Received 10 November 2014
Accepted 25 March 2015

An investigation of key predictors of performance of agricultural projects in Sub-Saharan Africa

A case of Uganda

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Abstract

Purpose – The purpose of this paper is to examine the ways of improving performance of agricultural projects through stakeholder engagement and knowledge management in a Sub-Saharan context.
Design/methodology/approach – Data were collected using a self-administered questionnaire from 342 agricultural projects in Mukono and Wakiso districts in Uganda. Descriptive statistics and inferential statistics were used in the analysis.
Findings – The results reveal that stakeholder engagement and knowledge management are valuable intangible resources that significantly influence performance of agricultural projects. The findings, managerial and policy implications are fully discussed in this paper.
Originality/value – The authors empirically show that a model that synchronizes stakeholder engagement, knowledge management and performance of agricultural projects is a requirement for promoting sustainable agricultural performance outcomes. This study makes a contribution by providing information that is relevant for filling the practical gap that exists in agricultural projects of Sub-Saharan Africa as well as contributing to the theoretical development of project management discipline.

Keywords Uganda, Stakeholder engagement, Performance, Sub-Saharan Africa, Knowledge management, Agricultural projects
Paper type Research paper

International Journal of Social Economics
Vol. 43 No. 7, 2016
pp. 676-691

0306-8293
DOI 10.1108/IJSE-09-2014-0181

Introduction

Low farm output remains a major challenge for the agricultural sector in Sub-Saharan Africa with half of its population under 25 years. This is surprising since Africa's economic growth rate is above the global average. Africa houses most of the world's

fastest-growing economies (Da Silva, 2014). Da Silva (2014) observes that, though some African countries have shown impressive growth in the past decade, this has not translated into social protection for rural families. This study is motivated by the existing failure to realize growth in agriculture and rural development that can be translated into social inclusion. The authors think that stakeholder engagement and knowledge management in agricultural projects can propel agricultural development and social inclusion.

Despite the impressive growth statistics in the agricultural sector, some Sub-Saharan countries continue to register poor performance. For example, Uganda's agricultural growth rate is still below the 6 percent annual growth target of the African Union's Comprehensive Africa Agricultural Development Program (CAADP). The poor performance of the agricultural sector has been attributed to high informalities in the sector, the use of traditional, rudimentary and obsolete technologies and methodologies for farming activities. This has prompted international agencies to assist Sub-Saharan Africa to invest in agriculture through a number of projects. Most of the projects are funded by World Bank, African Development Bank and International Fund for Agricultural Development in order to assist Sub-Saharan Africa to achieve Millennium Development Goals such as alleviating poverty and enhancing food security. These agricultural projects include; Delta projects in West Africa, Pharos Global Agriculture Funded projects based in Tanzania, New Partnership for Africa's Development projects, Africa's Agricultural Development Program that consist of irrigation projects and land privatization projects.

In Uganda, agricultural projects such as the National Agricultural Advisory Services (NAADS), National Agricultural Research Organization, Agricultural Technology and Agribusiness Advisory Services and Youth Venture Capital are intended to provide employment, food security and boost household income and growth of the rural communities. Since early 2000, the NAADS projects have gained a significant share of Uganda's GDP growth (National Agricultural Advisory Services programme (NAADS), 2011; Ministry of Agriculture Animal Industry and Fisheries (MAAIF), 2000). However, performance of NAADS projects in particular has overtime been disappointing. This could be attributed to a number of factors including the failure to engage all stakeholders and poor knowledge management. In addition, previous attempts to explain project performance have concentrated on stakeholder involvement (Castro *et al.*, 2005), commitment (Lee and Tsai, 2005), communication (Subramanian *et al.*, 2009) and comparative advantage (Kamya *et al.*, 2010) ignoring stakeholder engagement and knowledge management. The next section reviews relevant literature on the study variables.

Literature review

This section provides a critical review of literature on the study constructs of knowledge management, stakeholder engagement and project performance. It examines various ideas that support, evaluate and critic the cumulative knowledge growth in the subject of project performance. We then use it to develop hypotheses that are tested.

