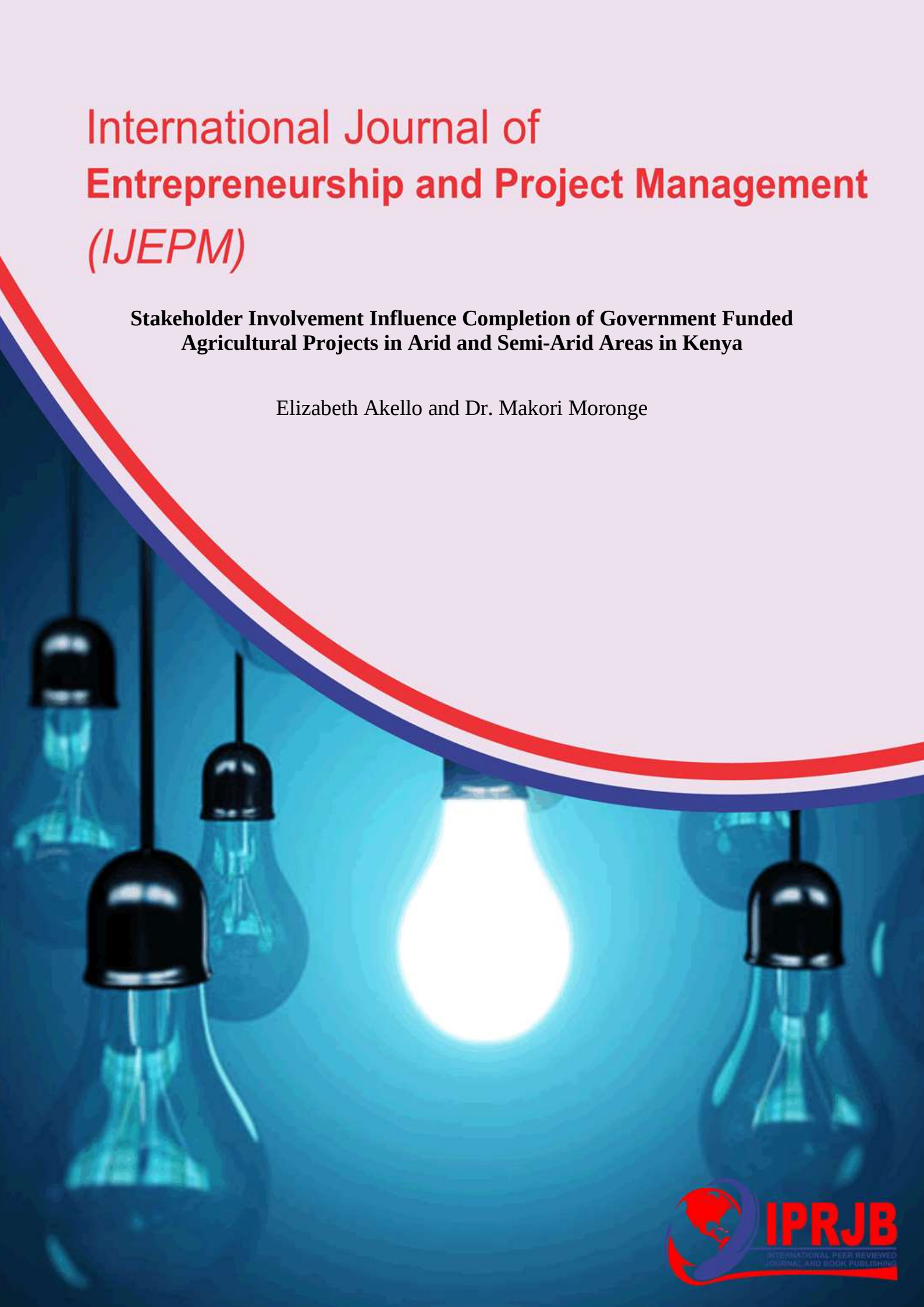
International Journal of
Entrepreneurship and Project Management
(IJEPM)

