

## Impact of Funding on Performance of Agricultural Extension Services in Bomet, Kenya: Case of Community-Based Organizations

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### ABSTRACT

*The objective of this study is to assess the impact of funding on the performance of community-based organizations (CBOs) in delivering agricultural extension services in Bomet Central Sub County, Kenya. Specifically, the study aims to explore the relationship between funding and the capacity of CBOs to deliver extension services. A cross-sectional survey design was used to collect data from 327 respondents, including CBO members and officials. A systematic random sampling method was used to select respondents, and descriptive statistics revealed that a majority of respondents believed that the current funding for agricultural extension programs was inadequate and that increasing funding would significantly enhance the performance of CBOs in delivering extension services. Furthermore, lack of funding was identified as a hindrance to the provision of effective extension services by CBOs. The results of the multiple linear regression analysis demonstrated that community funding had a significant positive influence on CBO performance, accounting for 67.1% of the variations in performance ( $t = 2.149, p < 0.05$ ). These findings highlight the crucial role of funding in supporting CBOs in delivering comprehensive and timely extension services and emphasize the need for increased financial support to enhance agricultural productivity and reduce poverty and food insecurity in rural communities. This study contributes to the existing literature by specifically exploring the relationship between funding, CBOs, and agricultural extension services and providing recommendations for improving funding mechanisms to enable CBOs to fulfill their potential as catalysts for sustainable rural development.*

**Keywords:** Agricultural Extension Services, Bomet Central Sub County, Funding of CBOs

### I. INTRODUCTION

In the pursuit of sustainable rural development and increased agricultural productivity, the provision of agricultural extension services assumes utmost importance. These services are pivotal in facilitating the dissemination of knowledge and effectively bridging the existing gap between farmers and agricultural extension agents. Fleming (2019) explained that the significant part of this equation lies in the vital role that community-based organizations (CBOs) play in bringing together the necessary resources and expertise. However, the effectiveness of CBOs in providing agricultural extension services is undeniably influenced by one critical factor: funding. By delving into the realm of funding for CBOs and its implications for rural communities, specifically in Bomet County, this study seeks to reveal the true impact these financial resources have on the provision of agricultural extension services. But before we embark on this exploration, let us first embrace the fundamental definition of agricultural extension services and its evolution from the traditional government-led approach to the inclusive involvement of CBOs.

CBOs are the invisible superheroes of rural communities, tirelessly working to ensure the success and prosperity of farmers. Verma and Sinha (2018) asserted that, with their vital role in fostering community participation and building trust, these organizations not only empower farmers but also facilitate the adoption of new agricultural technologies. Acting as intermediaries, CBOs connect farmers with agricultural extension agents, research institutions, government programs, and other stakeholders, creating a network of support and opportunity. But their impact goes far beyond mere connections. CBOs go above and beyond to uplift farmers and enhance their skills. These dedicated organizations organize training workshops, establish demonstration farms, and even establish farmer field schools, providing a holistic approach to agricultural education. Moreover, they play a crucial role in ensuring farmers' access to inputs, credit, and marketing channels, ensuring their products reach the right markets at the right time.

Yet, the effectiveness of CBOs is not without challenges. As Ruzzante et al. (2011) emphasize, funding availability is a pivotal factor influencing their capabilities. Without adequate financial resources, CBOs face

limitations in delivering quality extension services and fail to reach their full potential. Insufficient funding can hinder their outreach, compromising the sustainability of their programs. This highlights the urgent need for support and investment in these organizations to unleash their full potential and unleash a wave of transformation in agricultural communities. To ensure the seamless provision of agricultural extension services, CBOs heavily rely on financial support. Adequate funding is essential to support the infrastructure, human resources, training programs, and outreach activities of these organizations. With the necessary resources, CBOs can expand their reach and deliver quality services to a larger number of farmers (Elahi et al., 2018). By investing in the financial stability of CBOs, we can create a solid foundation for the sustainable growth of agricultural communities.

