INFLUENCE OF EVALUATION ON PERFORMANCE OF PUBLIC AGRICULTURAL PROJECTS IN GALANA KILIFI COUNTY, KENYA

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ABSTRACT

Performance of public agricultural projects in Galana, Kilifi County is viewed in terms of food security, reduction in food prices, creation of jobs through production, agro-processing, packaging, distribution, exportation and tourism. Success of M&E System among pioneer countries of Australia, Chile, Colombia and China is attributed to evaluation. In as much as the Kenyan constitution recognizes the right of every person to be free from hunger and have adequate food of acceptable quality and quantity, vision 2030 aims to make Kenya a rapidly industrializing country by 2030 seems unrealistic since performance of public agricultural projects in Kenya is marred with food insecurity, rising food prices, poverty due to lack of employment in growth of agro-processing, packaging, distribution, exportation and tourism industries. The purpose of this study was to establish how evaluation influence performance of public agricultural projects in Galana Kilifi County, Kenya. The study adopted pragmatic paradigm with mixed methods research approach, using descriptive survey research design and correlation. A total of 226 research respondents, composed of 21 senior level managers, 82 middle level managers and 123 junior level managers, participated in the study drawn from a population of 550 respondent guided by Krejcie and Morgan theory of sample size determination. Self-administered questionnaires and an interview guide was used to collect quantitative and qualitative data. To ensure validity and reliability of the research instruments, pilot testing was conducted prior among 23 participants. Cronbach's alpha at α =0.870 was attained as the reliability coefficient of the pre-test retest of instruments. Descriptive and inferential statistics were used to analyze data. Simple and multiple linear regression and Pearson Correlation Coefficient models were used to determine the extent to which evaluation influence performance of Public Agricultural Projects in Galana Kilifi County, Kenya. Tests of statistical assumptions were carried out before data analysis to avoid invalidation of statistical analysis. The hypothesis was tested at α=.05 level of significance. Results shows that: H_0: Evaluation does not significantly influence performance of public agricultural projects was rejected since P-value=0.000<0.05;. The study concluded that there is a significant influence of evaluation and performance of public agricultural projects. It is recommended that projects managers should integrate and intensify the use of the evaluation to ensure sustainable performance of public agricultural projects.

Key words: Evaluation, Monitoring and evaluation system, Training of extension workers, Adaptive farm management.

INTRODUCTION

Evaluation is the review and improvement of projects during implementation stage. It consists of the process of using farmers knowledge as a resource for innovation, farmer experimentation for learning and adaptive farm management, improved independence and performance without relying on government funding and availability of information to agricultural extension agents. Evaluation was first applied in the field of education for evaluating performance in schools and personnel when human capital was identified as a key factor in industrial production process (Guba and Lincoln, 1989). Later, development of programme evaluation was considered a distinct professional practice with the goal of evaluating large scale development programmes aimed at identifying what was working and worth funding (Njuki, Chetsike and Sanginga, 2013). Evaluators were called not only to offer definitive judgments but to provide feedback in order to improve programmes during implementation (Patton, 1997). Freire (1970) argued that evaluation was based on emancipatory potential of an explicit process of reflecting on and learning from one's action. By mid 1970s interest in evaluation had grown where professional organizations were formed in various countries (Patton, 1997). Efforts to realize food security through agricultural development began in 1970s in Saudi Arabia where evaluation was done to assess the competencies and training needs of agricultural extension workers (Al-Zahrani et al., 2017). Evaluation focused on farmer experiments focused on case studies in Asia, Africa, and Latin America (Chambers et al., 1998). Evaluation is based on results theory by Kusek and Rist (2004). Results system involves formulating objectives, selecting outcome indicators, gathering baseline knowledge on current status and analyzing reports and results.

The interest of reducing government interventions and making remaining projects more effective and accountable gave new impetus to evaluation and was the predominant theme during the First International Evaluation Conference in 1995(Njuki et al.,2013). Today the importance of evaluation extends beyond accounting processes in the public sector as many organizations in the private and independent sectors face similar challenges relating to reputation, legitimacy, quality management and organizational effectiveness (Raynard, 1998). Evaluation and research was measured using farmers' knowledge as a resource for innovation, training of extension workers on research and evaluation, farmer experimentation for learning and adaptive farm management, improved independence and performance of Galana project without relying on government funding and availability of information to agricultural extension agents.