Stakeholder Involvement Influence Completion of Government Funded Agricultural Projects in Arid and Semi-Arid Areas in Kenya

Elizabeth Akello and Dr. Makori Moronge



IPRJB
INTERNATIONAL PEER REVIEWED JOURNAL AND BOOK PUBLISHING

International Journal of Entrepreneurship and Project Management
ISSN 2518-2838(Online)
Vol.8, Issue 2, No.1. pp 1 - 12, 2023

www.iprjb.org

Stakeholder Involvement Influence Completion of Government Funded Agricultural Projects in Arid and Semi-Arid Areas in Kenya

Elizabeth Akello

Master's Student: Jomo Kenyatta University of Agriculture and Technology

Dr. Makori Moronge

Jomo Kenyatta University of Agriculture and Technology

Article History

Received 10th September 2023

Received in Revised Form 21st September 2023

Accepted 6th October 2023

How to cite in APA format:

Akello, E., & Moronge, M. . (2023). Stakeholder Involvement Influence Completion of Government Funded Agricultural Projects in Arid and Semi-Arid Areas in Kenya. *International Journal of Entrepreneurship and Project Management, 8*(2), 1–12. https://doi.org/10.47604/ijepm.2132

Abstract

Purpose: The aim of the study was to find out how stakeholder participation influence completion of government funded agricultural projects in Arid and Semi-Arid Areas in Kenya.

Methodology: The study adopted a descriptive research design. Census was used to select a total of 109 projects and respondents from the various projects identified in the study area. The study involved the use of questionnaire method to collect data. . Secondary data was collected by a study of records and documents in various departments in the firm involved in public projects management. Qualitative data was analyzed by use of content analysis. Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS) version 22 and excel. Frequencies and percentages were also used to present the data.

Findings: The study concludes that stakeholder involvement is the first important factor that influence completion of government funded agricultural projects in arid and semi-arid areas The regression coefficients of the study show that stakeholder involvement has a significant influence on completion of government funded agricultural projects in arid and semi-arid areas. This shows that stakeholder involvement has a positive influence on completion of government funded agricultural projects in arid and semi-arid areas in the study area.

Unique Contribution to Theory, Practice and Policy: Stakeholders theory may be used to anchor future studies on stakeholder's involvement in government funded agricultural projects. The study recommends for enhancement of stakeholder involvement in the projects. There is need to develop stakeholder plans that describe the project stakeholder requirements.

Keywords: *Stakeholder's Involvement, Government Funded Agricultural Projects, Arid and Semi-Arid Areas*

INTRODUCTION

Government-funded agricultural projects are initiatives that aim to improve the productivity, profitability, and sustainability of the agricultural sector. These projects can have various objectives, such as enhancing food security, reducing poverty, promoting innovation, mitigating climate change, and fostering rural development. However, not all government support to agriculture is efficient or effective, and some forms of support can have negative impacts on the environment, health, and trade. According to the OECD, government support to agriculture in 54 countries amounted to USD 817 billion annually over the 2019-21 period, a 13% increase from 2018-20. This support accounted for 15% of the total value of agricultural production in these countries. However, only 13% of this support was directed at general services that benefit the sector as a whole, such as research and development, infrastructure, and inspection. The majority of the support (87%) consisted of measures that distorted prices and production decisions, such as tariffs, subsidies, and price guarantees. These measures can harm the environment by encouraging overuse of inputs, such as fertilizers and pesticides, and by reducing incentives for innovation and adaptation. They can also harm health by lowering the quality and diversity of food available to consumers and by increasing the risk of obesity and chronic diseases. Furthermore, they can harm trade by creating unfair competition and market distortions (OECD, 2022).

