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RESEARCH ARTICLE

Non-Governmental Organizations' Interventions Influencing Performance of Agricultural Projects in Webuye West Sub-County, Bungoma County, Kenya

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ABSTRACT

The purpose of this study was to examine the influence of NGO intervention approaches on the performance of agricultural projects in Bungoma County. The specific objectives of the study were to establish the influence of the various NGO interventions of funding, capacity building, market orientation, and social campaigns and how these influenced the performance of agricultural projects in Bungoma County. This study was guided by the poverty caused by economic, political, and social distortions or discrimination theory and the culture of poverty theory that argues that poverty is either attributed to the individuals' culture and set of beliefs or the social structure and distortions that hinder and prevent the poor from escaping poverty causing them to sink further into poverty. A descriptive survey research design was applied to establish and describe the association, link, and relationship between NGO's interventions and the performance of agricultural projects. This study targeted 310 small-scale farmers from the Webuye West sub-county of Bungoma County and 15 project officers and managers affiliated with NGO initiatives and projects. 175 respondents were drawn from the target population of small-scale farmers using random sampling techniques, and all were interviewed. Survey questionnaires and KIIs were the main data collection tools, given that they were easier to administer. Data was cleaned and formatted, and analysis was conducted using SPSS version 25 software. The results show that NGO funding interventions negatively influence the performance of agricultural projects even though the influence is not significant ($\alpha = -0.075$, p-value > 0.05). Capacity-building initiatives by the NGOs have a positive influence ($\alpha = 0.496$, p-value < 0.05), NGO market orientation interventions also show a positive influence on the performance of agricultural projects ($\alpha = 0.578$, p-value < 0.05), and NGO social campaigns have a significant positive effect on the performance of agricultural projects ($\alpha = 0.809$, p-value < 0.05) with all positive effects being significant. The study concludes that NGO interventions in agricultural projects influence the performance of these projects. For all interventions, with the exception of funding interventions, the magnitude of the effects is relatively big and significant, indicating that in agricultural projects, capacity building, market orientation, and social campaigns play a crucial role in the projects based on their cumulative effect on the project outcomes. The study recommends that agricultural projects targeting small-scale farmers in rural areas should focus on providing market-based interventions, campaigns, and orientations for the farmers with an emphasis on skills development and capacity building, as these have a positive influence on the outcome of agricultural projects. Policies and guidelines need to be redesigned and aimed at effectively utilizing funding interventions for the benefit of the project by eliminating the negative effects. The focus of the revised policies needs to be on the form of funding, the amount of funding, and the frequency of funding when designing financing interventions, given their high levels of importance to the farmer within a project setting.

Keywords: Capacity building, NGO funding, NGO market orientation, NGO social campaigns.

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1. Introduction

Non-Governmental Organizations (NGOs) interventions are designed to address varied humanitarian gaps through their numerous programmatic involvements. The NGOs have a critical role and complement the government efforts as well as other NGOs in the rural areas with the various interventions resulting in growth in agricultural productivity and income growth, coupled with improved sustainability of livelihoods and rural development (Matsvai, 2018). In various parts of the world, NGOs have functioned to support both local and national governments in sector-specific areas, intervening in varied areas, including food and emergency relief, Water, Sanitation, and Hygiene (WASH) initiatives, technical initiatives, or engaging in projects that directly align with the overall government development strategies covering the most important economic, political, and social dimensions (Cook *et al*., 2017). Without NGOs interventions, most governments in the developing countries would be struggling to support livelihoods and development, given the pre-existing fiscal deficits. In this respect, multiple interventions by NGOs across various sectors are beneficial compared to selective participation as this maximizes the complementarity of NGOs interventions and the resulting spill-over effects (Matsvai, 2018). In most of the developing world, NGOs usually view themselves as social enterprises that are motivated towards community development based on their involvement in non-profit development work, where they play significant roles by providing market-based solutions to development problems (Lewis *et al*., 2020).