Imagine a world where CBOs have access to abundant funding. Farmers, equipped with the latest agricultural technologies and knowledge, thrive in their fields. They have easy access to training programs, inputs, credit, and marketing channels, enabling them to maximize their productivity and income. According to Norton and Alwang (2020), CBOs, supported by a robust financial framework, become the pillars of progress and prosperity, driving rural development and overall economic growth. The transformative power of CBOs lies within our grasp. By recognizing their crucial role and providing the necessary financial resources, we can empower these organizations to continue serving as the backbone of agricultural communities. It's time to invest in the unsung heroes of rural development and create a future where farmers flourish and agricultural innovation flourishes.

There is limited research specifically focusing on the influence of funding on community-based organizations (CBOs) and how it impacts the delivery of agricultural extension services. This lack of understanding hinders policymakers, development agencies, and stakeholders involved in promoting agricultural development and rural livelihood improvement. Pan et al. (2018) highlighted the need for research on the influence of funding on CBOs and its implications for agricultural extension services. Previous studies have examined various factors affecting the provision of agricultural extension services but failed to specifically address the role of funding for CBOs. This gap in knowledge indicates a need for further exploration into this specific aspect. The literature review revealed that previous studies have focused on factors affecting the provision of agricultural extension services, including the role of CBOs. However, none of these studies specifically explore the influence of funding on CBOs and how it impacts the delivery of agricultural extension services. This gap in the literature indicates that further research is needed to fully understand the relationship between funding, CBOs, and agricultural extension services.

### **1.1 Statement of the Problem**

Funding constraints hinder the ability of community-based organizations (CBOs) in Bomet Central Sub County to provide effective agricultural extension services, resulting in low agricultural output, increased poverty levels, and food insecurity in the region. Previous studies have found that inadequate agricultural extension services can contribute to low agricultural output, increased poverty levels, and food insecurity in a given region. For example, a study conducted in neighboring Kericho County found that farmers who received comprehensive agricultural extension services achieved higher crop yields compared to those who did not receive such support (Ogutu et al., 2020). This indicates that the lack of effective extension services can directly lead to low agricultural output.

Furthermore, research has consistently identified a strong correlation between agricultural productivity and poverty reduction. A study conducted in Kenya found that a 1% increase in agricultural productivity can result in a 0.4% reduction in poverty rates (Birch, 2018). This suggests that improving agricultural output is crucial for addressing poverty levels in Bomet Central Sub County. In terms of food security, data from the Kenya National Bureau of Statistics (KNBS) indicates that the prevalence of undernourishment in Bomet County, where Bomet Central Sub County is located, was 21.5% in 2019 (Korir et al., 2020).

This means that without adequate funding, CBOs struggle to fully address the unique needs and challenges faced by farmers in the region. The existing literature identifies the importance of agricultural extension services in improving agricultural productivity and reducing poverty. However, there is limited research specifically exploring the influence of funding on the provision of these services by CBOs in Bomet Central Sub County. Therefore, there is a need to explore the influence of funding on CBOs and how it impacts the delivery of agricultural extension services in Bomet central sub-county.

## **II. LITERATURE REVIEW**

### **2.1 Theoretical Literature Review**

This study is founded on the Resource Dependence Theory which provides a theoretical framework to understand and analyze the impact of funding on agricultural extension services in Bomet, Kenya. This theory helps establish the grounds for the study by highlighting the crucial role of resources, particularly financial resources, for the sustainability and success of community-based organizations (CBOs) involved in agricultural extension projects

(Biermann & Harsch, 2017). By emphasizing the need for CBOs to rely on external funding and manage their relationships with funders, the theory helps identify the key variables that influence the performance and outcomes of CBOs. In the context of this study, the theory highlights the importance of funding in enabling CBOs to carry out their extension activities effectively and achieve sustainable outcomes. It also underscores the significance of access to resources such as credit and land for supporting these activities.

Additionally, Celtekliligil (2020) highlighted that the Resource Dependence Theory informs the research methods employed in this study. Given the emphasis on understanding how funding impacts agricultural extension services, quantitative methods such as surveys and financial data analysis were used to examine the relationship between funding levels and the effectiveness of CBOs in delivering extension services. Qualitative methods, such as interviews and focus groups, can be employed to explore the perspectives and experiences of CBOs, funders, and beneficiaries regarding the influence of funding on the provision of agricultural extension services.