One way to assess the impact of government-funded agricultural projects is to use statistics to show trends in key indicators, such as agricultural output, income, employment, trade, and environmental outcomes. For example, according to the OECD (2022), government support for agriculture in 54 countries reached an average of USD 817 billion annually over the 2019-21 period, which represents 15% of total agricultural production value. However, most of this support (87%) consisted of measures that distorted prices and harmed nature and health, such as import tariffs, export subsidies, and fiscal subsidies tied to specific commodities or inputs. The OECD (2022) suggested that repurposing these incentives to align with the 2030 Sustainable Development Goals and the UN Decade of Ecosystem Restoration could generate significant benefits for farmers, consumers, and the planet.

Government funded agricultural projects in arid and semi-arid areas (ASALs) are aimed at enhancing the resilience and livelihoods of the people living in these regions, as well as harnessing the potential of these lands for economic development. The United States Department of Agriculture (USDA) supports research and extension activities on water management, crop production, pest control, and soil conservation in arid and semi-arid regions of the US, such as the Southwest and the Great Plains (USDA, 2021). The USDA's research and extension activities also aim to enhance the sustainability and resilience of agricultural systems in arid and semi-arid regions of the US, where water scarcity, drought, heat stress, and soil erosion are major challenges. Some of the specific goals of these activities include: developing improved irrigation technologies and practices, optimizing crop water use efficiency and quality, managing pests and diseases under variable climatic conditions, and promoting soil health and conservation practices. The USDA collaborates with various stakeholders, such as farmers, ranchers, universities, state and local agencies, and non-governmental organizations, to ensure that the research outcomes are relevant, applicable, and beneficial for the agricultural communities in these regions.

The Japan International Cooperation Agency (JICA) has implemented several projects to improve irrigation systems, introduce drought-tolerant crops, and promote agroforestry in arid

and semi-arid regions of Africa, Asia, and Latin America (JICA, 2019). One of the main challenges faced by many developing countries is the lack of water resources for agriculture, especially in areas affected by climate change and desertification. To address this issue, the Japan International Cooperation Agency (JICA) has implemented several projects to improve irrigation systems, introduce drought-tolerant crops, and promote agroforestry in arid and semi-arid regions of Africa, Asia, and Latin America. These projects aim to enhance the resilience and productivity of smallholder farmers, as well as to conserve the environment and biodiversity. Some of the achievements of these projects include: increasing crop yields and incomes, reducing soil erosion and water loss, diversifying livelihoods and food security, and strengthening local institutions and capacities.

The United Kingdom's Department for International Development (DFID) has funded various initiatives to strengthen the capacity of local institutions, enhance market access, and diversify income sources for smallholder farmers in arid and semi-arid regions of Kenya, Ethiopia, and Somalia (DFID, 2018). One of the main objectives of the DFID-funded projects is to improve the resilience and livelihoods of pastoral and agro-pastoral communities in the Horn of Africa. These projects aim to achieve this by supporting the development of sustainable and inclusive value chains, promoting climate-smart agricultural practices, and facilitating access to finance and insurance services. Some of the key outcomes of these interventions include increased crop and livestock productivity, reduced post-harvest losses, improved food security and nutrition, and enhanced social cohesion and conflict prevention.

The study by Golla (2021) also discusses the socio-economic factors that affect the adoption of sustainable agricultural practices in arid and semi-arid regions. Some of these factors include farmers' knowledge, attitudes, preferences, access to credit, market linkages, institutional support, and policy incentives. The study suggests that enhancing farmers' capacity, improving extension services, creating enabling environments, and promoting participatory approaches are essential for scaling up sustainable agriculture in these regions.

The SATDAS project is a pioneering initiative that seeks to enhance food security and environmental sustainability in ASALs (Mohammed Bin Rashid Initiative for Global Prosperity, 2023). By partnering with local farmers and communities, The Source Plus provides them with access to cutting-edge technologies that can boost their agricultural productivity and resilience. These technologies include solar-powered irrigation systems that can pump water from underground sources, drip irrigation kits that can deliver water and nutrients directly to the plant roots, smart greenhouses that can create optimal microclimates for crop growth, and organic fertilizers that can enrich the soil and reduce chemical pollution. The SATDAS project not only improves crop yields and quality, but also preserves the ecosystem and biodiversity of ASALs, which are under threat from climate change and land degradation.