Stakeholder engagement and project performance

Freeman (1984) posits that organizations that wish to excel in performance must put into consideration interests of groups that impact and are impacted by the actions of the organization. Such groups are called stakeholders. Donaldson and Preston (1995) define a stakeholder as any group or individual who can affect or is affected by the

achievement of the project's objectives (Freeman, 1984). Stakeholder theories are categorized into normative, descriptive and instrumental. The concept of stakeholder engagement can be described as trust-based collaboration between individuals and institutions with different interests, expectations and objectives that can only be achieved together. Managers need to manage stakeholders' interests or expectations since the inability to manage these can result into project performance failure (Bourne and Walker, 2005). Stakeholder engagement creates innovation and partnerships among project stakeholders that include the society, local councils, farmers, project team and government. In this study, stakeholders are not only the members of NAADS communities or non-governmental organizations but also governmental projects. Stakeholder involvement attracts two approaches which include; buffering and bridging (Freeman and McVea, 2001).

Because the cooperation of many stakeholders is needed to ensure the project succeeds; and if successful, it will actually influence the lives and livelihoods of many different people; then a clear stakeholder engagement process is desirable. From a project management perspective, stakeholder engagement is likely to have considerable impact on how an agricultural project performs. When stakeholder engagement is carried out within a project framework, a team usually applies a number of different strategies or actions, which include determining who the stakeholders are, collecting information, understanding expectations, learning the most suitable way to communicate information and building trust, ownership and participation (Boschetti *et al.*, 2012). However, our experience has shown that few if any studies have explored the association between stakeholder engagement and project performance. Nor is there a standard procedure for executing such stakeholder engagement strategies that can be successfully applied in all situations and contexts (Van den Belt, 2004).

While having its origins in strategic management, stakeholder engagement theory has been applied to numerous fields of enquiry (see Clarkson, 1995; Hillman and Keim, 2001; McDaniel and Miskel, 2002; Starik and Rands, 1995; de Bussy *et al.*, 2000; Pouloudi, 1999; Donaldson and Preston, 1995; Greenwood, 2001; Ramírez, 1999; Brugha and Zsuzsa, 2000; Martin, 2003; Bunn *et al.*, 2002; Elias *et al.*, 2002, 2004; Ogden and Watson, 1999; Bourne and Walker, 2005; Crawford, 2000; Newcombe, 2003). In all the above studies, none of them investigated stakeholder engagement and agricultural project performance especially in Uganda. Given that Uganda's agricultural growth rate is still below the 6 percent annual growth target of the African Union's CAADP, the current study focusses on the role of stakeholder engagement on improving project performance in the agricultural sector in Uganda. To the best of the researchers' knowledge, no such works appear to have been carried out in this sector in Uganda. Furthermore, extant literature asserts that improvements in information technology have been linked to stakeholder engagement (de Bussy *et al.*, 2000; Pouloudi, 1999); and information technology linked to performance (Kagaari *et al.*, 2010). We would assume that a link exists between stakeholder engagement and project performance. But it appears no study in the Sub-Saharan region and especially in Uganda has so far investigated this relationship. We therefore hypothesize that:

H1. Stakeholder engagement improves the performance of agricultural projects.

Knowledge management and project performance

Knowledge management derives its importance from the support it provides to existing organizations to gain through sharing and dissemination of knowledge. Knowledge