Overall, the Resource Dependence Theory serves as a foundational framework for this study, guiding the selection of research methods and providing insights into the importance of funding and access to resources in the context of agricultural extension services in Bomet, Kenya.

### 2.3 Empirical Literature

Danso-Abbeam et al. (2018) focus on the impact of funding on the motivation and performance of agricultural extension officers to gain insight from Northern Ghana. The study was conducted in different agricultural settings to gather a representative sample in Ghana. The findings of the study reveal that adequate funding positively influences the motivation and performance of agricultural extension officers. This is primarily because funding provides essential resources such as training, travel allowances, and equipment that enhance officers' productivity. The study also highlights a strong correlation between increased funding levels and improved farmer satisfaction and adoption rates of extension recommendations. These findings are relevant to the current study as they underline the importance of funding in supporting and empowering extension officers, ultimately leading to better outcomes for farmers. By ensuring sufficient funding, the current study aims to investigate how the motivation and performance of extension officers can be further improved, potentially through targeted training or support programs.

Buehren et al. (2017) explore the impact of funding cuts on agricultural extension services. The study was conducted in Ethiopia and focused on areas affected by funding cuts to agricultural extension services. The findings of the study demonstrate that funding cuts have a detrimental impact on extension services, leading to a reduction in the number of officers and limited coverage in rural and remote areas. This hampers farmers' access to necessary support, resulting in diminished agricultural productivity and knowledge transfer. These findings are relevant to the current study as they highlight the potential consequences of funding cuts on extension services. By understanding the negative impacts, the current study aims to advocate for sustained funding to prevent the decline of extension services and ensure continued support for farmers. Additionally, the current study may explore strategies and mechanisms to mitigate the effects of funding cuts, such as exploring alternative funding sources or establishing public-private partnerships.

Olayemi et al. (2021) specifically focus on Sub-Saharan Africa as the location for their investigation. The study explores the link between funding and training in agricultural extension. The findings of the study emphasize that adequate funding plays a crucial role in facilitating regular and high-quality training programs for extension officers. This enables them to acquire the updated knowledge and skills necessary for effectively assisting farmers in adopting new agricultural technologies, practices, and climate change adaptation measures. These findings are relevant to the current study as they highlight the importance of funding not only in supporting the day-to-day activities of extension officers but also in ensuring their continuous professional development. By understanding the link between funding and training, the current study can explore how funding allocation can be optimized to enhance training opportunities for extension officers, ultimately leading to improved agricultural outcomes for farmers.

A study by Ragasa and Mazunda (2018) in Malawi focuses on the economic analysis of public funding for agricultural extension services and encompasses a broader economic analysis of public funding for extension services across different regions. The findings of the study demonstrate that increased funding leads to positive returns on investment through higher agricultural productivity, increased farm income, and reduced poverty levels in the agricultural sector. Moreover, the study emphasizes the importance of efficient resource allocation to maximize the impact of funding on extension services. These findings are relevant to the current study as they highlight the economic benefits associated with adequate funding for agricultural extension services. By analyzing the economic impact of funding in the current study, the aim is to provide further evidence supporting the potential returns on investment in extension services. Additionally, these findings underline the significance of strategic resource

allocation to ensure that funding is maximized and directed towards priority areas that can yield the greatest benefits for farmers and the agricultural sector as a whole.

Marbaniang et al. (2020) focus on the role of public-private partnerships (PPPs) in funding agricultural extension services. Although the study does not specify a particular location, it explores the potential benefits of PPPs in different agricultural settings. The findings of the study highlight that PPPs can secure additional financial resources, improve efficiencies, and leverage expertise from both the public and private sectors. These collaborations can lead to increased investment in technological advancements, expanded outreach, and diversified services, thereby enhancing the overall effectiveness of agricultural extension services. These findings are relevant to the current study as they emphasize the potential of public-private partnerships as a source of additional funding for agricultural extension services. This suggests that exploring partnership opportunities and involving private sector stakeholders in the current study's context may provide alternative funding sources or support for enhancing the effectiveness of extension services.