According to the World Food Programme (WFP), the Bridging Relief and Resilience in the Arid and Semi-Arid Lands (BRRASAL) project aims to reduce hunger and vulnerability among 1.3 million people in 14 ASAL counties in Kenya. It provides cash transfers, food assistance, nutrition support, asset creation, livelihood diversification, disaster risk reduction, and capacity building for county governments. The project is part of WFP's Country Strategic Plan in Kenya from 2019 to 2023, which seeks to support the government's efforts to achieve zero hunger and sustainable development (WFP, 2019).

Another example of government-funded agricultural projects is the Kenya Climate Smart Agriculture Project (KCSAP), which is supported by a USD 250 million loan from the World

Bank. The project aims to help 500,000 smallholder farmers in 24 counties to enhance value addition and access markets for their products. The project also seeks to improve resilience to climate change and reduce greenhouse gas emissions from agriculture. According to the World Bank (2022), the project has achieved positive results in terms of increasing crop yields, diversifying income sources, strengthening farmer organizations, and promoting climate-smart practices.

The State Department for the ASALs and Regional Development (SDARD) of Kenya coordinates the planning and development of policies for arid and semi-arid lands in the country. It has prioritized the areas of resilience building, socio-cultural integration, and governance. It also oversees the implementation of several projects funded by the World Bank, the European Union, the African Development Bank, and other partners. The SDARD was established in 2022 through Executive Order No. 1 as part of the reorganization of the Government of Kenya (Ministry of East African Community, ASALs And Regional Development, n.d.). The ASALs cover 89% of Kenya's land area and host 38% of its population, as well as significant natural resources and potential for renewable energy (ASALS, n.d.). The SDARD aims to harness these opportunities and address the challenges faced by the ASAL regions, such as poverty, insecurity, climate change, and marginalization (ASALS, nd).

Ochieng (2020) studied Kenya Climate Smart Agriculture Project (KCSAP), which aimed to increase agricultural productivity and resilience to climate change. The study examined how stakeholder engagement, including farmers, extension officers, local authorities, and NGOs, contributed to the project's outcomes and challenges. The study used mixed methods, such as interviews, surveys, focus groups, and document analysis. The findings revealed that stakeholder involvement enhanced the project's relevance, effectiveness, efficiency, and sustainability, but also faced some barriers, such as inadequate communication, coordination, and capacity building. The study recommended that future projects should strengthen stakeholder participation, communication, monitoring, and evaluation.

Mwamakimbula (2019) did a comparative analysis of the Participatory Irrigation Development Project (PIDP) and the Smallholder Horticulture Empowerment Project (SHEP) in Tanzania, which aimed to improve irrigation infrastructure and market access for smallholder farmers. The study explored how stakeholder involvement, including beneficiaries, local governments, private sector, and donors, influenced the project's performance and sustainability. The study used a qualitative approach, such as interviews, observations, and document review. The findings showed that stakeholder involvement varied across the two projects, with PIDP having more top-down and SHEP having more bottom-up approaches. The study suggested that stakeholder involvement affected the project's ownership, accountability, responsiveness, and innovation. The study recommended that future projects should balance stakeholder interests, roles, and responsibilities.

Kassie (2018) did a longitudinal evaluation of the Sustainable Land Management Project (SLMP) in Ethiopia, which aimed to reduce land degradation and improve livelihoods of rural communities. The study assessed how stakeholder involvement, including beneficiaries, community organizations, local governments, research institutions, and development partners, influenced the project's impact and sustainability. The study used a quantitative approach, such as household surveys, biophysical measurements, and econometric analysis. The findings indicated that stakeholder involvement increased the project's adoption rate, cost-effectiveness,

environmental benefits, and social capital. The study also identified some challenges, such as weak institutional arrangements, limited technical support, and insufficient financial resources. The study recommended that future projects should enhance stakeholder collaboration, capacity development, and resource mobilization.

