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Influence of Project Management Practices on the Agricultural Projects Performance in Rwanda. A case of Ngororero District (2014-2021)

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Abstract

The success of projects of agriculture in Rwanda is still being challenged in the sense that some projects remain delayed and others finished late with little incomes. For the performance of project, it requires many practices of management. This study focuses on investigating the influence of project management practices on the performance of agricultural projects in Rwanda. The study aimed at finding out whether the influence of project management practices were effective and whether they really have influence on the performance of agricultural projects in Rwanda especially in Ngororero district. The design of this study was a quantitative descriptive in nature. The study used descriptive and explanatory research designs. It used also stratified sampling to select 110 respondents from the targeted population. Primary data were gathered using a self-administered questionnaire to 80 farmers. Interviews were also directed on 30 field officers. Descriptive statistics such as frequency, percentages, mean and standard deviation were obtained to describe the characteristics of the variables whereas multiple regressions model was used to establish the relationships between the variables. All the analysis was prepared by using SPSS version 20. Qualitative data were analyzed through content analysis. The results indicated that all the variables, project planning, project implementation, project Monitoring and Evaluation and project communication were significant on project performance. Project Environmental enablers (moderating variable) were found to have an influence on the relationship between project management practices and project performance. The research concludes that there is a positive relationship between project management practices and the performance of agricultural projects in Rwanda at a very high extent.

Keywords: Project planning; Project implementation; Project Monitoring and Evaluation; Project communication and Agricultural Projects.

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1. Introduction

Projects remain the instruments of choice for policy makers in national and international development. However, ironically, the reduced performance of projects seems to turn out to be the instruction and not the exception in fashionable reality [1]. For any project to perform, it is important to understand the degree of influence made by the project management practices in some association[2-3]. Project management practices have mainly contributed to either the success or failure of most of the projects[4]. The poor practices of management of projects often lead to projects being completed late or over budget, do not perform in the way expected, involve severe strain on participating institutions and or are cancelled prior to the completion after the expenditure of considerable sum of money[5].

The World Bank's World Development and Boyd Reported and pointed out that many government development projects have been mismanaged over the years and it is not uncommon for the projects to be delivered late and over budget by a factor of 50 per cent- 100 per cent [6]. This view is supported by Whittaker [7] who notes that 31 per cent of software projects in America are cancelled before completion and more than 50 per cent costs an average of 189 per cent of the original budget. The modern production, processing, and trading of agricultural products require the adaptation of newer technologies. The Faculty of Agricultural Economics and Rural Development of the University of Hungary have used regional enterprises to employ several students who studied project management as well in agricultural projects. The students employed are believed to have high management and technological skills necessary for better project performance [8]. The information communication and management is also an important aspect of project management. Poor management of information on marketing of agriculture products has also highly affected agricultural projects performance. The situation leaves marketing in East Africa countries characterized by very high distance of the deal between producers and buyers. Poor access to reliable and timely market information leads to wastage of produce and limits small holder farmers to low prices for their products. There is need therefore to create more effective relationships between farmers, extension and research who are the ultimate beneficiaries by improving their marketing awareness [9]. Project Management practice is also absolutely crucial to the achievement of a project; it directly impacts on their day to-day operations, and, in turn, their profitability, An effective means of learning from experience on projects in United Kingdom that combines explicit knowledge with tacit knowledge in a way that encourages people to learn and to designate that learning into continuous improvement of project management practices [10]. Project success is therefore among the top priorities of project managers and project stakeholders. It is not surprising then that the topic has interested Canadian academics and practitioners for decades and continues to be of relevance today. Amount of variables influencing the attainment of project implementation were identified in Canada[11].

A study done by [9] on building a network for market access to rural areas conducted in east Africa showed that marketing of farm products is characterized by a myriad of constraints. However, the study was concerned with agricultural sector, not agriculture projects. Reference [12] study on M&E strategies in agriculture points out that practicing and drawing lessons from field experience into and have been studied but the size of their success needs more address, Reference [13] likenesses at the assessment mobile phone services by customers on project performance, Reference [14] while in a study on practical planning & implementation only addresses the

planning aspect in projects. The above studies looked at isolated issues of project management practices, therefore, there was need to address all management practices and establish their joint influence to project performance.