Globally there are 570 million farms out of which ninety percent are family-owned; 83% are less than 2ha in size and are operated by small family household members who constitute about 475 million households in Asia and Africa (International Finance Corporation, 2019). These farmers operate small portions of land and are only able to generate low levels of income, and are unable to effectively use the land, use proper farm inputs, and lack access to financial resources, leading to persistent low productivity, reducing incomes, and subsequent increasing levels of poverty for these farmers (Sabahelkheir & Hassan, 2015). Their farms are inefficient mostly because of the relatively high cost of operation compared with little to no profits obtained, majority of these farmers face constraints and difficulties in accessing farming knowledge, labour, markets, credit, as well as farming technology (International Finance Corporation, 2019).

In Kenya, agriculture has largely remained small-scale, rain-fed, and a poorly mechanized endeavor with little or no institutional and infrastructural support framework. The Agricultural Sector Growth and Transformation Strategy (ASGTS) 2019–2029 of the government of Kenya wants to transform agriculture in the country by increasing both the income and agricultural output of small-scale farmers as outlined in the Kenya Vision 2030 (Government of Kenya, 2020). This builds upon the Agricultural Sector Development Strategy (ASDS) 2010–2020 that had acknowledged the need for all policies, regulatory policy reforms as well as additional strategies to be designed and implemented in specialized government agricultural projects (Republic of Kenya, 2010). However, only a small group of well-to-do and connected small-scale farmers can benefit from the opportunities that are created in this way since it is difficult for governmental organizations to become flexible enough in their programs to safeguard the interests of small-scale farmers, indicating a need to involve NGOs as an essential feature for the effective implementation of the desired development strategy (Government of Kenya, 2020).

In Bungoma, agricultural farming is dominated by food crop farming involving the cultivation of maize, millet, Irish potatoes, soybean, mushrooms, bananas, assorted vegetables, tea, sweet potatoes, and sugarcane, with growing interests in fish farming. Despite having large amounts of fertile land, with healthy rainfall levels and patterns, and other ecological features, agricultural productivity in the county is still hampered by subsistence farming in the region rooted in low levels of education among the farmers, lack of use of irrigation, and modernized farming methods, cultural practices of general subdivision of land resulting on agricultural activities taking place on small farming units that limit overall yields including the collapse of agricultural extension services (Deloitte East Africa, 2016).

1.1. Statement of the Problem

The majority of the agricultural projects and programs in Bungoma County have either been implemented by the government under the guidance of or in conjunction with donor international agencies, research institutions, and NGOs (Atela *et al*., 2018). However, the desired results are yet to be achieved as the majority of the projects experience leakages to non-targeted farmers, thereby nullifying the benefits to the intended farmers and leading to poor project performance based on expected outcomes (Government of Kenya, 2020). For this reason, understanding the role of NGOs as the necessary conduits for the much-needed interventions through the implementation of agricultural projects to attain the requisite agricultural transformation and consequent improvements of livelihoods in Bungoma becomes relevant due to its link to the overall government development policy (Lewis *et al*., 2020). Studies such as Tuchitechi and Lee (2018), Avea *et al*. (2016), Irungu and Moronge (2016), Omorede (2014), Bolarinwa and Fakoya (2011), and Basantia (2011) have focused on how NGOs influenced the performance of various agricultural projects but have overlooked how the various intervention approaches influence the performance of these projects. To this end, this study will examine how various NGO intervention approaches influence the performance of agricultural projects in Bungoma County.

1.2. Objectives of the Study

The study was guided by the following specific objectives:

1. To establish the influence of NGO funding intervention approaches on the performance of agricultural projects for small-scale farmers in Bungoma County.
2. To assess the influence of NGO capacity-building intervention approaches on the performance of agricultural projects for small-scale farmers in Bungoma County.
3. To investigate the influence of NGO market orientation intervention approaches on the performance of agricultural projects for small-scale farmers in Bungoma County.
4. To examine the influence of NGO social campaign intervention approaches on the performance of agricultural projects for small-scale farmers in Bungoma County.