Kariuki (2018) examined the role of stakeholder participation in enhancing the sustainability and effectiveness of government funded agricultural projects in Arid and Semi-Arid Areas (ASALs) in Kenya. The study adopted a mixed methods approach, combining quantitative and qualitative data collection and analysis. The study sampled 384 beneficiaries and 48 project staff from four agricultural projects in four ASAL counties. The data were collected using questionnaires, interviews, focus group discussions, and document review. The findings revealed that stakeholder participation had a positive and significant influence on the completion of the projects, as well as on their outcomes and impacts.

Njoroge (2016) also identified the challenges and opportunities for stakeholder participation in ASALs, such as lack of awareness, inadequate resources, cultural barriers, political interference, and environmental factors. The study recommended that the government should enhance stakeholder participation by improving communication, capacity building, empowerment, accountability, and feedback mechanisms. The study also suggested that further research should be done on the best practices and models of stakeholder participation in ASALs.

Statement of the Problem

Kassie and Kariuki study provides a contextual gap as there is lack of comparative analysis between different types of stakeholder participation and their effects on project sustainability and effectiveness. Both studies focused on the general role of stakeholder participation, but did not explore how different forms, levels, and mechanisms of participation influenced the project outcomes and impacts.

In Marsabit County, according to a report by the International Fund for Agricultural Development (IFAD, 2016), only 31 out of 109 agricultural projects funded by the government 2015 and 2016 were completed successfully. The main reason for the failure of the majority of the projects was the lack of adequate monitoring and evaluation activities. The World Bank (2016) also emphasized the importance of having effective information and control systems for the successful implementation of agricultural funded projects, as they enable faster and more accurate data processing, problem solving and decision making.

Despite the high low rate of completion of agricultural projects in Marsabit 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 monitoring and evaluation on completion of the government funded agricultural projects in Kenya. This has posed a knowledge gap, which this study sought to fill.

Theoretical Review

Stakeholder Theory

This theory argues that a company or an organization should consider the interests and needs of all its stakeholders, not just the shareholders or investors, in order to create value and achieve long-term success. Stakeholders include employees, customers, suppliers, local communities, creditors, and others who are affected by or can affect the organization's activities. The theory was developed by various scholars, such as R. Edward Freeman, Ian Mitroff, and Klaus

Schwab, in the 1970s and 1980s. The theory is relevant to the suggested topic because it can help to understand how stakeholder involvement can enhance the effectiveness, efficiency, and sustainability of agricultural projects in arid and semi-arid areas, as well as how to balance the diverse and sometimes conflicting interests of different stakeholder groups. (Freeman, 2010)

Stakeholder Engagement Theory

This theory focuses on the process of engaging stakeholders in dialogue, consultation, collaboration, and participation in decision-making and problem-solving. The theory suggests that stakeholder engagement can improve the quality, legitimacy, and acceptability of decisions and outcomes, as well as foster trust, learning, and innovation among stakeholders. The theory draws on various disciplines, such as communication, psychology, sociology, and management. The theory is relevant to the suggested topic because it can help to explore how stakeholder engagement can facilitate the implementation, monitoring, and evaluation of agricultural projects in arid and semi-arid areas, as well as how to overcome the challenges and barriers of stakeholder engagement in complex and uncertain contexts. (Reed, 2017)

Research Gaps

The literature review of studies done in Kenya demonstrates that the explored past studies draw much emphasis on the management practices, project life cycle and sustainability of agricultural projects, however they do not explain the factors affecting completion of government funded agricultural projects. The study by, Iyer and Jha (2005) identified many factors as having influence on project cost performance, these includes : project managers competence, top management support ,project managers coordinating and leadership skills, monitoring and feedback by participants, decision making , coordination among project participants owner's competence ,social condition ,economic condition and climatic conditions.. Therefore a gap exists for research on completion of government funded agricultural projects

METHODOLOGY

This study used a descriptive research design. The target population comprised of 109 government funded agricultural projects in Marsabit County completed between 2011 and 2015. The study used census since the population of 109 is small and the study aims to reach all the projects. The study used questionnaire as the research instrument. The study utilized quantitative and qualitative questionnaire that was developed for generating information on key variables of interest from the targeted respondents in this study. Secondary data was collected by a study of records and documents in various departments in the firm involved in public projects management. Qualitative data was analyzed by use of content analysis. Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS) version 22 and excel. Frequencies and percentages were also used to present the data.