management is a managerial activity which when taken under consideration develops, transfers, transmits, stores and applies knowledge. This helps to reap the benefits of skills, experiences and tacit knowledge, as well as providing the stakeholders with real information to react and make the right decisions, in order to attain the projects' targeted goals. In the new economic era, knowledge has become the primary source of wealth and consequently; the term knowledge economy or knowledge age. Collective knowledge of employees is regarded as the key factor in producing innovative and competitive products or services. Today, the key global pressure on management practices is knowledge identification, creation, innovation, dissemination, and development of talent (Alavi and Leidner, 2001; Bhatt, 2001). According to Bordoloi and Islam (2006), the world economy is dubbed as knowledge based or knowledge economy, where participants sell knowledge, focussed on research, innovation and other forms of knowledge creation. Furthermore, in this era of "knowledge revolution" (shifting from the traditional industrial society to acknowledge society), knowledge has become increasingly associated with superior performance because of its invisibility and inimitability making it a valuable asset (Kamya *et al.*, 2010). Nonaka (1994) postulates that, in an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is improved knowledge management. Nonaka (2007) prefers to call knowledge management as knowledge-based management, connecting people to people and people to information to create competitive advantage. According to him, knowledge management is a human resource management exercise than a technology-based discipline. He stresses that knowledge is not merely a state of the art technology used to improve efficiency of the knowledge; rather it is an exercise about how people can be motivated, best utilize their knowledge, experiences and enhance the creativity by using state of the art technology.

A number of researchers, on knowledge management has focussed on specific processes and activities within knowledge management. Lee *et al.* (2005) introduced the Knowledge Circulation Process that can be determined by knowledge creation, knowledge accumulation, knowledge sharing, knowledge utilization and knowledge internalization. Researchers like Thomas *et al.* (2001) have discussed four critical stages of management of a firm's knowledge. These include knowledge creation and acquisition, knowledge transfer, interpretation of the knowledge to serve organization goals, and application of knowledge to achieve organizational goals. Darroch (2003) has elicited knowledge creation and acquisition, knowledge dissemination and responsiveness to knowledge as main components of knowledge management practice. Knowledge creation deals with a variety of knowledge, whether tacit or explicit and is accelerated by encouraging synergistic interrelations of individuals from diverse back grounds" (Lee *et al.*, 2005). Nonaka (1994) cites dynamic organizations as the ones that not only process information but also create information and knowledge. Through interaction with environments, organizations absorb information, convert these into knowledge and combine it with their experience, values and rules. Nonaka (1994), postulates that organizational knowledge creation can be viewed as an upward spiral process, starting at the individual level moving up to the collective (group) level and then to the organizational level, sometimes reaching out to the inter-organizational level.

Organizations, since the early 1990s, have been forced to rethink the way they manage their intangible assets, which are in form of knowledge resources and therefore the need for knowledge management. Many organizations use knowledge management frameworks as a model that initiates and strengthens knowledge management activities in the context of achieving organizational excellence. However, different

knowledge management frameworks do not fully address knowledge management activities across the organization, such that each of them addresses certain knowledge management elements, while leaving others unattended to. An overriding problem for those who model project performance is identifying the significant factors of project success. Of course, extensive research in the project management field examines and identifies a wide variety of measures that describe project outcomes and the inputs that affect those outcomes (e.g. Aggarwal and Rezaee, 1996; Baiden *et al.*, 2006; Barclay and Osei-Bryson, 2010; Chen *et al.*, 2010; Duffy and Thomas, 1989; Emhjellen, 1997; Emmanuelides, 1993; Farris *et al.*, 2006; Globerson, 1994; Grundy, 1998; Huesemann, 2006; Hoegl and Parboteeah, 2007; Ibbs *et al.*, 2001; Ling *et al.*, 2009; Moffat, 1998; Pheng and Chuan, 2006; Raiden *et al.*, 2004; Robey *et al.*, 1993; Roman, 1964; Schwab and Anne, 2008; Scott-Young and Samson, 2008; Sperpell, 1999; Tabassi and Bakar, 2009; Woodward, 1982; Zou *et al.*, 2007). One topical finding, for example, is that the richness of communication channels influences project success (Oke and Idiagbon-Oke, 2010); another is that the ability to incorporate softer, people-oriented practices for capturing tacit knowledge explains a significant amount of variance in project success (Anand *et al.*, 2010). Darroch (2003) studied the relationship between knowledge management and innovative performance in general terms. Huang and Li (2009) studied the relationships among social interaction, knowledge management, and innovation. Knowledge management has also been associated with competitive advantage in manufacturing and service firms in Uganda (Kamya *et al.*, 2010).