2. Methods

An exploratory descriptive and explanatory research designs were used in this study to find out whether the influence of project management practices were effective and whether they really have influence on the performance of agricultural projects in Rwanda especially in Ngororero district. Primary data were gathered using a self-administered questionnaire to 80 farmers. Interviews were also directed on 30 field officers. Data were analysed using the Statistical Package for Social Sciences (SPSS) version 20 and Qualitative data were analyzed through content analysis. Statistical analysis using inferential statistics was used considering p-value 0.05 as the level of significance and 95% Confidence Interval (95% CI).

3. Results and Discussion

The researcher gave the respondents various statement regarding Project Management Practices in terms of Project planning, Project implementation, Project Monitoring and Evaluation, Project communication and Agricultural Projects performance and analyzed their level of agreement.

3.1 Linearity Test

The study ascertained the assumption of linearity by testing the linear relationship of the independent variables on the dependent variables using the correlation coefficients[15]. The linearity test results are shown in Table ***3.1.1***

Table 3.1.1: Results on Linearity test

Project management practices		**Agriculture Project Performance**
Project planning	Pearson Correlation	.456
	Sig. (2-tailed)	.002
	N	110
Project Implementation	Pearson Correlation	.386
	Sig. (2-tailed)	.008
	N	110
Project M&E	Pearson Correlation	.284
	Sig. (2-tailed)	.001
Project Communication	Pearson Correlation	.141
	Sig. (2-tailed)	.342
	N	110

Source: survey data (2021)

Table 3.1.1 indicates that all independent variables had a positive linear relationship with Project performance. The relationship was strongest between project planning and agriculture performance (r=0.456, sig=0.002). Additionally, project implementation had a moderate relationship with project performance (r=0.386, sig=0.008). The relationship between project M&E with project performance was moderate at (r= 0.284, sig=0.001) while the relationship between project communication and agriculture performance was the weakest at (r=0.141, sig= 0.342). The results, therefore, indicated a linear relationship of the independent variables with the dependent variable. The linear regression was thus suitable for estimation in this study and the proposed regression models could be accurately estimated.

3.2 Multiple Regression results

For determining the nature of relationship between the independent anddependent variables and to initiate the statistical significance of the hypothesized relationships, multiple regression analysis was used. This was performed using the field data and tested at 5% level of significance. The findings of the multiple regressions are summarized in the table 3.2.1

Table 3.2.1: The results of Regression influence project management practices on agricultural projects performance.

Post Estimation Diagnosis			
	Test Stations	**P-Value**	
Adjusted R Squared	0.531		
R. Squared	0.582		
F. Statistics	7.442	0.000	
Regression results			
	Coefficients	**T- Statistics**	**P-Value**
Project planning	0.223	1.887	0.041
Project implementation	0.235	1.963	0.045
Project M & E	0.414	2.494	0.017
Project Communication	0.276	2.232	0.034
Constant	1.554	3.619	0.015
Key	Significant level at 5 percent		

Source: survey data (2021)

Research findings in Table 3.2.1 indicate that the adjusted R- squared was 0.531 meaning that the independent variables jointly explain 53.1% of the variations in the dependent variable while the rest are explained by variables not fitted into the model. This is in agreement with the studies presented [16]. which points out that project management practices are becoming increasingly important as more and more work is organized through projects and programmes. The F statistic is 7.442 with a corresponding P value of 0.000 which implies that the regression model is significant ($P < 0.05$).

$$\mathbf{Y=1.554 + 0.223X_1+0.235\ X_2+\ 0.414X_3+\ 0.276\ X_4 + \varepsilon}$$

All the four parameters of project management practices: project planning, project implementation, project M&E and project communication were positively related to agriculture performance and the regression analysis indicated that an increase in each of them would result in an increase in project performance. It is, therefore, important to impress serious planning methods, implementation strategies, strong monitoring, and evaluation systems of project communication in management of projects to enhance performance. These findings are in agreement with [17] and also adds the need for agricultural extension Officers to practice all project management practices and communicate with farmers to support decision-making by providing information on sustainable farming practices.