2. Literature Review

2.1. Performance of Agricultural Projects

Agricultural projects have been known to provide employment, ensure food security, create wealth for farmers as well as contribute to overall development and innovation in the overall economy. However, this is characterized and diminished at the national level due to the challenges that these types of projects face, and the projects are unable to achieve the expected results and fail (Irungu & Moronge, 2016). The projects are structured to provide agricultural financing in order for agricultural projects be transformative and become a catalyst for economic growth in rural areas, increasing the households' incomes, poverty reduction, and have assured food security (Pratt & Yu, 2014). In other cases, these projects provide and assist women to raise finance based on their ability to supply into agricultural projects given that in the normal traditional sense, they are unable to access finances through their inability to own land and have collateral on which banks rely (Rutten, 2014). They also offer advisory services to rural farmers to enable them to use their productive resources, as well as create awareness on existing agricultural projects and increase the demand for agricultural inputs, all of which are mutually reinforcing to assist in the achievement of project objectives (Chepkurui, 2012). In Kenya, small-scale farmers have also benefited from agricultural projects under the various ministries from designed project approaches in which farmers are able to receive extension models and styles, farm management, and integrated agricultural rural development approaches that enable farmers to increase their farm productivity, learn about marketing options, value addition and sources for diversified income opportunities (Irungu & Moronge, 2016).

Tuchitechi and Lee (2018), in their study of the reasons why agricultural projects for small-scale farmers within Karonga and Phalombe districts of northern and southern Malawi fail to correctly deal with poverty. They rely upon data from interviews conducted with eighty-two agricultural extension officers. They find that the projects fail in situations where the identified farmers are much less educated, have excessive pre-existing poverty rates, do not participate effectively within the project, or have developed dependency syndrome and completely depend on the project due to long-term provision of aid by various projects. In addition, troubles with cashflow compromise the overall performance of the project. In their view, it is better to empower the farmers with self-help capabilities and ensure that the projects resolve all issues of funding and disbursement.

This is similar to the findings of Irungu and Moronge (2016), who, while using 75 agricultural projects in Nyeri County, try to understand what influences the performance of agricultural projects in Kenya. They find that stakeholder involvement in agricultural projects is positively correlated to the performance of agricultural projects. They argue that there is a higher chance of performance in projects where the managers are able to manage their costs, execute their projects on time, intervene in project risk matters, and ensure that the project is within the prescribed quality. This points out that there are other intervening variables and moderating variables that influence the performance of agricultural projects.

2.2. NGO Funding Interventions and Performance of Agricultural Projects

To help farmers improve their production capabilities, attain sufficient scale, attract new trading partners, become effective enterprises, and effectively cope with risks, they need to have access to funding and financing (Gneiting, 2018). Nevertheless, most rural farmers are unable to meet the conditions outlined by financial institutions, making them ineligible for loans and financing as they are mostly evaluated as high-risk and lack proper guarantees to ensure their ability to repay loans (Wegner & Zwart, 2011).

In most cases, the relationship between farmers and financial institutions is that of mistrust between the two parties (Avea *et al*., 2016). There is a need to rely on the involvement of the private sector and diversification of sources of funding with increased attention to non-profit organizations as sources of funding or financing of farming resources (Dave-Sen & McPake, 1993). In this sense, NGOs and development agencies would support farmers either by providing support to farmers directly or giving them support in accessing production resources that include seeds, agrochemicals, fertilizers, and machinery services, which they either supply or link farmers to institutions of finance through Farmer Based Organizations (FBOs) set up by the assistance of the NGOs (Asante *et al*., 2011).

2.3. NGO Capacity Building Interventions and Performance of Agricultural Projects

Formal and informal education helps farmers become better: formal education, despite lower coverage among small-scale farmers, opens up the mind of the farmer to knowledge. Informal education, on the other hand, gives the farmers direct training on farming methods, keeping them up to date with changes in farming innovations and emerging ideas as farmers share their experiences (Oduoro-Ofori *et al*., 2014). Pudasaini (1983) points out that the education of the farmers is important as it improves how the farmer makes decisions regarding the

selection of inputs and the necessary combination of inputs for better agricultural outputs.

Rural farmers have limited access to education and knowledge regarding existing alternatives in terms of technology and farming practices (Baudi *et al*., 2013). Loiruck (2013) argues that it is essential to enhance the farmer's education on farming activities to maximize their agricultural output. Educating farmers helps improve the farmers' skills, enhances the farmers' ability to obtain, understand, and utilize new inputs, as well as upgrades their overall farm managerial ability (Oduoro-Ofori *et al*., 2014). In Bangladesh, the Institute of IIRD (Integrated Rural Development) trained female beneficiaries by giving them basic training in broiler rearing, then providing and allocating each beneficiary an initial investment loan of 10,000 Taka (Tk).