Yet, despite this plethora of research into which factors affect project outcomes, few test both knowledge management and stakeholder engagement in agricultural projects in Sub-Saharan Africa and specifically in Uganda. The objective of this study, therefore, is to determine the predictive power of knowledge management and stakeholder engagement on project performance. We therefore hypothesize that:

H2. Knowledge management is positively related to project performance.

H3. Stakeholder engagement and knowledge management are significant predictors of project performance in the agricultural sector in Uganda.

In the next section we present the study methodology.

Methodology

Research methodology

This study adopted a cross-sectional descriptive and analytical research design. To address the research hypotheses generated in literature, the researchers undertook a large scale comprehensive survey covering a random sample of Agricultural Advisory Services Projects in two districts of Mukono and Wakiso. A questionnaire was developed to tap the constructs of stakeholder engagement, knowledge management and project performance.

Study population, research setting, sampling design and procedure

The study population comprised of a total of 13,347 NAADS projects in Mukono and Wakiso districts (Wakiso NAADS Performance Reports 2012; Mukono NAADS Budgetary Documents, FY 2012/2013). Data were collected from stakeholders involved in agricultural projects from 18 sub-counties of Wakiso and Mukono districts. The unit of analysis was a project in the two districts. A project in this study refers to any agricultural activity supported by NAADS regardless of its size and number of people involved.

For example, a small project could involve giving a cow to a household. Our unit of inquiry consisted: NAADS project coordinators, project team from government and model farmers. Using the formula provided by Krejcie and Morgan (1970), we obtained a sample size of 375 projects. Krejcie and Morgan (1970) sample size determination approach was preferred because it yielded a representative sample which one would expect even if other popular approaches such as Yamane (1973) were used. Simple random sampling technique was used to select the projects. We generated a table of random numbers using EPITABLE – random number listings. All NAADS projects were listed in alphabetical order and assigned numbers from 00001 to 13,347. The selection criterion was based on the length of the largest numbers on the population list. Consistent with the rules of sampling, researchers only selected cases from the list for the sample which corresponded with the identified number from the table. Using this process, researchers ignored all repeated numbers and numbers that were not on the population list. This process was continued until the desired sample size of 375 was achieved. According to Gay and Diehl (1992), generally the number of respondents acceptable for a study depends upon the type of research involved. An error of 3 to 4 percent is acceptable in survey research (Hair *et al.*, 2006). Our results conformed to this guideline.

Data sources, data collection instrument and measurement of variables

Primary data were collected by gathering views from the project coordinators, project team, model farmers and government officials using a questionnaire. Item scales for all the study constructs were anchored on a five-point Likert scale with 1 = strongly disagree to 5 = strongly agree. Project performance was measured in terms of reliability, effectiveness and efficiency using constructs of time, scope, costs and quality as defined in the Project Management Body of Knowledge (PMBOK) (1996). Knowledge management was measured by adapting item scales developed by Lee and Tsai (2005). Stakeholder engagement was measured by adapting the work engagement item scales developed by Seppala *et al.* (2008) and the Utretch Validity scale of employee engagement. Data were tested for the assumptions of parametric data prior to analysis.

Validity and reliability of the instrument, data cleaning, parametric tests, analysis and reporting

All items were derived from previous studies and modified to suite Ugandan context. These item scales were given to experts to assess their relevance to the study. The researchers then pilot tested the questionnaire using a sample size of 68 respondents to test for validity and reliability of the measurement items. Cronbach's α coefficient was used to check the reliability of the instrument. As justified by Neuman (2006) and Nunnally (1978), all our variables of study conformed to the minimum cut-off point of 0.7 and above. The researchers examined the data for outliers and missing values before analysis. The results showed an acceptable range of missing values which was less than 5 percent (Sekaran, 2000). The researchers then tested for the assumptions of parametric data. The data showed no serious problems. The response rate was 91 percent.