3.2 Qualitative Data Analysis

The interview timetable was analyzed and presented in form of themes as indicated in Table 3.3.1

Table 3.3.1: Qualitative Data Analysis

Factor	**Description**
View on farming activities done by farmers	Lots of the respondents (90%) felt that farming of some crops like maize and beans were majorly practiced but just afew farmers were serious with horticultural crops,bees and poultry keeping which would improve them more economically
How planning has helped the projects to perform well.	According to the respondents, planning has greatly assisted in budgeting to gather for all the activities, preparation of farming calendar and obeying of project time frame.
Farming activities fulfilled at the right time	Respondents (65%) felt farming activities were not fulfilled in period in arrears to financial constraints, unfavorable weather conditions and inadequate means of transport
Challenges associated with projects that are already planned for farmers by government	According to several of the respondents (80%), projects have been planned for them from governments. This projects have some challenges which include Planners not taking into consideration the field condition, Low adoption rate by the community, Projects are haphazardly placed and Non-effective farmers implementation due to lack of funds.

Extension services provided to farmers	Generally, respondents felt that just a few of the dissemination services were impressed by the management. This includesoffering of field visits and training of farmers to undertake the project. The respondents felt very little have been done on counter design, starting point and subjects of product promotion.
Activities undertaken from Management before plantingstarts	Some of respondents (60%) felt that the office always plans for meetings per breeders and train the staff and offering of farm inputs before start of project. some activities like Climate reliance information and inviting technical advisors from other regions were however poorly addressed.
Ways of checking the progress of the project.	Half of the respondents felt that monitoring by monthly supervision was the way of proving project progress. However there is some monitoring, little evaluation was done leaving many farmers with poor future focus.
Hindrances to supervision of agriculture projects	According to all respondents, the field officers have problems with familiarization of the place due to poor transport means.
Effective methods of communication from management to farmers and marketing	80% of the respondents felt that most common ways of communication were through public field visits, meetings, and phone calls. Very little communication was done through emails and goggle through computer and computer
How the government has helped for better project performance	In the research a big number of respondents (70%) felt the government and other sponsors have helped in providing inputs like seeds andfertilizers to low income families but felt a better fraction of the farmers did not follow the instructions on how to put on the inputs and hence ended up with poor yields still.

Source: Survey data 2021

The findings contained in Table 4.19, shows that majority of the respondents felt that farming of some crops like maize and beans were practiced more than horticultural crops and livestock keeping like poultry and bee keeping. All the respondents agreed that planning had greatly assisted in budgeting while about 65% of them felt the planned activities were not fulfilled in the planned calendar of financial constraints and inadequate motorized transport. Many respondents (80%) felt agriculture projects are normally planned for them became in government of Rwanda, so all of them agreed that extension services were not done by management. Half the respondents indicated that little evaluation was done leaving farmers with poor future focus. Respondents (80%) felt that most common ways of communication were majorly through public field visits, meetings, and phone cell calls. Finally, more than half of the respondents (70%) agreed that the government and other sponsors have helped in providing farm inputs but felt many farmers did not follow the instructions for provided inputs like fertilizers and insecticides.

4. Conclusions

The study sought to establish the influence of project management practices on agricultural projects performance in Ngororero District, Rwanda. On the basis of the findings, the researcher arrived at several conclusions.

The study found that project planning when jointly regressed had a positive influence performance of agriculture projects. Similarly, the study revealed that project implementation had a positive influence on agricultural project performance in Ngororero District, Rwanda. However, as much as the joint regression show that planning and implementation influenced project performance, the two variables are interlinked since planning guides in implementation as shown in literature review. The findings of multiple regression on project planning and project implementation, therefore, supports the fact that the two variables influence performance of agricultural projects. The study found that the project M&E influenced agriculture project performance Ngororero District, Rwanda. On other side, the study found that project communication had a significant influence on agricultural project performance. Project communication, therefore, was found to significantly influence agricultural project performance.

5. Recommendations for Policy Implication

Several policy recommendations can be derived from the findings of this study. In the process of project planning the government and other management organs are advised to incorporate a few farmers that will undertake the project to avoid rolling down already planned projects that may not do well in some regions. The management should also include expected risks in their project plan and give possible mitigation methods so that the contingence funds set aside for risks are estimated and allocated. This will help to cup uncertainties that may reduce on yields. The study found out that project monitoring and evaluation and project communication has influenced performance of agriculture projects in Ngororero District, Rwanda. Based on this finding, managers of different organizations which sponsor projects should continually modify management aspects to improve performance of agriculture projects. Certain aspects of management should be addressed as a matter of policy, such as supervising farmers through extension services to improve farming activities of a diversity of crops like horticultural based like tomatoes, vegetables, and onions. The monitoring and evaluation was not highly addressed especially in government sponsored organizations which leaves many farmers with no clear directions on how to use farm inputs instead they even purchase them off. Both government and NGOs have, therefore, a duty to closely monitor all the projects from start to end. Also, the government is advised to of employ highly qualified managers especially field officers and Supervisors to help exercise their management skills while supervising and implementing projects‟ for better performance. The qualified human recourse should also ensure that it practices all the recommended management practices involve improving the monitoring and evaluation skills through effective supervision, ensuring that the good communication with the workers within projects.