Statement of the Problem

Poor performance in agricultural sector is viewed by agricultural research and development actors as a problem of the process rather than availability of technology (Adekunle and Fatunbi, 2012). Strengthening agricultural innovation requires interactive communication and mediation among stakeholders. Agricultural extension agency does not deliver agricultural extension service to strengthen collective actions and function to respond to client needs due to institutions lack of training and demonstration to facilitate interactive learning and knowledge embedding processes. Obstacles relate to linear paradigm of technology transfer and dependency on public service, under estimation and depreciation of intermediary roles of extension personnel (Chowdury, Odame and Leeuwis, 2015). Agricultural projects lack the necessary skills, capacity, sense of ownership and a clear focus. Knowledge of farming which is considered critical also lacks which leads to low productivity.

Assessing farmers knowledge to improve it, documenting farmers knowledge to legitimize it and using farmers knowledge as a resource of innovation facilitates the sharing of various sources of knowledge and increases the efficiency of agricultural projects (Girard,2015). Agricultural projects have a high dependence on temporary

government funding and international assistance. Farmers not served by agricultural extension workers increase due to inadequate funding as performance is tied to financing as opposed to the independence of farmers. Training of extension workers improves their skills and competencies including teamwork, communication and leadership (Agbamu, 2015). Farmers who reported a high frequency of experimentation had a high propensity to plan, document and repeat their experiments thereby having positive attitude towards experimenting. Farmers have their own methods to assess their experiments and the outcome is the creation of knowledge attributing the relevance of experimentation for learning and adaptive farm management (Kummer, Leitgeb and Vogl, 2017). The challenge of accessing information by farmers is caused by inadequate information infrastructure like libraries, information centers and databases (Sam, Osei, Dzandu and Atangble, 2016).

Objective of the Study

To assess how evaluation influence performance of public agricultural projects in Galana Kilifi County, Kenya.

Research Hypothesis

H_0: There is no significant relationship between Evaluation and Performance of Public Agricultural Projects in Galana Kilifi County, Kenya

LITERATURE REVIEW

As farmer's knowledge is emphasized in various reports and scientific studies as a way of designing more sustainable agricultural systems, Girard (2015) sought to assess knowledge at the boundary between science and society reviewing the use of farmer's knowledge in agricultural development. Qualitative data was analyzed using literature analysis with database built from web of science whereby 273 scientific article abstracts were reviewed. The findings showed that assessing farmer's knowledge to improve it, documenting farmer's knowledge to legitimize it in development process, using farmer's knowledge as a resource of innovation and facilitating the sharing of various

sources of knowledge increases the efficiency of development projects. A study by Agbamu (2015) focused on performance evaluation of Kogi State Agricultural Development Programmes (KADP) since the withdrawal of World Bank's assistance to Nigeria. From 1991-1995, 2009-2013 K.A.D.P received funding covering 72.6% and 83.1% respectively from World Bank and International fund for agricultural development. Data was collected quantitatively and qualitatively using questionnaires and interviews on 120 farmers and 60 staff members of K.A.D.P. The findings revealed that K.A.D.P had a high degree of dependency on temporary international assistance and better performance recorded during the periods. After cessation of funding, the proportion of farmers not served by agricultural extension workers increased due to inadequate funding. Performance of K.A.D.P was tied to financing as opposed to independence of K.A.D.P to run itself as an entity. Workers had their jobs terminated while others retired since K.A.D.P could not pay salaries and allowances, vehicles and motorcycles broke down, traveling claims were not regular, linkages between agricultural research and extension became weak, quality of training on subject matter specialists became poor and lack of grants to farmers inputs. Before initiating extension programmes, Saudi Arabian government evaluated perceptions and knowledge of extension agents on potential training. Effective extension required technology transfer and upgrade of scientific knowledge. Training of extension workers is seen to improve their skills and competencies including teamwork, communication and leadership. Assessment of the competencies and training needs of agricultural extension workers in Saudi Arabia was conducted by Al-Zahrani, Aldosari, Baig, Shalaby and Straquadine (2017). The study was conducted in 2014 in Saudi Arabia and an ex-post facto research design used on a population of 250 Saudi extension agricultural and data collected using a questionnaire. Content validity was established on the questionnaire and piloted on 20 extension agents. The results showed that most agricultural