RESULTS

Demographic Information

Gender Distribution

The research went further to establish the gender of the respondents. As indicated in Table 1, a majority 60% were male respondents while the rest 40% were female respondents. The results indicate that the two genders were adequately represented in the study since there is none which

was more than the two-thirds. However, this statistics show that the male gender could be dominating in the projects in the study area. The above results may be attributed to the strong male domineering culture in Kenya where until recently women were relegated to domestic chores. This culture is dying off and a large population of women population is now strongly competing with their male counterparts in most jobs (Amondi, 2011). The percentages may raise the issue of gender parity in the projects in the area of study; but that is outside the scope of the present study.

Table 1: Respondents Gender Distribution

Gender	Frequency	Percentage	Cumulative Percentage
Male	48	60	60
Female	32	40	100
Total	**80**	**100**	

Age Distribution

The study went further to establish the distribution of the respondents' ages. The findings were as indicated in Table 2. From the findings, majority (55%) indicated that they ranged between 41-50 years, followed by those who indicated that they are 51 and above years at 35% with few (15%) and (5%) and indicating that they were 31-40 years and 20-30 years respectively. This implies that respondents were well distributed in terms of their age during the study. The findings are in agreement with those of Salthouse, (2012) who established that there are two natural age peaks of the late 40s and mid 50s which are correlated to work of an employee. The two peaks fall in both the two age brackets used in this study and they contribute significantly to completion of projects in the study area.

Table 2: Respondents Age Distribution

Age(years)	Frequency	Percentage	Cumulative Percentage
20-30	4	5	5
31-40	12	15	20
41-50	35	45	65
51+	26	35	100
Total	**80**	**100**	

Respondents Level of Education

The respondents were requested to indicate their highest level of academic qualifications. The study established that majority (85%) indicated that they had primary, followed by those who indicated that they had secondary level (13%), certificate holders comprised 2% of the respondents, with a few (0%) indicating that they had a master's degree. This implies that respondents were not well educated and that they were not in a position manage the projects effectively. The findings therefore indicate that the respondents have the capacity, skills and expertise to apply in day to day running of projects in the study area. Crook (2011) associated the education level of managers with findings that, those with higher levels of education perform better because higher education provides them with knowledge and skills, making them more conscious of their responsibilities and thus being in a position to use their knowledge to enhance completion of projects.

Table 3: Respondents Level of Education

Education Level	Frequency	Percentage	Cumulative Percentage
Masters	0	0	0
Bachelors	1	13	13
Diploma	68	85	98
Certificate	12	2	100
Total	**80**	**100**	

Descriptive Statistics

The study sought to establish the influence of stakeholder involvement on completion of government funded agricultural projects in Arid and semi-arid areas of Kenya. Respondents were thus asked to indicate the extent to which they agreed with various statements relating to stakeholder involvement and its influence on completion of government funded agricultural projects in Arid and semi-arid areas of Kenya. Responses were given on a five-point scale where: 1= Very small extent; 2= Small extent 3= Moderate extent; 4 = Great extent; 5= Very great extent. The scores of 'Very small extent' and 'Small extent' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Moderate extent' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'Great extent' and 'Very great extent' have been taken to represent a statement great extent upon equivalent to a mean score of 3.5 to 5.0.