However, NGOs do not educate farmers using capacity building alone, extension services are also used as a means of educating where they receive marketing orientation or where they are linked to markets as part of the education process. Most small-scale farmers sell their produce directly from their farms or from the roadsides near their farms, given they lack physical and economic access to their crops (International Finance Corporation, 2019). Their access to the markets is mostly attributed to a lack of reliable information about the market, long distances between the farm and the market, as well as high transportation costs of the farm and produce to the market (Ahmed *et al*., 2016). Poor infrastructure and lack of means to timely transport their produce to the market further increase their isolation from markets (International Finance Corporation, 2019). Thus, better infrastructure for easy market access helps reduce transportation costs and food prices for these farmers (Minten, 1999). Based on the smaller quantities available for sale, the need for immediate payment, limited safe crop storage capacity, and the poor knowledge of quantities and prices required beyond their farms, they are unable to negotiate with buyers for better prices (International Finance Corporation, 2019). However, given that most rural farmers produce what they consume, they tend to access the market selectively to either buy inputs, sell a selection of farm produce as well as buy other food or non-food items to sustain a desired standard of living (IFAD, 2013).

2.4. NGO Market Orientation Interventions and Performance of Agricultural Projects

Most NGOs conduct interventions aimed at ensuring the establishment of relevant mechanisms through which farmers can sell their products in some form of extension services or by scouting for markets (Avea *et al*., 2016). By linking farmers from 18 poor villages in Southwest China to urban markets and consumers, the Community Supported Agriculture (CSA) project resulted in tripled farm incomes for farmers participating in the project with a considerable increase in incomes from crop production and sale due to increased market demand in Guanxi (Song *et al*., 2016). In Western Kenya, small-scale maize farmers organized in farmers' organization groups that are collaborating with the local NGOs in a Purchase for Progress program in which the World Food Program (WFP) buys produce directly from the farmers, consequently creating structures where the farmers get better prices and access to markets as well as providing secure markets thus helping farmers overcome limitations in the maize market (Skjöldevald, 2012).

Basantia (2011) examines how NGO intervention brings about the socioeconomic development of tribal farmers in the Koraput region. Collecting data from 80 NGO beneficiaries and 20 NGO employees using interview schedules and an ex-post-facto survey design, including the use of frequency counts, percentages, and rank order, they conclude that NGO interventions influence the socioeconomic development of the tribal farmers. They add that after getting advice and advisory services and adopting entrepreneurship, some farmers were able to increase their income, and within one and a half years after participating in the NGO program, they did not have to look for work anymore and had constructed new housing, changing their straw houses into asbestos (Basantia, 2011).

In the case of farmers in northern Ghana, the NGOs established an aggregation company to buy soybeans directly from the farmers before negotiating and selling to processing companies; in other instances, the NGOs established a marketing company to buy soybean from the farmers directly in the three soy farmers in the region with the support from the EU (Avea *et al*., 2016). In Bangladesh, an IIRD project for broiler and silk production and silk worm rearing provided market differentiation for poor and wealthier producers to avoid competition between them. The silk production beneficiaries were linked to the growing markets for silk products, while among the poor poultry farmers within the same vicinity, they deliberately avoided competition from the beneficiaries with private poultry farms linking these poorer beneficiaries' production with the large Dhaka market (Makita, 2009).

In Ethiopia, it is argued that the outstanding economic growth experienced in the last decade has been mainly because of the growth in the agricultural sector. This, among other reasons, has been through the sustained growth in agricultural productivity and modernization as well as the large public extension structures that have extended all levels from federal to regions to kebeles majorly through the improvement of the extension agent-farmer ratio (Tamru *et al*., 2017). One-Ace fund has been trying to increase the levels of extension agent-farmer ratio in its activities in Kenya, Uganda, and Rwanda, where it operates. Evidence shows that despite focusing on the facilitation of the distribution of modern inputs rather than being knowledge-based, increased access to the extension systems significantly increases the acceptability and use of modern inputs and new high-quality seeds by farmers of all levels (Berhane *et al*., 2018).

