Assessment of how Free Seed Distribution Project can Aid in Hunger Eradication in Kitui County, Kenya

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Abstract

Purpose: The general objective of this study was to establish the challenges facing the implementation of hunger eradication projects in Kitui County in Kenya.

Methodology: This study adopted a descriptive survey design. The study randomly selected 150 beneficiaries appearing in the list of 30,643 beneficiaries provided by Kitui County Long Rains Food Security Assessment Report (2013). This study used primary data which was collected through use of a questionnaire. After data had been collected through questionnaires, it was prepared in readiness for analysis by editing, handling blank responses, coding, categorizing and keying into Statistical Package for Social Sciences (SPSS) computer software for analysis.

Findings: The study findings indicated that seed delivery timing, corruption, beneficiary participant and project monitoring were key determinants in implementation of hunger eradication project in Kitui County.

Conclusion: It can be concluded that the farmers were happy about the government initiative of distributing seeds, fertilizers and have farmers given grants for basic farm mechanization which would make farmers become self-sufficient but should be delivered on time of need. Corruption was statistically significant in explaining hunger eradication project implementation.

Recommendations: The study recommends for rigorous mobilization and sensitization of the community on need for active involvement in execution of community projects especially for food security. It is recommended that the farmers embrace the government initiated projects being implemented in the area as this will help improve food production in the area and avoid food drought and fight poverty. This effort can lead to successful implementation of the projects and subsequently lead to better productivity and by extension that of the overall farms.

Keywords: Implementation, hunger eradication, seed distribution.
1.0 Introduction

Poverty is the key problem globally and still is one of the major developmental challenges South Africa is battling with seventeen years after transition to Democracy. The Millennium Development Goals commit nations to halving poverty and inequality by 2015 (UN Department of Public Information, 2010). To ensure that this is realized, the South African Government, through its Medium Term Strategic Framework, (2009 – 2014) and various other planning frameworks has set targets for poverty alleviation under the theme “Together we can do more”. However, Enslin-Payne (2010) reports that, although there are strides in fighting poverty, the gap between the rich and poor is still large. These levels of poverty and inequality affect the living standards, economic growth, levels of crime and social stability.

More than one billion people across the world live in poverty; they live on less than one US dollar a day. People who live in poverty are vulnerable to diseases, illiteracy, food insecurity, and unemployment. The lack of resources affects their self-esteem and leaves them powerless; hence they are easily disregarded and marginalized. Poverty is caused by social exclusion and it also occurs as a result of social exclusion, people who are living in poverty often find themselves living in isolation and unable to meet basic needs (King & Palmer 2006). De Beer, in De Beer and Swanepoel (2000) states that poverty hinders human life from development, increase human vulnerability, and limits human potential. People who live in poverty are distracted from focusing on other aspects of life because they are trapped in a situation that does not present them with opportunities to improve their living conditions.

Kenya like any other developing countries is faced with hunger and poverty and these problems are getting worse by the day. A study done by Kang’ethe (2004) shows that, more than 14.5 or 52.3% of the population of Kenya are hungry and malnourished. The Kenyan government is a signatory to the Millennium Declaration made at the UN Millennium Summit in 2000, where leaders placed development at the heart of the global agenda by adopting the MDGs as pillars for sustainable development. The Kenyan government together with donors and NGOs have put in place initiatives and implementations mechanism to mitigate current food situation broadly described as programmes and policies that respond to immediate needs of the poor and food insecure (FAO, 2008). Some of the long term interventions include targeted food security programmes such as National Accelerated Agriculture Input Access Programme (N.A.A.I.A.P.); whose objective is to improve access and affordability of key inputs to small holder farmers, Orphaned Crop Programme (OCP) with an aim of diversifying sources of food through promotion of indigenous crops that are drought tolerance, Revitalization of Agriculture Infrastructure Mechanization Services with an objective of improving agricultural infrastructure and land development to Kenyan farmers, Irrigated Food Production (IFP), Njaa Marufuku Kenya ((NMK), among others.

Kitui County is located in Eastern Kenya. It covers an area of 30,496.5 sq km. Temperatures range between 14°C and 34°C while rainfall range from 500mm to 1050mm per annum. The county has 4 Local Authorities (Municipal Council of Kitui, County Council of Kitui, and Town Council) Kitui Town is the administrative capital. Agriculture is the main economic activity particularly subsistence farming involving traditional land-use system and a mix of highland agriculture and lowland cattle-grazing. This blends well with the regions climatic conditions. River Athi is the only perennial river in the county flowing along the border with Machakos County. The county
has several dams that play a significant role as water resources. Springs can be found in the hilly areas of the county while underground water sources supplement surface water sources. Wholesale and retail markets, supplement the subsistence farming as sources of income for the residents of the county. The county has a cotton growing industry with much of it being done at subsistence level however investment in cotton production is an opportunity investors can take advantage of.

Surface water sources in Kitui are scarce, consisting primarily of temporary rivers and streams that originate in forested areas during the rainy season. As in neighboring Mwingi, the highlands are more likely to receive rainfall than the lowlands, and economic development is significantly weaker among communities in arid areas. The poverty rate in Mwingi has been estimated at 60%. In divisions with low precipitation levels and uncultivable soil, poverty rates are thought to be even higher.