extension workers had qualifications in plant protection, plant production and general agriculture before entering the extension service whereas training programmes on extension workers lacked to enable them change the farming practices using evaluation and research. Farmer experiments were seen as autonomous activities of farmers to introduce new innovation on the farm and include evaluation of success or failure with farmers own methods. To determine farmers own research on organic farmers experiments in Austria and implications for agricultural innovation systems, Kummer, Leitgeb and Vogl (2017) used a target population of 76 organic farmers who were randomly sampled and structured questionnaires issued on motives, methods and outcome of farmers experiments. The results indicated that farmers who reported a high frequency of experimentation had a high propensity to plan, document and repeat their experiments thereby having positive attitude towards experimenting than farmers that rarely experimented. Farmers had their own   methods to assess their experiments and the outcome was the creation of knowledge attributing the relevance of experimentation for learning and adaptive farm management. Since agriculture played a decisive role in Ghana's economy and food security (Sam, Osei, Dzandu and Atangble, 2016) sought to assess the evaluation of information needs of agricultural extension agents in Ghana. A structured questionnaire was issued to 472 agricultural extension agents across ecological zones from 40 districts in Ghana. The findings showed that agricultural extension agents sourced for information from books and reports whereas they preferred visual or pictorial information. The challenges of accessing information were identified as inadequate information infrastructure like libraries, information centers and databases.

Theoretical Framework

Results theory is anchored on the objective of evaluation. The proponent of results theory is (Kusek and Rist, 2004). Results system involves formulating objectives, selecting outcome indicators, gathering baseline knowledge on current status, developing a work breakdown structure, analyzing reports and results. The worthiness and merit of the M&E System will be used to achieve agricultural performance. Since evaluation requires a systematic and objective determination of effectiveness, the steps from the theory indicate that to achieve a results framework then strategic objectives for the problems need to be addressed, identification and working with stakeholders, definition of outputs and outcomes, identification of critical assumptions and risks, reviewing available data sources and specifying indicators, assigning indicators and data sources for each level of result, establishing performance monitoring plan and determining a communication and dissemination plan. The aim of results theory is to achieve actual or intended results. The components of results theory that will guide evaluation include conducting a readiness assessment, agreeing on outcomes to monitor and evaluate, selecting key indicators to monitor outcomes, planning for improvement by selecting results targets, monitoring for results emphasizing the importance of evaluation, reporting, using findings, and sustaining the M & E system for the purposes of constructing knowledge, capacity building, organizational learning, problem solving, decision making, meeting objective, accountability and effectiveness, creating a readiness assessment proposes the need for organizational roles, responsibilities, capabilities and incentives for a functional M&E System insisting on ownership of the system by the beneficiaries. Agreeing on outcomes to monitor and evaluate involves emphasizing the impact of agricultural projects and building a collaborative process set on achieving outcomes and the need of attainment of the indicators of evaluation and research using farmers knowledge as a resource for innovation, farmer experimentation for learning and adaptive farm management, improved independence and performance without relying on government funding and availability of information to agricultural extension agents. Results monitoring includes   implementation   monitoring   laying

emphasis on inputs inclusive of financial, human, technical and material resources. As a strategy to withstand competition, evaluation and research is team driven for decision making and assessment in order to build the M&E System and attain agricultural performance.

METHODOLOGY

This study adopted mixed-methods research approach utilizing both descriptive survey and correlation and research designs since the methods of data analysis is both descriptive and inferential statistics. Mixed methods approach involved gathering both numeric information using questionnaires as well as text information using interviews so that the final database represented both quantitative and qualitative information. Creswell (2003) as cited in (Johnson and Onwuegbuzie,2014) indicates that mixed method approaches offers a bright and a continuum by using quantitative methods to measure some aspects of the phenomenon under study and qualitative methods for others. The mixed method approach provide for complementarity, completeness, expansion, corroboration or confirmation, compensation and diversity in data collection and interpretation. Descriptive and correlation research designs helped the researcher to describe data and characteristics of the phenomenon being studied and answer the questions of who, what, where, when and how as presented by (Creswell, 2003). Correlation research design allowed for the measurement of the relationship between two variables and allow for the determination of the extent to which the values for the variables are related (Mertens, 2005). While the descriptive research design helped the researcher describe the phenomena under the study, correlation and regression models helped indicate the relationship between variables. The mixed method research approach allowed the use of both qualitative and quantitative data analysis. Similarly (Creswell, 2003) argues that mixed method provides for flexibility whereby the researcher can use descriptive and inferential data analysis.