The study findings in Table 4 the respondents indicated to a great extent that he management consults with the stakeholders on the implementation of the project activities (3.245); The management involves the project team in the project strategy planning and formulation (4.321); The management communicates the project expectations to all its stakeholders (3.242); The management obeys the decision developed by the stakeholders and adheres to the provisions of project rules and regulations in its operations (2.898); The organization meets the legal requirements to ensure that there is streamlined project implementation (3.987); The management consults with the stakeholders on the strategy implementation (2.890). The study findings are in agreement with literature review by Rendieve (20120 who established that stakeholder management of projects can determine the completion of the projects.

Table 4: Stakeholder Involvement

Statement	Mean	Std
The management consults with the stakeholders on the implementation of the project activities	3.245	1.234
The management involves the project team in the project strategy planning and formulation	4.321	1.234
The management communicates the project expectations to all its stakeholders	3.242	1.456
The management obeys the decision developed by the stakeholders and adheres to the provisions of project rules and regulations in its operations	2.898	1.346
The organization meets the legal requirements to ensure that there is streamlined project implementation	3.987	1.235
The management consults with the stakeholders on the strategy implementation	2.890	1.110

Completion of Projects

On the extent to which completion of projects in the study area in terms of finish in time, within budget and scope. The data was collected from the different indicators of the variable completion of projects which was ordinal categorical. The data was therefore presented in frequency tables with the median being used as the appropriate measure of central tendency. The results were presented in Table 5. The first indicator for the dependent variable required to know what the project's completion in terms of finished within time was, 5% of the respondents had 0% , 35% had less than 10%, 20% stated 20-30% , 15% indicated 30-40% , 15% posited 31-40%, 10% indicated over 40% The mode was found to be 2 which imply that on average the most of the project's completion in time is less than 10%. The next indicator required the respondents to state level of completion of projects within budget, 25% of the respondents had 0% , 45% had less than 10%, 10% stated 20-30% , 0% indicated 30-40% , 5% posited 31-40%, 15% indicated over 40% The mode was found to be 2 which imply that on average the most of the project's completion within budget is less than 10%. When the respondents were asked what the level of completion of projects within scope was, 30% of the respondents had 0% , 55% had less than 10%, 15% stated 20-30% , 5% indicated 30-40% , 5% posited 31-40%, 0 % indicated over 40% The mode was found to be 2 which imply that on average the most of the project's completion within scope is less than 10%.

Table 5: Completion of Projects

	0%	Less than 10%	10-20%	21-30%	31-40%	Above 40%	Mode
Finish in Time	5%	35%	20%	15%	15%	10%	2
Within Budget	25%	45%	10%	0%	5%	15%	2
Within Scope	30%	55%	15%	5%	5%	0%	2

Further, based at 5% level of significance, stakeholder involvement was found to have a calculated t =7.780 (greater than the tabulated value of t > 1.96) and a significance level of 0.000 thus the value of less than 0.05.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The study established that stakeholder involvement affect completion of government funded agricultural projects in arid and semi-arid areas in Kenya. The study findings in indicated to a great extent that he management consults with the stakeholders on the implementation of the project activities. The management involves the project team in the project strategy planning and formulation. The management communicates the project expectations to all its stakeholders. The management obeys the decision developed by the stakeholders and adheres to the provisions of project rules and regulations in its operations. The organization meets the legal requirements to ensure that there is streamlined project implementation. The management consults with the stakeholders on the strategy implementation.

Conclusions

The study concludes that stakeholder involvement is the first important factor that influence completion of government funded agricultural projects in arid and semi-arid areas The regression coefficients of the study show that stakeholder involvement has a significant influence on completion of government funded agricultural projects in arid and semi-arid areas. This shows that stakeholder involvement has a positive influence on completion of government funded agricultural projects in arid and semi-arid areas in the study area.

Recommendations

Based on the study findings, the study found out that stakeholder involvement as the major factors that mostly affect completion of government funded agricultural projects in arid and semi-arid areas in Kenya and suggest the following recommendations. The study recommends for enhancement of stakeholder involvement in the projects. There is need to develop stakeholder plans that describe the project stakeholder requirements.