2.5. NGO Social Campaigns Interventions and Performance of Agricultural Projects

In an attempt to understand how the health of the farmers influences the technical efficiency of agricultural production of maize farmers in Nigeria, Ojo *et al*. (2018) collect data using structured interview schedules from 220 maize farmers in Osun State identified through multistage

sampling procedures. From this perspective, health literacy has become essential to small-scale farmers. Akangbe *et al.* (2015) argue that farmers need to get involved in health literacy programs while examining how the health practices of small-scale farmers in Kwara State, Nigeria, influence their agricultural production output.

2.6. Theoretical Framework

2.6.1. Poverty Due to Economic, Political, and Social Distortions or Discrimination Theory

This theory is attributed to the works of structuralist theorists Prebisch, Celso Furtado, and Aníbal Pinto, who state the poor within the society are faced with circumstances that prevent them from accessing the best opportunities available within a given social structure. The theory argues that poverty cannot be attributed to an individual but to the larger societal order that limits their ability to achieve income and economic well-being and that the larger economic and social structures are the cause of poverty (Bradshaw, 2006).

This study focused on independent variables of NGO interventions with respect to accessible funding, capacity building, market orientation, and social campaigns with respect to agricultural projects. The underlying basis of this rests on the need to redistribute resources, enhance skills development, and increase access to markets and other opportunities for farmers.

2.7. Conceptual Framework

For this study, the given conceptual framework functioned as the main guide.

3. Research Methodology

3.1. Research Design

This study used a descriptive survey research design. This research design is useful in gaining in-depth concrete information, allowing for exploration of key characteristics, meanings, and implications on a subject and thus useful in probing deeply and analyzing interactions between the factors that explain the present status that influence the study variables (Bent, 2011). The choice for using a case study is to ensure that it is possible to conduct an in-depth examination and provide insights on the subject under study (Yin, 2003). This research design will allow for assessing and examining the study phenomena without interference (Kombo & Tromp, 2006).

3.2. Sample Size Determination and Sampling Procedure

A total of 310 small-scale farmers benefited from agricultural projects in the Webuye West sub-county implemented by NGOs in Bungoma County. A sample of 175 was used based on the formula by Yamane (1967). The study interviewed all the project officers and managers using a census approach. Even though the target population consisted of a homogeneous group, they were distributed in different wards according to project location and operation areas. To this effect, random stratified sampling using the different subcounty-wards as strata was used to determine the number of farmers to interview from the various wards, as shown in Table I.

TABLE I: Sample Size Distribution

Webuye West subcounty wards	Population (N)	Sample (n)	Project Managers
Bokoli ward	110	62	5
Matulo ward	120	68	5
Sitikho ward	80	45	5
Total	310	175	15

3.3. Research Instruments

Key informant interview guides and survey questionnaires were used as the main research instruments for the study. This included the use of semi-structured survey questionnaires aimed at collecting primary qualitative and quantitative data from the respondents.

3.4. Pilot Testing of Instruments

A pilot study using 17 respondents was conducted in the Kimilili sub-county of Bungoma County. This was done to determine if the questions as presented have meaning to both the researcher and respondent or if there is a need to modify the intent of the questions to ensure that questions asked by the researcher measure what is intended to be measured (Mugenda & Mugenda, 2003).

3.5. Validity of Research Instruments

Content validation assessment was done, and the research instrument was reviewed and verified by the project supervisor, the lecturers from the University of Nairobi, and selected experts from the NGO world.

3.6. Reliability of Research Instruments

This study used the Cronbach Alpha coefficient to assess the reliability of the data instrument. This was measured against a scale of points where a score of more than 0.9 will mean excellent reliability, between 0.70–0.90 highly reliable, with a score between 0.50–0.70 implying moderate reliability, and anything below 0.50 indicating low reliability.

3.7. Data Collection Procedure

Both survey questionnaires and KIIs (key informant interview guides) were used to collect data collection. The surveys were administered through direct personal interviews of the small farmer respondents using enumerators.