Overall, the reviewed empirical studies consistently emphasize the pivotal role of funding in agricultural extension services. They provide insights into the relationship between funding and various aspects of extension work, including officer motivation and performance, service coverage, training opportunities, economic impact, and potential partnership opportunities. By critically analyzing these findings and relating them to the current study, the results will build a comprehensive understanding of the significance of funding in the current research context and make informed recommendations for policymakers and stakeholders.

### III. METHODOLOGY

#### 3.1 Overview of the study area

The study was conducted in Bomet County, which is located in Kenya and divided into five sub-districts. The county covers an area of 2037.4 km<sup>2</sup> and is known for its agriculture, particularly the cultivation of tea, pyrethrum, coffee, maize, and other crops. Dairy farming also plays a significant role in the region's economy. Bomet Central Sub County was chosen for the study due to its focus on subsistence agriculture and the presence of suitable soils for farming. The area also has a high population density and is known for the production of cash crops such as tea, coffee, and pyrethrum.

Horticulture and livestock production, including milk and beef cattle, are also important activities in the region. This study utilized a cross-sectional survey design to collect data. The design and methodology of the study were chosen to address the goal of increasing agricultural production and reducing poverty and hunger in the region. The focus on agricultural extension services, carried out by 25 CBOS, aimed to provide support and education to farmers to improve their farming techniques and yields.

#### 3.2 Population and Sample of the Study

The target population for the study consisted of 1,870 individuals. This population was divided into two groups: 1,798 active members of 25 community-based organizations (CBOs) who were primarily farmers benefiting from CBO services and engaged in agricultural activities, and 72 officials holding key positions within the CBOs who played significant roles in daily operations and decision-making processes. To determine the sample size, the Taro Yamane (1967) formula for calculating sample size was employed. With a population size of 1,798 and an accuracy level ( $e$ ) of 0.05 based on a confidence level of 95%, the calculated sample size was determined to be 327 respondents.

#### 3.3 Validity and Reliability

To assess the instrument's reliability, a pre-test was conducted on a sample of 32 respondents from the Sotik district. Cronbach's alpha served as a measure of internal consistency reliability. The variables demonstrated a Cronbach's value of 0.8, which exceeded the accepted threshold of 0.7. These participants shared similar characteristics with the research sample but were not included in the main study, Creswell (2015). Validity was tested by conducting a correlation between all the variable items and the totals, which gave a  $p$ -value (0.001) that was less than the  $p$ -value of 0.05. This established that the data from the items in the questionnaire was valid.

## IV. RESULTS & DISCUSSIONS

### 4.1 Descriptive Statistics on Funding

The study assessed the influence of community funding on the performance of community-based organizations in the agricultural extension services case of Bomet Central Sub-County. The results are shown in Table 1.

**Table 1**  
*CBO Funding*

Statement	YES	NO
Do you believe that the current funding for agricultural extension programs is adequate?	123(41%)	177(59%)
In your opinion, would increase funding significantly enhance the CBO's performance in delivering agricultural extension services?	255(85%)	45(15%)
Are there any alternative sources of funding that the CBO has explored to support its agricultural extension activities?	201(67%)	99(33%)
In your opinion, has a lack of funding hindered the performance of the CBO in providing agricultural extension services?	226(75.3%)	84(24.7%)

From Table 1 above, the community funding variable was operationalized into four sub-variables. Descriptive statistical analyses showed that only 41% of the members agreed that the current funding for agricultural extension programs is adequate, despite the fact that 85% of the respondents agreed that increasing funding would significantly enhance the CBO's performance in delivering agricultural extension services. On the other hand, 67% agreed that there are alternative sources of funding that the CBO has explored to support its agricultural extension activities, and similarly, 75.3% agreed that a lack of funding hindered the performance of the CBO in providing agricultural extension services. This suggests that community funding has a great influence on the performance of community-based organizations in the agricultural extension services case of Bomet central sub-county.

