2003).

The respondents were requested to indicate the reporting requirements on management of the projects from the stakeholders. The study results showed that majority of the respondents (55%) stated very lenient, 22% indicated lenient, 20% indicated strict and 13% stated very strict. This implies that management reporting requirements

from stakeholders was weak thus affecting performance of agricultural projects in the county.

The respondents were kindly requested to state whether there was a demonstration of the long term impact of stakeholders participation on performance of the projects. The study results showed that majority of the respondents (55%) stated it was never straight forward, 12% indicated rarely straightforward, 24% indicated straightforward and 9% stated very straight forward. This implied that demonstration of the long term impact of stakeholders' participation was never straight forward and could not understand thus affecting performance of agricultural projects in the county. The study results are in agreement with literature review by Achoka (2013) who stated that the demonstration of the long term impact of stakeholders participation must come in brought in at the onset of the project and should incorporate key stakeholders and other parties interested in ensuring that the management of the project is effective.

Regression analysis on Stakeholder Involvement on performance of agricultural projects

The following Table 2 depicts regression model which highlights the relationship of stakeholder Involvement and performance of agricultural projects and the findings are as outlined in Table 2 which shows that the study used correlation coefficient to check on the magnitude and the direction of the relationship between the variables, coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the dependent variables) and p-value were used to check on the overall significance of the model? The correlation coefficient of 0.968 indicates a very strong positive relationship between the dependent and independent variables. On the other hand coefficient determination R square of 0.937 shows that 93.70% of the variation of performance of

agricultural projects. The adjusted R square of 93.30% shows that the model is a good estimate of the relationship between the variables. To Test of significance of R square, Probability of Error (P/E)=R/S.E. Where R=0.968, S.E = 0.094; Therefore,0.968/0.094

P.E=10.297; R Square value= 10.297; Since R square value is less than 6 times the P.E, then the R square is not significant. This implies that there is a chance of making type I error

Table 2 Regression analysis on Project team on performance of agricultural projects

Table 2: Model Summary

Model	R	R ²	R ²	Std. Error of the Estimate	Durbin-Watson
1	.968	.937	.933	.094	3.876

Perfomance Agricultural Projects

Respondents were kindly requested to indicate the number of successfully implemented projects for the last five years in their organization. The study findings established that majority (45%) of the respondents indicated that the number of successfully implemented projects less than 20 in year 2011; 37% indicated the number of successfully implemented projects were 20-40 in year 2014 while 41 % showed that that the number of successfully implemented projects were between 41 to 60 in year 2014 and 30% of the respondents indicated that number of successfully implemented projects were more than 60 in year 2015. Generally the finding indicates a low increase of the number of successfully implemented agricultural projects across the years where the highest increase in recorded in year 2015. This indicated that project management in these organizations was effectively able to improve on their management

skills over the years. The findings of the study collaborates with literature review by Crawford et al., (2012) established that the current state of projects in developing African countries remain very critical due to the lack of project management practices to enhance their performance.

The study findings established that majority (45%) of the respondents indicated that they added less tha 5 in year 2011; 37% indicated the number of successfully implemented projects were 5-10 employees in year 2012 while 41 % showed that that the added employees in projects were between 11 to 15 in year 2013 and 30% of the respondents indicated that number of added employees were more than 16 in year 2015. Generally the finding indicates a low increase of the number of added employees in the agricultural projects across the years where the highest increase in recorded in year 2015.

Respondents were kindly requested to indicate rate of productivity in the projects for the last five years. The study findings illustrated that majority (38%) of the respondents indicated that they increased by 10% in year 2011; 20% indicated the productivity rate of 20% in year 2012 while 41 % shows productivity rate of 30% in year 2013 and 40% of the respondents indicated a productivity rate of 50% in year 2015. Generally the finding indicates a low increase of productivity rate in the agricultural projects across the years where the highest increase in recorded in year 2015. This indicates that project management in these organizations had not been effectively able to improve on their management skills over the years.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of findings

The study went ahead to establish the gender of the respondents and found out that majority of

the respondents were male. This shows that the majority of the work force in the organizations comprise of more men than women. More over, majority of the respondents were support staff and conforms to the sampling strata which is a clear indication that the information obtained in this study was got from the personnel who are involved in the day to day running of the projects and have a proper understanding of how the projects carry out their business. The research findings showed that the institutions maintained a combination of both new and experienced workers to ensure faster induction, training and multi generational interactions at workplace.