Results

Descriptive statistics

The results in Table AI show that about 9 percent of agricultural projects were from Gomma sub-county, while 3 percent of agricultural projects were from Nansana and Seeta Namagunga sub-counties. The results in Table AII report the background

characteristics of the respondents in form of project years of operation, gender, marital status, age, level of education, category of stakeholder and working experience. In terms of years of project operation; the results indicate that 69 percent of the respondents were in operation for over five years, about 24 percent respondents between two and five years and; 7 percent respondents less than two years. In total, 76 percent of the respondents per project were male and 24 percent were female. The results show that 63 percent were married while 37 percent of the respondents were single. 3 percent of the respondents were below 20 years, between; 20 and 29 years, 14 percent; 30 and 39, 34 percent; 40 and 49, 40 percent and above 49, 9 percent. The majority of respondents were between 30 and 39 indicating that most of them were youth; leaving a small number of people whose age is above 49 years. In terms of level of education, it was observed that the majority of respondents per project had certificates (Primary Leaving Certificate, Uganda Certificate of Education and Uganda Advanced Certificate of Education) as indicated by about 67 percent, diplomas 19 percent, degree, 11 percent and master's degrees, 3 percent. In terms of work experience, 33.6 percent had worked for three to five years; while 8.8 percent over ten years. In total, 33 percent of stakeholders were project team, 32 percent coordinators, 23 percent model farmers and 12 percent government officials.

From the results in Table I, the corresponding average responses for the constructs were: stakeholder engagement (Mean = 3.04, SD = 1.07), knowledge management (Mean = 3.09, SD = 1.22) and project performance (Mean = 3.02, SD = 1.17). The mean scores for the study constructs ranged between 3.02 and 3.09 and the standard deviations were in the range of 1.07 and 1.22.

Results also reveal a significant positive relationship between stakeholder engagement and knowledge management ($r = 0.68$, $p \leqslant 0.01$). This means that a change in stakeholder engagement is associated with a change in knowledge management. Similarly, knowledge management and performance of agricultural projects were significantly and positively correlated ($r = 0.60$, for $p \leqslant 0.01$); implying that a change in knowledge management is associated with a change in project performance. Additionally, there is a significant positive correlation between stakeholder engagement and performance of agricultural projects ($r = 0.48$, $p \leqslant 0.01$) meaning that a change in stakeholder engagement is associated with a change in project performance.

We ran three models in order to establish the predictive potential of stakeholder engagement and knowledge management on performance of agricultural projects. Consistent with other scholars, we entered the control variable of age in Model 1. As suggested by Cohen *et al.* (2003), who advise that model selection should be based on statistically significant improvement in the variance explained. This is consistent with Hair *et al.* (2006), who avers that for a component to be retained in a hierarchical regression model; its coefficient should be significant and able to account at least 2 percent of the variation in the dependent variable. The results in Model 1 indicate that project age is associated with performance of agricultural projects.

Table I.
Means, standard deviations and zero-order correlation

	Mean	SD	1	2	3
Stakeholder engagement (1)	3.04	1.07	1.00		
Knowledge management (2)	3.09	1.22	0.68**	1.00	
Project performance (3)	3.02	1.17	0.48**	0.60**	1.00

Note: **Correlation is significant at the 0.01 level (two-tailed)

Table II, Model 2 reveals that stakeholder engagement significantly predicted performance of agricultural projects accounting for 23 percent of the variance ($\beta = 0.53, p \leqslant 0.01, \Delta R^2 = 0.23$). Also, in Model 3, knowledge management significantly predicted 10 percent of the variance in performance of agricultural projects ($\beta = 0.38, p \leqslant 0.01, \Delta R^2 = 0.10$). Overall, the variables under study predicted 34 percent of the variance in performance of agricultural projects.