As seen from the quantitative results, it was evident from respondents that CBO funding influences performance in delivering agricultural extension services, while at the same time, a lack of adequate funding had the potential to stall performance. This result is not surprising given that organizations working in communities need funding for their operations, such as administrative costs. They also require funds for their overhead costs, monitoring and evaluation, advocacy, and, more significantly, to conduct training for the members. In line with this view, a participant had the following to say:

*CBO funding is paramount as it fuels essential activities, particularly in the realm of agricultural extension services. Adequate funding supports vital components like training programs for farmers, ensuring they're equipped with up-to-date techniques. It also covers operational costs, enabling efficient coordination of workshops, resource distribution, and community engagement. This financial support directly correlates with CBO performance: well-funded activities enhance knowledge dissemination, improve farming practices, and strengthen the organization's overall impact on local agriculture (Agricultural Extension Officer 07, 2022).*

Based on the above verbatim, this study argues that CBO funding plays a pivotal role in agricultural extension services by facilitating crucial activities such as farmer training and operational expenses. Adequate financial support ensures the provision of updated farming techniques through training programs and covers logistical needs for workshops and resource distribution. This funding directly contributes to CBO performance by enhancing knowledge dissemination and improving farming practices, ultimately bolstering the organization's effectiveness in positively impacting local agriculture.

This result agrees with Guirking and Bourcher (2008), who underscored that community funding is a vital factor that influences the performance of CBOs. The study discovered that CBOs that received more funding had higher levels of community participation and performed better than those with lower levels of funding and community participation.

As seen above on the need for CBO funding, it becomes evident that a lack of adequate funding or a lack of it at all may have profound effects on the functioning of the CBO. Notably, a lack of adequate funding has the potential to reduce services rendered or, at worst, eliminate essential services that members receive, thus aggravating the performance of such CBOs. Furthermore, it is the view of this study that reduced or absence of funding may lead to



layoffs and freeze any further employment opportunities for the members or locals. This is likely to diminish the morale and motivation of the members or even dissuade would-be members from joining. In line with this view, a key informant had the following to say:

*The consequences of dwindling CBO funding or its complete cessation are stark and far-reaching. As funds decline, members face limited access to crucial training programs and resources, stalling their capacity to adopt modern agricultural practices. Activities like workshops and community engagement suffer, eroding the CBO's active presence. The plummeting morale among members' stifles collaboration and engagement. Eventually, the performance of the CBO offering agricultural extension services takes a severe hit, with a waning impact on farming practices and reduced effectiveness in contributing to local agriculture's advancement (CBO Finance Officer 09, 2022).*

The above quote speaks to the dire implications of reduced or terminated funding for CBOs engaged in delivering agricultural extension services. It underscores how the dwindling financial support adversely affects various facets of the organization. The quote points out that as funds diminish, members face restricted access to critical training initiatives and essential resources, impeding their ability to adopt contemporary farming techniques. Additionally, the decline in funding leads to the deterioration of pivotal activities like workshops and community engagement, causing the CBO's active involvement in the community to wane. Furthermore, the quote highlights that declining morale among members' hampers collaborative efforts and active participation.

These findings on under-funding or lack of funding are relatable to a study done by Diallo et al. (2020), which revealed that financial constraints within CBOs lead to significant disruptions in their activities. The study demonstrated that dwindling financial resources limit the CBOs' ability to conduct essential training programs for community members, hindering the dissemination of updated agricultural practices. Equally, Baloch and Thapa (2019) stated that reduced funding negatively impacts the organization's capacity to organize workshops and maintain active engagement within the community. The study also highlighted how such financial challenges contribute to a decline in members' morale, resulting in decreased collaboration and participation.

#### 4.2 Descriptive Statistics on Performance of Agricultural Extension Services in Bomet, Kenya

The study assessed the performance of community-based organizations in agricultural extension services case of Bomet Central Sub-County on the basis of funding. The results are shown in Table 2.

**Table 2**  
*CBO Performance*

Independent Variable		DV – CBO Performance				
		Very poor	Poor	Fair	Good	Excellent
<b>Funding</b>	<b>Yes</b>	14 (93%)	13(87%)	6(67%)	15 (72%)	182(76%)
	<b>No</b>	1(7%)	2 (13%)	3 (33%)	6 (28%)	58(24%)

Based on the representation in Table 2, most of the respondents agreed that community funding had an excellent influence on agricultural extension CBOs performance in Bomet. Therefore, funding has a high influence on the performance of agricultural extension CBOs. This outcome comes in agreement with Guirkingner and Bourcher (2008), who underscored that community funding is a vital factor that influences the performance of CBOs. The study discovered that CBOs that received more funding had higher levels of community participation and performed better than those with lower levels of funding and community participation.