Project Team

From the descriptive statistics, the consultants influence performance of agricultural projects as they increases the number of the completed projects, increases the number of number of people served with projects, lead to sustainability of established projects. The managers influenced performance of agricultural projects as they increases the number of the completed projects, increases the number of number of people served with projects and lead to sustainability of established projects. The study also established that planners influence performance of agricultural projects. The different personnel for the different activities on management of agricultural projects included in the areas: of data collection, data analysis, report writing, dissemination of M & E funding and logical framework approach (Log frame). The project team normally monitors and controls the activities of the agricultural projects field staff yearly. The project top management does not support the project team adequately in terms the staff is offered clear job allocation and designation befitting the expertise, offer adequate training for the requisite skills, constant and intensive on site support, and offer enough materials and supplies and security offered when encountered with hostile communities.

Stakeholder Involvement

From the descriptive statistics, the study established the key stakeholders involved in management of the projects included implementing staff, donors and government. This implies that there was no clear key stakeholders involved to enhance performance of the agricultural projects. The long duration for meetings to discuss progress of the projects affected performance of the projects. The stakeholder involvement must come in brought in at the onset of the project and should incorporate key stakeholders and other parties interested in ensuring that the tool is effective . It was also established that the right people were not involved in the entire process, the outcome was not greatly enhanced and the recommendations well perceived, corrective measures not embraced and enforced in good time. Stakeholder participation should be taken seriously because it has a bearing on the improvement of performance. The study also established that frequent the stakeholders involved on monitoring and evaluation of the projects was not adequate. The demonstration of the long term impact of stakeholders' participation was never straight forward and could not understand thus affecting performance of agricultural projects in the county.

Conclusion

The study sought to establish the influence of project team and stakeholder involvement on the performance of agricultural projects in Kenya. The empirical literature showed that project team and stakeholder involvement both had a positive impact on the overall performance of agricultural projects. It was established that projects did not able to manage their costs, execution time, project risks and the project quality were able to not only execute their projects on time , at cost and on schedule affecting the productivity.

Recommendations

The study recommends that the consultants in the projects enables the project team to improve performance of agricultural projects as they increases the number of the completed projects, The different personnel for the different activities on management of agricultural projects should be included in the areas: of data collection, data analysis, report writing, dissemination of M & E funding and logical framework approach The project team should monitor and control the activities of the agricultural projects field staff yearly. The project top management should support the project team adequately in terms the staff is offered clear job allocation and designation befitting the expertise, offer adequate training for the requisite skills, constant and intensive on site support, and offer enough materials and supplies.

The stakeholders should be involved in management of the projects to enhance performance of the agricultural projects. The long duration for meetings to discuss progress of the projects must come in brought in at the onset of the project and should incorporate key

stakeholders and other parties interested. The frequency of the stakeholders involved on monitoring and evaluation of the projects should be enhanced. The demonstration of the long term impact of stakeholders' participation should be straight forward.

Further Areas for Research

A review of literature indicated that there has been limited amount of research on determinants of performance of agricultural projects in the Kenyan context. Thus, the findings of this study should serve as a basis for future studies on performance of agricultural projects. This study confined itself to the project team and stakeholder involvement. A comparative study should be carried out to compare whether the findings also apply for other projects in different areas in order to validate whether the findings can be generalized to others in Kenya. Additionally, the study did not tie as the only determinants of performance of agricultural projects Thus, there is need to undertake another research to examine the other factors which could be affecting performance of these projects in Kenya.