The Ministry of agriculture and Animal Resources and NGO sponsors should also increase grants and loans to farmers to improve financially related activities that will enhance quick accessibility of management to projects and supervision of the project groups through constructing better roads and communication networks. The government and NGOs should increase their extension services to help in giving knowledge and skills to farmers for better production. They should increase their interaction time with the farmers and expose them through bench marking, baseline survey and issues of product marketing through advertisement apart from field visits and trainings done. This will enhance exposure to farmers and serve as learning sessions for better project performance. The sponsors of projects and management should also evaluate projects to help them asses the weakness and strength of the performed projects. This will greatly assist in the planning of the future projects

which will be based on the past records. The management should also include expected risks in their project plan experienced in the field during monitoring sessions and give possible mitigation methods so that the contingence funds set aside for risks are estimated and allocated. This will help to cup uncertainties that may reduce on yields.

Finally, the sponsors should work on clear means of marketing of the products of the farmers. Most of the farmers have been left to look for ways of marketing their crops on their own making some to sell their yields at very low prices. Both the government and the NGOs should be judged with the responsibility of providing marketing information through media, posters, and emails and if possible establish centers like effective cereal boards to help farmers sell off their products at better prices.

References

[1]. Adekanye, F., and Adedoyin, S. (1992). Financial System regulation, deregulation, and Savings mobilization in Nigeria: African Economic Research Consortium.

[2]. Botchie, G. (2000), Rural District Planning in East African Country: A Case Study. Environmental Planning Issues No. 21, International Institute for Environment and Development, London.

[3]. Barry, C., Dent, D., & Olivier, D. (2000). Rural Planning in the Developing World with a Special Focus on Natural Resources, London, International Institute for Environment and Development.

[4]. Cusworth, J. W., Franks, T. R. (1993).Managing projects in developing countries. Longman Scientific & Technical, Harlow, UK, and J. Wiley & Sons, New York, USA.

[5]. Morris, P. W. G. (1988). Managing project interfaces. In D. I. Cleland, & W. R. King (Eds.), Project

[6]. Boyd, A. (2001). The five maxims of Project Satisfaction. Aslib Proceedings: new information perspectives. Vol.53, No. 10 pp. 423-30 (8). Emerald Group Publishing Limited.

[7]. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis: A global perspective (7th ed.). London: Pearson Hughes, W.P. (2009). Identifying environment of construction projects Constr. Manage. Econ., 7, p. 29.

[8]. Adrián, N., Veronika, F. András, N. (2011). Project management systems in farming of the northern great plain region of Hungary.

[9]. Nyende, A. (2011).Building Network for market Access, Rome, Government cooperative Program

[10]. Maylor, H., Brady, T., Cooke-Davis, T., and Hodgson, D. (2006). “From Project to Program, International Journal of Project Management, Vol. 24 No 8., P.

[11]. Juma, C. (2014).The new Harvest; agricultural Innovation in Africa, New York, Oxford press

Kothari, C. R. (2006). Research Methodology: Methods and Techniques. New Delhi. New Age International (P) limited publishers

[12]. Assefa, Y., Rivera, O.P., & Vencatachellum, D. (2013). Macro and micro determinants of project Performance. African Evaluation Journal 2(1), Art. #86, 9 pages.

[13]. FAO. (2012). Mobile technologies for food security, agriculture and rural development, Role of the public sector.

[14]. Thomas, L. Marti. (2004). Essentials of project management (first ed.) University of New South Wales Press Ltd., Australia.

[15]. Dancey, C., & Reidy, J. (2004). Statistics without maths for psychology using SPSs. New Jersey: Prentice Hall.

[16]. O‟brien, F.S ., Ryan. (2001). Dollar and T. Holmgren (eds). Aid and Reforms in Africa.

[17]Boyle, R., & Lemale, D. (1999).Building an effective evaluation capital. New Jersey: Transaction Book, News Brunswick