#### 4.3 Inferential Studies

##### 4.3.1 Linear Regression Analysis

Multiple linear regression analysis was applied to determine the coefficient of correlation (R) and influence (R-Square) of the predictor variables with CBO performance. In addition, it tested the model's goodness of fit to predict the association before establishing the relative influence of the predictor variables on CBO performance. Table 3 presents data on the model summary.

**Table 3***Model Summary*

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819 <sup>a</sup>	.671	.639	.655

a. Predictors: (Constant), participation, funding, access to resources

The table above shows that the R square value of 0.671 was obtained, signifying that the study input variables, community funding, significantly predict CBOs performance. The independent variables accounted for up to 67.1% of the variations in performance of community-based organizations in agricultural extension services cases in Bomet Central Sub County and the results are summarized in Table 4.

**Table 4***Linear Regression Coefficients*

<i>Model</i>		<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>t</i>	<i>Sig.</i>
		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
1	(Constant)	0.227	0.421		0.5392	0.013
	Community funding	0.52	0.242	0.371	2.149	0.012

From Table 4, community funding has a significant positive influence on CBOs performance in Bomet central sub-county. This can be seen by their positive beta value. In the same way, the variable was statistically significant in forecasting agricultural CBO performance. Consequently, a one-unit increase in community funding will cause an increase in agricultural extension CBO performance in Bomet by 0.520 units. Finally, the constant also had a p-value of 0.013, which is less than 0.05, with its beta estimate being 0.227, which means that apart from funding, there are other factors that were not encompassed in this study that may positively increase agricultural extension CBOs by 0.227 units.

## V. CONCLUSIONS & RECOMMENDATIONS

### 5.1 Conclusion

In conclusion, this research study aimed to assess the influence of funding from CBOs on the provision of agricultural extension services in Bomet Central Sub County. Through a meticulous analysis of demographic characteristics and the examination of key socio-economic variables, this study has provided valuable insights into the dynamics that shape the effectiveness of CBOs in this context. The investigation revealed that community funding, while deemed inadequate by some, was recognized as a critical factor in enhancing CBO performance. The study illuminated the importance of exploring alternative funding sources and the challenges posed by insufficient financial support. The inferential statistics validated the positive correlations between community funding, and the linear regression model further demonstrated the predictive power of community funding, accounting for a substantial 67.1% of the variations observed in CBO performance. This statistical validation reinforced the critical role of this factor in shaping CBO effectiveness.

The findings underscore the need for fostering adequate funding mechanisms and facilitating access to essential resources. These insights hold the potential to guide targeted interventions and policies aimed at enhancing CBO performance, which, in turn, can catalyze the advancement of agricultural extension services in Bomet Central Sub County. The study's outcomes resonate beyond the confines of this research, offering a foundation for informed decision-making, resource allocation, and strategic planning within the realm of agricultural extension services. As development efforts continue to prioritize sustainable and impactful community-based initiatives, the outcomes of this study provide a valuable roadmap for promoting the growth and efficacy of CBOs in driving agricultural development and rural empowerment.

### 5.2 Recommendations

**Diversify Funding Sources:** Given the significance of community funding for CBO performance, it is recommended to explore and establish multiple funding sources. Collaborations with governmental bodies, private sector entities, and international development agencies can help diversify funding streams, reducing dependency on a single source and ensuring financial stability.

**Strengthen Financial Management:** CBOs should prioritize effective financial management practices to optimize the utilization of available funds. Developing transparent and accountable financial systems, along with regular audits, can ensure that funding is allocated judiciously and efficiently.

**Expand Access to Resources:** Efforts should be directed towards facilitating increased access to resources such as land and credit services for community members involved in agricultural activities. Collaborative initiatives between CBOs, financial institutions, and government agencies can help streamline processes for acquiring land and accessing credit, thereby promoting sustainable agricultural practices.

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