Discussion

Consistent with *H1*, stakeholder engagement was a significant predictor of performance of agricultural projects. These findings are supported by the work of previous scholars (e.g. Bourne and Walker, 2005; Brooks *et al.*, 2012) who reveal that when groups of individuals are involved in decisions that affect them, they tend to improve in the way they do their work. The results indicate that stakeholders need to be absorbed in the agricultural project activities, dedicated to work and with enough information so as to enhance performance of agricultural projects. This will help the projects to achieve deliverables that result into improved project outcomes. Stakeholders need open minds, dedication and enthusiasm to enhance performance. Crucially, however, the level of agricultural project performance depends on allowance for flexibility: on being able to change project schedule, determine who the stakeholders are, collect information, understand expectations, learn the most suitable way to communicate information and build trust, ownership and participation. The fact that model farmers and other stakeholders of agricultural projects tend to be heterogeneous and others homogeneous, then developing competitive teams in different clusters especially at village and sub-county levels is absolutely the way to go if we are to improve performance of agricultural projects. For a group of model farmers that do not have similar characteristics, then engaging them requires clustering farmers in small groups so as to elicit knowledge creation and acquisition, knowledge dissemination and responsiveness to knowledge in order to improve performance of agricultural projects. The collaboration and coordination of governmental officials, project coordinators, model farmers and project

	Model 1		Model 2		Model 3	
Variable	Std. β	SE	Std. β	SE	Std. β	SE
Intercept	2.36**	0.28	0.80**	0.29	0.56**	0.27
Project age	0.25*	0.10	0.23*	0.09	0.18	0.09
Stakeholder engagement			0.53**	0.09	0.27**	0.06
Knowledge management					0.38**	0.05
R	0.13		0.50		0.59	
R^2	0.02		0.25		0.35	
Adjusted R^2	0.01		0.24		0.34	
ΔR^2	0.02		0.23		0.10	
F-change	5.80		104.01		51.26	
Sig. F-change	0.02		0.00		0.00	
df	340		339		330	
F	5.80		55.8		59.79	
Sig.	0.02		0.00		0.00	
n (1 per project)	342		342		342	

Notes: Dependent variable: performance of agricultural projects. *,**Regression is significant at the 0.05, and 0.01 level (two-tailed), respectively

Table II. Hierarchical regression analysis results

team is a sure way to start engagement processes so as to have continuous enhancement of agricultural performance outcomes in Sub-Saharan Africa.

Findings also indicate a positive and significant predictive potential of knowledge management on performance of agricultural projects and thus conforming to *H2*. Knowledge has become the primary source of wealth and consequently, leading to knowledge age. This was supported by earlier scholars like Lee and Tsai (2005) and Kamya *et al.* (2010). Projects gain new knowledge by acquisition of knowledge from other partners and also gain knowledge by creating new knowledge through relationships with other partners or organizations. This indicates that a project that collects knowledge, disseminates the acquired knowledge and responds appropriately is expected to gain sustainable project performance. Delay effectiveness, cost effectiveness and quality relevance of project deliverables will be improved through improved knowledge management as justified by analyzed results. Therefore the results indicate that capabilities and competences of stakeholders significantly boost agricultural project performance. The findings further justify that the knowledge required by agricultural projects is created, managed, stored and disseminated to different stakeholders. This is through continuous managerial training programs. Knowledge is one of the important ingredients of agricultural projects in developing countries especially Uganda. When the performance of these agricultural projects is recommendable, this could probably indicate wealth creation process in the economy. Increasing knowledge management of agricultural projects in developing countries is crucial for reducing poverty levels and improve household incomes of people involved in agricultural projects.

Conclusion

In conclusion, knowledge management and stakeholder engagement are significant predictors of performance of agricultural projects. The project team, model farmers and other stakeholders of agricultural projects should be equipped with both tacit and explicit knowledge and involved in the decision making process for the success of the projects.

Managerial and policy implications

Based on the findings, a number of managerial implications of the study were identified such as: creating a balance between stakeholder engagement and knowledge management so as to enhance performance of agricultural projects. Since agricultural projects have a growth and development cycle, model farmers need to continuously acquire knowledge, disseminate this knowledge and apply it at every stage of project life cycle especially in Sub-Saharan Africa where agricultural projects are still at embryonic stage.