3.8. Data Analysis Technique

The questionnaire produced both qualitative and quantitative data. This information was coded and entered as data files in SPSS version 25.

Statistical measures of center or variation between the study variables were conducted to produce information useful for the interpretation of the study findings.

To show the influence of NGOs on the socioeconomic status of small-scale farmers, the study used a multivariate regression model.

3.9. Ethical Considerations

Respondents were granted an opportunity to provide consent before administering the questionnaire, and

the purpose and importance of the study were comprehensively explained before consent was sought. No compensation in any form was given to the respondents for their participation in the study. All information was treated in line with survey research guidelines.

4. Data Analysis, Presentation, Interpretation, and Discussion

4.1. Gender of the Respondents

The findings revealed that the majority (53.1%) of those interviewed were women compared to 46.9% of men.

4.2. Age of the Respondents

The results show that those aged between 25 and 44 years accounted for the largest proportion of farmers interviewed, as indicated by 53.7% of those interviewed. This was followed by those older than 44 years, who accounted for 37.7%. The lowest proportion was those younger than 25 years, who accounted for 8.6% of those interviewed.

4.3. Household Size

The majority of the households in the county had between 5 and 9 people, indicating that 60.9% of the farmers lived in households with at least 4 to 8 other members. Smaller households with less than 5 members in total accounted for one-third of all households, as 33.7% stated that they did not have more than 4 other members living with them. Large households with ten or more members accounted for 5.7% of all households. The results indicate that most small-scale farmers come from households with bigger and larger families.

4.4. Education Status

The results in Table II show that nearly all (98.3%) of the farmers had attended school, as 1.7% said they had never been to school. 46.3% had completed secondary education, 30.3% had only completed primary education with 14.9% saying they had been to college or tertiary institutions.

4.5. NGO Funding Intervention and Project Performance.

The results in Table III indicate that 97.7% of the farmers had received funding from the NGOs as part of the project intervention.

In addition, the study sought to know the kind of funding the farmers who had received funding got, and the results are shown in Table IV.

The results indicate that 95.9% of those who had received funding clarified that they had received funding in the form of assets, which included farm inputs and other farming materials. 4.1% said that they had received funding in the form of cash from the NGOs.

From the results in Table V 85.4% of those who had received funding were required to make repayments. 68.4% said that their repayments were in the form of cash or cheques. 14% indicated that they had to use other forms of repayment, and this was in the form of installments through Mpesa pay bill numbers, community contributions or other specified repayment plans that also included paying in cash. 2.9% stated that they had to make repayments in the form of farm produce and farm products. For 14.6% of those who had received funding, no form of repayment or payment plan was expected from them.

The study sought to establish the timings for the various repayments for the farmers who had received funding. The results are indicated in Table VI.

The results show that 53.2% of those who had received funding or loans had to make their payments before harvesting. 21.1% said they were required to make repayments during harvesting with 2.3% indicating that they were required to make repayments only after they had sold their harvests. However, 23.4% said they were using other repayment arrangements that included either investing in community Village Savings and Loans Associations (VSLA), by creating employment for community youths, or investing in group community activities, or distributing the proceeds to fellow farmer group members, or making contributions to specified community farmer groups.

4.6. NGO Capacity Building Intervention and Project Performance

The study sought to determine if the farmers had received capacity-building training from the NGOs as part of the project intervention. The results are presented in Table VII.

TABLE II: Education Status of the Respondents

Education status	Frequency	Percentage
Never been to school	3	1.7%
Primary school	53	30.3%
Secondary school	81	46.3%
College/Tertiary	26	14.9%
University or higher	12	6.9%
Total	175	100%

TABLE III: Farmers Receiving Funding and Loans from NGOs

Do farmers receive any form of funding/loan from the NGO?	Frequency	Percentage
No	4	2.3%
Yes	171	97.7%
Total	175	100%

TABLE IV: Kind of Funding Received

What kind of funding was received?	Frequency	Percentage
Cash	7	4.1%
Asset based	164	95.9%
Total	171	100%

TABLE V: Ways of Paying Back the Funding/Loans Received

Ways of paying back the funding/loans received?	Frequency	Percentage
No payment was needed	25	14.6%
Payment in cash or cheque	117	68.4%
Payment in form of produce or other farm products	5	2.9%
Other forms of payment	24	14.0%
Total	171	100%

The results show that 99.4% of the farmers had received training or had attended capacity-building workshops on farming and agricultural practices as part of the project interventions.