RESULTS AND DISCUSSION

Evaluation refers to using farmer's knowledge as a resource for innovation, farmer experimentation for learning and adaptive farm management, improved independence and Performance without relying on government funding and availability of information to agricultural extension agents. This was the fourth objective that the study sought to achieve. Four state ments were developed to measure the extent to which evaluation influence performance of public agricultural projects. The respondents were requested to give their opinion to the statements in the Likert scale of 1-5 where 1=strongly disagree, 4=Disagree, 3=Neutral, 2=Agree, 1=Strongly agree. The results are presented in Table 1

213

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Table 1: Evaluation and Performance of Public Agricultural Projects

Statements	SD	D	N	A	SA	Mean	SD
E1Farmers knowledge is used as a resource for innovation	102(45.1%)	120(53.1%)	0(0.00%)	3(1.4%)	1(0.4%).	1.50	0.421
E2Farmer experimentation exists for learning and adaptive farm management	105(46.5%)	119(52.7%)	0(0.00%)	1(0.4%)	1(0.4%)	1.46	0.434
E3The project is independent from government funding	102(45.1%)	123(54.4%)	0(0.00%)	0(0.00%)	1(0.4%)	1.44	0.433
E4There is availability of information to agricultural extension agents	96(42.4%)	123(54.4%)	0(0.00%)	3(1.4%)	4(1.77%)	1.62	0.516
Composite mean and standard deviation						**1.51**	**0.451**

Statement (1) that: Farmer's knowledge is used as a resource of innovation had a mean score of 1.50 and a standard deviation of 0.421. This results indicate that 120(53.1%) of respondents disagreed that farmer's knowledge is used as a resource of innovation, 102(45.1%) of the respondents strongly disagreed that farmers knowledge is used as a resource for innovation, 3 (1.4%) agreed that farmer's knowledge is used as a resource of innovation while 1(0.4%) of the respondents strongly agreed that farmers knowledge is used as a resource for innovation. The mean score of farmers knowledge is used as a resource for innovation was 1.50 and standard deviation of 0.421 which was below the composite mean of 1.51 and standard deviation of 0.451, it indicated that farmers knowledge is not used as a resource for innovation. Statement (2) that: Farmer experimentation exists for learning and adaptive farm management had a mean of 1.46 and a standard deviation of 0.434.This results indicate that 119(52.7%) of respondents disagreed that farmer experimentation exists for learning and adaptive farm management, 105(46.5%) of the respondents strongly disagreed that farmer experimentation exists for learning and adaptive farm management, 1(0.4%) agreed that

farmer experimentation exists for learning and adaptive farm management while 1(0.4%) of the respondents strongly agreed that farmer experimentation exists for learning and adaptive farm management. The mean of farmer experimentation for learning and adaptive farm management was 1.46 and standard deviation of 0.434 which was lower than composite mean of 1.51 and standard deviation of 0.451 below the composite mean of 1.51 and standard deviation of 0.434 which was also below the composite standard deviation of 0.451, it indicated that agricultural projects required farmer experimentation for learning and adaptive farm management. Statement (3) that: The project is independent from government funding had a mean of 1.44 and a standard deviation of 0.433. This results indicate that 123(54.4%) of the respondents disagreed that the project is independent from government funding, 102(45.1%) of respondents strongly disagreed that the project is independent from government funding, while 1(0.4%) of the respondents strongly agreed that the project is independent from government funding. The mean of the project is independent from government funding was 1.44 and standard deviation of 0.433

which is lower than the composite mean of 1.51 and standard deviation of 0.451, it indicated that the project is not independent from government funding. This is in agreement with the study of Agbamu (2015) who found that Kogi State Agricultural Programmes in Nigeria had a high degree of dependency on temporary international assistance and after cessation of funding, the proportion of farmers not served by agricultural extension workers increased due to dependency of funding. Statement (4) that: There is availability of information to agricultural extension agents had a mean of 1.62 and a standard deviation of 0.516. This results indicate that 123(54.4%) of the respondents disagreed that there is availability of information to agricultural extension agents, 96(42.5%) of the respondents strongly disagreed that there is availability of information to agricultural extension agents 4(1.77%) of the respondents strongly agreed that there is availability of information to agricultural extension agents while 3(1.33%) of the respondents agreed that there is availability of information to agricultural extension agents. The mean score of availability of information to agricultural extension agents was 1.62 which was higher than composite mean of 1.51 and standard deviation of 0.451, this indicated that availability of information to extension agents resulted to better performance of public agricultural projects. Higher line item SD of 0.516 than composite SD of 0.451 means there was divergence opinions.