This study reveals policy implications in terms of assessment procedures and remuneration of project team and other stakeholders of agricultural projects. The need to bridge the knowledge management gap for Sub-Saharan Africa is currently taken as a necessity. This inherently helps countries like Uganda to undergo metamorphosis or transformation and break the viscous cycle of poverty. This is possible if the government of Uganda in addition to funding the agricultural projects develops a policy on knowledge management and stakeholder engagement.

Recommendations

The following recommendations of the study were made basing on findings, discussions and conclusions of the study:

(1) Project managers should equip farmers with innovative ideas on how to improve project quality, minimize costs and manage project scope through knowledge

acquisition, dissemination and responsiveness so as to continuously create value for the projects. This will enhance value creation, effectiveness, efficiency and sustained performance of the agricultural projects. The findings affirm that there is need to enhance competences through knowledge dissemination, internalization so as to improve on the quality of agricultural projects. This will transform the rural community through increased earnings from value of products.

(2) Furthermore, basing on the findings, stakeholder engagement is another predictor of performance of agricultural projects. This means that there is need to engage project team and other stakeholders both primary and secondary stakeholders in the decision-making process and in all tasks of the project life cycle phases especially at implementation level.

(3) We also advance the need to develop a holistic model that creates bondage of engagement and knowledge creation in agricultural projects in Sub-Saharan Africa.

Limitations and areas for further research

This study has some inherent limitations which include; a cross-sectional research design, which restricts us from studying causal relationships among the variables. The behaviors of the variables over a long time could not be completely analyzed which restricted the applicability of the findings as a longitudinal study may give different results from the ones that were obtained. Second, the study does not focus on the role played by knowledge management such knowledge accumulation and knowledge integration. Larger projects tend to invest resources in knowledge management. However; this was overcome by expanding the scope of the study in two districts.

Further research may focus on; managerial competencies and performance of agricultural projects using a longitudinal research design. Research should also be undertaken to explore the concept of knowledge management in other contexts such as educational institutions, financial institutions among others. This follows from the relatively scarce studies that have been made on the concept of knowledge management in these areas.

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(The Appendix follows overleaf.)

Appendix

Table AI. Number of projects per county

Sub-county per project	Projects	Valid %	Cumulative %
Naggalama	11	3.2	3.2
Kimmenyedde	23	6.7	9.9
Kalajji	28	8.2	18.1
Nakisunga	11	3.2	21.3
Gomma	31	9.1	30.4
Lugazi	19	5.6	36.0
Nkokonjeru	14	4.1	40.1
Najjembe	14	4.1	44.2
Namma	28	8.2	52.3
Nabbale	26	7.6	59.9
Kyampissi	29	8.5	68.4
Nansana	10	2.9	71.3
Nakifuma	16	4.7	76.0
Nyenga	23	6.7	82.7
Ntenjeru	14	4.1	86.8
Seeta Namagunga	10	2.9	89.8
Nangabo	17	5.0	94.7
Kasawo	18	5.3	100.0
Total	342	100.0	

	Frequency	%	Cumulative %
Years of operation			
Less than 2 years	23	6.7	6.7
2-5 years	83	24.3	31
Over 5 years	236	69.0	100
Gender			
Male	259	75.7	75.7
Female	83	24.3	100
Age			
Under 20 years	11	3.2	3.2
20-29 years	48	14	17.3
30-39 years	115	33.6	50.9
40-49 years	138	40.4	91.2
Above 49 years	30	8.8	100
Level of education			
Certificate	228	66.7	66.7
Diploma	64	18.7	85.4
Degree	39	11.4	96.8
Masters	11	3.2	100
Period spent in organization			
Less than 1 year	35	10.2	10.2
1-2 years	66	19.3	29.5
3-5 years	115	33.6	63.2
6-10 years	96	28.1	91.2
Over 10 years	30	8.8	100
Respondent category			
Project coordinator	110	32.2	32.2
Project team	112	32.7	64.9
Model farmer	78	22.8	87.7
Government official	42	12.3	100
Total	342	100	

Table AII.
Descriptive statistics

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