4.7. NGO Market Orientation Intervention and Project Performance

The study sought to determine if the farmers had received market orientation from the NGOs as part of the project intervention. The results are shown in Table VIII.

The results show that 92% of the respondents confirmed that they had received market orientation in the form of guidance on how to effectively sell their produce in the local or other markets from the NGOs.

4.8. NGO Social Campaign Interventions and Project Performance

The study sought to establish if the farmers had participated in the social campaigns offered as part of the NGOs project intervention. The results are shown in Table IX.

The results show that all farmers had taken part in the NGO social campaigns that were being conducted by various NGOs as part of the project intervention.

4.9. Performance of Agricultural Projects in Bungoma County

The performance of agricultural projects was the dependent variable for this study. The study sought to establish if the lives of the farmers had been better compared to before the NGO interventions and their participation in the projects. The results are indicated in Table X.

The results show that 65.1% of the farmers confirmed that, indeed, their lives had improved a lot when compared to before the NGO intervention and projects. 34.3% said they had only observed little bits of improvements in their lives compared to before the project and the corresponding interventions from the NGOs. 0.6% of the farmers held the view that nothing in their lives had changed and their lives had remained relatively the same since the NGO projects began.

4.10. Multivariate Regression

To determine the individual effects of the various NGO intervention approaches on the performance of agricultural projects, this study ran a multivariate regression model. The model was defined as

$$y = \alpha_0 + \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \varepsilon$$

where y is performance of agricultural projects, $\alpha_{0\ldots4}$ is estimated coefficients, x_1 is NGO funding, x_2 is NGO Capacity Building, x_3 is NGO Market Orientation, x_4 is NGO Social Campaigns, and is Error term.

R^2 value of 0.33 in Table XI indicates that only 33% of the changes in the dependent variable can be attributed to the variations of one or more of the independent variables.

The analysis of variance shown in Table XII indicates that the model used in the study is a good fit for the data ($F(4,170) = 20.914$, $p < 0.000$) compared to the critical value of $F(4,170) = 2.372$. The results point to the variations in the independent variables influencing the dependent variables.

Therefore, the applied model can be used to predict and examine the influence of the various project intervention approaches of providing funding, conducting capacity building, conducting market orientation, and carrying out social campaigns (independent variables) and how they influence the performance of agricultural projects (dependent variable).

From the results, the regression shows that by providing funding, the NGOs negatively influence the performance of projects based on the estimated coefficient of −0.075 (p-value > 0.05), even though the effect is not significant. By conducting capacity building, NGOs positively influence project performance based on the estimated coefficient of 0.496 (p-value < 0.05), and the effect is significant. Likewise, conducting market orientation for the farmers positively influences project performance based on the estimated coefficient of 0.578 (p-value < 0.05), and the effect is also significant. Conducting social campaigns positively influences project performance, given the estimated

TABLE VI: Timings for Various Repayments

How farmers supposed to repay the funding or loan received?	Frequency	Percentage
Payment before harvesting	91	53.2%
Repayment during harvesting	36	21.1%
Repayment after sale of harvest	4	2.3%
Other payment arrangements	40	23.4%
Total	171	100%

TABLE VII: Farmers' Receipt of Capacity Building from the NGO

Do farmers receive capacity building training from the NGO?	Frequency	Percentage
No	1	0.6%
Yes	174	99.4%
Total	175	100%

TABLE VIII: Farmers' Receipt of Market Orientation from the NGO

Do farmers receive market orientation?	Frequency	Percentage
No	14	8.0%
Yes	161	92.0%
Total	175	100%

TABLE IX: Farmers' Participation in Social Campaigns from NGOs

Do farmers take part in social campaigns?	Frequency	Percentage
No	–	–
Yes	175	100%
Total	175	100%

TABLE X: Farmers life has Improved Compared to before the NGO

Farmers life has improved compared to before the NGO?	Frequency	Percentage
Yes, it has improved drastically.	7	65%
Has improved a little bit	164	34.3%
Has remained the same.	4	0.6%
Total	175	100%

TABLE XI: Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.574	0.33	0.314	0.396

TABLE XII: Analysis of Variance

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	13.105	4	3.276	20.914	0.000
	Residual	26.632	170	0.157		
	Total	39.737	174			

coefficient of 0.809 (p-value < 0.05), indicating that the effect is significant.