REFERENCES

ASALS. (n.d.). About ASALS. Retrieved October 2, 2023, from https://asals.go.ke/about-asals/ DOI: https://doi.org/10.1000/182

DFID. (2018). Building resilience and adaptation to climate extremes and disasters programme: Endline impact evaluation report. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765291/BRACED-endline-report.pdf

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & de Colle, S. (2010). Stakeholder theory: The state of the art. Cambridge University Press.

Golla, B. (2021). Agricultural production system in arid and semi-arid regions. International Journal of Agricultural Science and Food Technology, 7(2), 234-244. https://doi.org/10.17352/2455-815X.000113

IFAD. (2016). *Kenya: Marsabit County Integrated Development Programme*. Retrieved from https://www.ifad.org/en/web/operations/project/id/1100001400

Irungu, P. (2009). The role of agricultural projects in poverty reduction: A case study of Makueni district, Kenya. Unpublished master's thesis, University of Nairobi, Kenya.

JICA. (2019). JICA's cooperation for arid lands. https://www.jica.go.jp/english/publications/brochures/c8h0vm0000f6xjyq-att/arid_lands.pdf

Kariuki, J., & Ngugi, P. (2018). Stakeholder participation and sustainability of government funded agricultural projects in arid and semi-arid lands of Kenya. International Journal of Development and Sustainability, 7(6), 2010-2025.

Kassie, M., Fisher, M., Muricho, G., & Diiro, G. (2018). Women's empowerment boosts the gains in dietary diversity from agricultural technology adoption in rural Kenya. Food Policy, 79, 115-124.

Ministry of East African Community, ASALs And Regional Development. (n.d.). The Ministry at a GLance. Retrieved from https://meac.go.ke/

Mohammed Bin Rashid Initiative for Global Prosperity. (n.d.). Sustainable Agri-Tech Devolpment in Arid and Semi-Arid Areas (SATDAS). Retrieved October 2, 2023, from https://www.makingprosperity.com/solutions-details/sustainable-agri-tech-devolpment-in-arid-and-semi-arid-areas-satdas

Mwamakimbula, A., Kajisa, K., & Balana, B. (2019). A comparative analysis of the Participatory Irrigation Development Project (PIDP) and the Smallholder Horticulture Empowerment Project (SHEP) in Tanzania. International Journal of Agricultural Sustainability, 17(1), 55-68.

Mwangi, E., & Kimani, N. (2017). Influence of stakeholder involvement on completion of donor funded projects in arid and semi-arid lands in Kenya: A case of world vision funded projects in Samburu County. International Academic Journal of Information Sciences and Project Management, 2(3), 34-52.

Njoroge, J., Gathungu, J., & Kariuki, S. (2016). Effect of stakeholder involvement on performance of constituency development fund projects in Kenya: A case study of Mbeere South Constituency. European Journal of Business and Management, 8(23), 112-121.

Ochieng, J., Kirimi, L., Ochieng, D.O., Njagi, T., Mathenge, M., Gitau, R., Ayieko, M. (2020). Managing climate risk through crop diversification in rural Kenya. Climatic Change, 162, 2193–2215. https://doi.org/10.1007/s10584-020-02727-0

Reed, M. S., Stringer, L. C., Fazey, I., Evely, A. C., & Kruijsen, J. H. (2014). Five principles for the practice of knowledge exchange in environmental management. Journal of environmental management, 146(1), 337-345.

USDA. (2021). Arid lands agricultural research center. https://www.ars.usda.gov/pacific-west-area/maricopa-arizona/alarc/

WFP. (2019). WFP Kenya - Country Strategic Plan. Retrieved from https://docs.wfp.org/api/documents/WFP-0000108334/download/

World Bank. (2016). *Agricultural Innovation Systems: An Investment Sourcebook*. Retrieved from https://openknowledge.worldbank.org/handle/10986/2244