REFERENCES

- Alila, P. O., & Atieno, R. (2006, March). Agricultural policy in Kenya: Issues and processes. In *A paper for the future agricultures consortium workshop, institute of development studies* (pp. 20-22).
- Anderson, J. R., & Feder, G. (2004). Agricultural extension: Good intentions and hard realities. *The World Bank Research Observer*, 19(1), 41-60.
- Ausubel, J. H., Wernick, I. K., & Waggoner, P. E. (2013). Peak farmland and the prospect for land sparing. *Population and development review*, 38(s1), 221-242.
- Benin, S., & Yu, B. (2012). Complying with the Maputo Declaration Target: Trends in public agricultural expenditures and implications for pursuit of optimal allocation of public agricultural spending. *ReSAKSS Annual Trends and Outlook Report*.
- Chan, A. P., Scott, D., & Lam, E. W. (2002). Framework of success criteria for design/build projects. *Journal of Management in Engineering*, 18(3), 120-128.
- Chepkirui, C. (2012). *The role of strategic leadership in strategy implementation at the Agricultural Development Corporation (ADC) in Kenya* (Doctoral dissertation, University of Nairobi, Kenya).
- Duer, H., & Christensen, P. O. (2010). Socio-economic aspects of different biofuel development pathways. *Biomass and Bioenergy*, 34(2), 237-243.
- Hope Sr, K. R. (2011). *The political economy of development in Kenya*. Bloomsbury Publishing USA.
- Inocencio, A. B. (2007). *Costs and performance of irrigation projects: A comparison of sub-Saharan Africa and other developing regions* (Vol. 109). IWMI.
- Kariuki, G., Wangila, J., Kristjanson, P., Makauki, A., & Ndubi, J. (2002). *Assessing the factors underlying differences in group performance: Methodological issues and empirical findings from the highlands of central Kenya*. CGIAR Systemwide Program on Collective Action and Property Rights, International Food Policy Research Institute.
- Kibet, L. K., Mutai, B. K., Ouma, D. E., Ouma, S. A., & Owuor, G. (2009). Determinants of household saving: Case study of smallholder farmers, entrepreneurs and teachers in rural areas of Kenya. *Journal of Development and Agricultural Economics*, 1(7), 137-143.
- La Rovere, R. K., Abdoulaye, G., Dixon, T., Mwangi, J., Guo, W. M., & Z Banziger, M. (2010). *Potential impact of investments in drought tolerant maize in Africa*. CIMMYT.
- Lenné, J. M., & Thomas, D. (2006). Integrating crop-livestock research and development in Sub-Saharan Africa: option, imperative or impossible?. *Outlook on AGRICULTURE*, 35(3), 167-175.
- Masole, T. M., & Howie, S. (2013). Exploring Teachers' Assessment Practices of Performance Tasks in Agriculture and Factors Influencing Their Choice. *Journal of Agricultural & Food Information*, 14(3), 209-224.
- Moustier, P., Tam, P. T. G., Anh, D. T., Binh, V. T., & Loc, N. T. T. (2010). The role of farmer organizations in supplying supermarkets with quality food in Vietnam. *Food Policy*, 35(1), 69-78.
- Nakano, Y., Bamba, I., Diagne, A., Otsuka, K., & Kajisa, K. (2013). *The possibility of a rice green revolution in large-scale irrigation schemes in Sub-Saharan Africa* (pp. 43-70). Springer Netherlands.
- Nin Pratt, A., Johnson, M., & Yu, B. (2012). Improved performance of agriculture in Africa South of the Sahara: Taking off or bouncing back.
- Pietro, K., Bearzotti, R., Chimney, M., Germain, G., Iricanin, N., Piccone, T., & Samfilippo, K. (2006). STA performance, compliance and optimization. *Chapter, 4*, 2006.
- Swallow, B. M., & Goddard, T. W. (2013). Value chains for bio-carbon sequestration services: Lessons from contrasting cases in Canada, Kenya and Mozambique. *Land use policy*, 31, 81-89.
- Voortman, R. L., Sonneveld, B. G., & Keyzer, M. A. (2003). African land ecology: Opportunities and constraints for agricultural development. *Ambio: A Journal of the Human environment*, 32(5), 367-373.

Walingo, M. K. (2006). The role of education in agricultural projects for food security and poverty reduction in Kenya. *International review of education*, 52(3-4), 287-304.

Webber, C. M., & Labaste, P. (2010). *Building competitiveness in Africa's agriculture: a guide to value chain concepts and applications*. World Bank Publications

Zhao, Z. Y., & Yan, H. (2012). Assessment of the biomass power generation industry in China. *Renewable Energy*, 37(1), 53-60.