5. Discussion of Findings

Providing funding for project beneficiaries negatively influences the project even though the effect is insignificant.

The results also indicate that the form of funding, frequency, and amount of funding are important aspects to consider during funding initiatives.

The study found that capacity-building initiatives positively influence the performance of agricultural projects.

The study also found that teachings on best farming practices and how to access farm inputs and other farm tools including how to correctly and safely use farm inputs ranked highest among the farmers. NGO market orientation and project performance.

The study found that market orientation positively influences the performance of agricultural projects. The study also found that farmers considered having information regarding markets and market prices, as well as how to access the various marketplaces including how to market or package the farm produce, was very important.

The findings show that access to extension services or agents was important for most farmers.

The study found that social campaigns positively influence the performance of agricultural projects, and the effect is significant.

The findings pointed out that farmers were of the view that campaigns on proper nutrition and diet, as well as awareness of health and basic hygiene, were important for the farmers.

The findings of the study highlight that the promotion of off-farm employment activities and the provision of formal and non-formal skills training for the farmers were also important, according to the farmers.

6. Conclusion and Recommendations

NGO funding interventions negatively influence the performance of agricultural projects even though the magnitude is small and non-significant, as most farmers receive asset-based financing compared to cash. For the various aspects of financing and funding, the study indicates that most farmers were likely to consider the form of funding, the amount of funding, and the frequency of funding from the NGOs before deciding to participate in that kind of initiative. The farmers, however, were less concerned with how they were required to repay the funding they had received or even how long they had to make the necessary repayments, as these aspects were less important to the typical farmer.

NGO capacity building initiatives positively influenced project performance, and the effects are significant. The farmers considered training initiatives on farming practices and technologies were important, so were the relevant training initiatives on proper farm management practices and procedures as well as how to access farm inputs and other farm related tools. Capacity building on climate change adaptations were considered to also be very important so was the need to learn how to use the farm inputs correctly and safely. All farmers considered participation in capacity building initiatives as important and relevant and was linked to improved project performance.

NGO market orientation interventions positively influenced project performance, and the influence was significant. The farmers who considered market orientation that focused on post-harvest handling were the most important, followed by those that focused on facilitating access to relevant information regarding markets and prevailing market prices. How to market or package the farm produce was also important according to the farmers. Means of accessing the various market places was less important compared to the orientation interventions with access to extension services and extension officers and agents was considered to be slightly less important according to the farmers.

NGO social campaign interventions positively influence project performance, and the influence is significant. Farmers indicated that NGO campaigns and initiatives that focused on organizing farmers into self-help groups had an important role compared to the others. Campaigns on the importance of proper nutrition and dieting were also very important for the farmers, and it was followed by important initiatives that focused on the promotion of off-farm employment activities as it fostered the building of avenues for increased incomes. NGO campaigns that encouraged awareness of health and basic hygiene practices were also important to the farmer with campaigns on formal and non-formal skills considered to be less important compared to the rest.

The study recommends that agricultural project targeting small-scale farmers in rural areas should mostly focus on providing market based interventions, campaigns, and orientations for the farmers as these have a positive influence on the outcome of agricultural projects. These need to focus on empowering the farmers through continuous capacity building and skills development.

NGOs should develop policies and guidelines that are aimed at effectively utilizing funding interventions even though it has negative effects on project performance. The aim of the new policies should be aimed at reducing, if not eradicating, the associated negative impacts. The focus of these policies needs to be on the form of funding, the amount of funding, and the frequency of funding when designing financing interventions, given their high levels of importance to the farmer.

The social campaign intervention policies should be refined to continue focusing on health, nutrition, and off farm employment activities for the farmers through well-organized famer welfare groups.

Conflict of Interest

The authors declare that they do not have any conflict of interest.

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