The study sought to examine the relationship between evaluation and performance of public agricultural projects. Pearson correlation coefficient was used to test the relationship between evaluation and performance of public agricultural projects. This was done at 95% level of confidence. To test the extent of the relationship between evaluation and performance of public agricultural projects in Galana, Kilifi County several characteristics of evaluation were computed based on the following hypothesis;

Table 2: Correlations Analysis Between Evaluation and Performance of Public Agricultural Projects

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Evaluation	Performance of public agricultural projects	
Farmers knowledge is used as a resource for innovation	Pearson correlation	0.635*
	Sig. (2- tailed)	0.000
	n	226
Farmer experimentation exists for learning and adaptive farm management	Pearson correlation	0.804
	Sig. (2- tailed)	0.000
	n	226
The project is independent from government funding	Pearson correlation	0.694
	Sig. (2- tailed)	0.000
	n	226
There is availability of information to agricultural extension agents	Pearson correlation	0.782
	Sig. (2- tailed)	0.000
	n	226
Overall correlation of Evaluation		
	Pearson correlation	0.729
	Sig. (2- tailed)	0.000
	n	226

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*This is a lower bound of the true significance

To measure the influence of evaluation on the performance of public agricultural projects using 95% level of confidence, the null hypothesis, H_0: There is no significant relationship between evaluation and performance of public agricultural projects in Galana, Kilifi County was tested and all the P-values under significant 2-tailed in Table 4.8.1.1 (evaluation 1, r=0.635 ;P-value=0.000, (evaluation 2, r= 0.804; P-value=0.000, evaluation 3, r=0.694; P-value=0.000, (evaluation 4, r=0.782; P-value=0.000, were all less than the threshold of α=0.05 implying that there is a significant relationship between evaluation and performance of public agricultural projects in Galana, Kilifi County leading to rejection of the null hypothesis. The decision criterion used was that any P-value less than the threshold of α=0.05 would be considered significant and subsequently lead to the rejection of the null hypothesis and acceptance of alternative hypothesis and hence the research findings conclude that there is a significant relationship between evaluation and performance of public agricultural projects.

The study sought to establish the influence of evaluation and Performance of Public Agricultural Projects. The multiple linear regression coefficients results indicated that there was significant influence of evaluation on performance of public agricultural projects in Galana, Kilifi County, given, P-Value=0.001< 0.05. By substituting the beta value as well as the constant term, the proceeding multiple linear regression model was as follows: The model was y=1.116+0.502X2. The results above indicated that when evaluation was incorporated, all the evaluation indicators were significantly related to performance of public agricultural projects in Galana, Kilifi County. The finding further implied that if there was no evaluation, then; performance of public agricultural projects in Galana, Kilifi County would be 1.116. The coefficients for the regression table of evaluation is presented in Table 3.

Table 3: Coefficients for the Regression of Evaluation and Performance of Public Agricultural Projects

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.116	0.105		10.647	0.000
Evaluation	0.502	0.156	0.489	3.221	0.001
a. Dependent Variable: Performance of agricultural projects					

CONCLUSION

The objective was to establish the extent to which Evaluation influence Performance of public agricultural projects in Galana County. Inferential statistics conducted on the perspectives of evaluation and performance of public agricultural projects were; correlation analysis between evaluation and performance of public agricultural projects, regression analysis between evaluation and performance of public agricultural projects and test of hypothesis confirmed that there was a significant relationship between evaluation and performance of public agricultural projects leading to rejection of the null hypothesis that there is no significance influence of Evaluation on performance of public agricultural projects in Galana, Kilifi County and so it was concluded that that there is significance influence of Evaluation on performance of public agricultural projects.

RECOMMENDATION

Evaluation should be at the heart of M&E System and the performance of public agricultural projects. Using farmers knowledge as a resource for innovation, farmer experimentation for learning and adaptive farm management, improved independence and performance without relying on government funding and availability of information to agricultural extension agents significantly

influence performance of public agricultural projects. Designers of M&E System should ensure evaluation is supported to realize the performance of public agricultural projects.

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