The failure of the seasonal rains has drastically limited the food supply in all four assessed counties. In a normal year, key crops include millet, maize, sorghum, cow peas, pigeon peas, beans and green grams. Because of the drought, however, there is almost no food available on household-level subsistence farms. Instead, people are forced to purchase basic commodities in the market, using cash reserves that are rapidly dwindling in the absence of viable income generating opportunities. In Kitui, the assessment found that in April 2011, 86% of the population was purchasing all of their household food needs in the market.

Food security remains an elusive goal in many parts of the world despite the concerted efforts of governments, non-governmental and international agencies over the past years. An estimated 925 million people around the world were undernourished in the year 2010 (FAO, 2011). Kitui County has been under famine intervention measures by the government and donor agencies, among them the World Food Programme (WFP), World Vision- Kenya, and the African Network for the Prevention and Protection against Child Abuse and Neglect (ANPPCAN). The area has remained vulnerable to hunger and poverty since most of the said agencies have been supplying food stuffs and other basic need requirements without community consultations and thus no sustainable food security.

Several studies have been conducted on food security by Fan et.al (2011), Fan and Lorch (2012) and Wodon and Zaman (2008), the studies focused on food programs as technology investment, system approach and production systems as avenues to attain food security but did not concentrate on the factors influencing such food security projects. According to Kenya Food Security Steering Group (2008) communities in arid and semi-arid lands of the country like Kitui County are particularly vulnerable to food insecurity. Although an overwhelming amount of research has been given to poverty eradication and food security issues, much attention has been paid to evaluation of food security interventions and their nutritional benefits and also to the factors influencing their sustainability. Most of the researches done on projects implementation have focused on general organizational factors that influence their implementation. This study therefore focused on the both organizational and socio-economic factors and their influence on the implementation of community-based projects for sustainable food security, which have not been adequately addressed by other scholars.

The research was guided by the following specific objectives; to establish the extent to which seed delivery timing affect the implementation of hunger eradication projects in Kitui County, to find out the effect of corruption on the implementation of hunger eradication projects in Kitui County,
to determine the influence of beneficiary participation on the implementation of hunger eradication projects in Kitui County, and to establish how project monitoring affect the implementation of hunger eradication projects in Kitui County

2.0 Literature Review

2.1 Theoretical Literature

2.2.1 Yield Gap Theory

Reaching higher yields is part of the strategy for achieving food security while protecting the natural environment. The potential for closing the yield gap has been claimed as the most important factor in improving agriculture in Africa, it is preferable to expanding agricultural land. By closing yield gaps and not expanding cultivated land you can protect areas of biodiversity such as forests and natural ecosystems from being converted into crop land (Foley, Ramankutty & Brauman, 2011). Yield gap is a term which has been used extensively in literature to highlight African farmland as a region which is underused (Delininger & Harriet, 2011). It is a term referring to the difference between the potential and actual crop yield (production per hectare) of a given area of land, assuming the best technology and agricultural practices are available (Foley et al., 2011). This is because biophysical and socioeconomic factors inhibit yields. The gap between the potential yield and actual yield is considered by Widawsky and Toole (1996) for example, as a loss in production that is yet to be realized. Yield gap is used often in reference to the gap being closed and identifying how to “fix” them.

The yield gap theory is placed within the productionist paradigm. There is an understanding that land is not worth anything until it is utilized for production. The potential yield is calculated using all the known agricultural technology and management, and therefore it is assumed that this should be adopted as the method on the ground. According to Deininger et al. (2011) in the World Bank report, yield gaps are perceived in respect to investment opportunities. A large yield gap is defined as an attractive quality for investment due to the possibilities for easy increase in yield. Land acquisitions are thought to bring investment in fertilizers, pest management, irrigation, improved seed varieties, knowledge of farming practices and mechanized practices. However, large yield gaps can be an indicator of problems that land acquisitions cannot easily solve such as political problems. As such, when investment has already been made in the land, sustained large yield gaps are a negative sign as it implies that there are constraints that are difficult for investors to overcome (Borras, 2011)

2.2.2 Productionist Paradigm Theory

Productionist paradigm is the move from local small scale production to mechanized, commercial, mass production of food commodities. It hails from the time after the Second World War and the industrialization of agriculture. The food supply chain is led by the quantity of food and all progress is directed to increasing this output. The productionist model of farming is typically monoculture, this being especially conducive to the high input of energy, pesticides, and fertilizers. The productionist paradigm influences how policy is made and where investment is directed, favouring particular types of farming methods and production. It is through this paradigm that land acquisitions have been seen as a solution (Lang & Heasman, 2004). Lang et al., (2004) predicted the decline of the productionist paradigms and the emergence of two paradigms concerned less with production and more with integrated ecology or life science. However,
economic stability, food prices and demand for arable land has changed since the time they wrote their book. Like the period after the war, in 2008 the globe was suffering from food shortages; prices rose and many countries experienced riots. These events have reaffirmed the dominance of the productionist paradigm for a little while longer. It is also partly because of the productionist paradigm that African governments are willing to open up their local markets to foreign investment. The surplus stock caused by high production rates and strong regional economies could undermine local markets in developing countries by selling their stock at undercut prices.

2.2.3 Belassi and Tukel’s Project Critical Success Factors

Belassi and Tukel (1996) have grouped critical success factors in projects into four areas and further explained the interaction between them. The four groups were factors related to the project, factors related to the project manager and the team members, factors related to the organization and lastly factors related to the external environment. Belassi et al. (1996) performed 2 surveys; firstly they identified the 5 most common success factors from the literature and asked the respondent to list any other critical factor specific to their projects. From the first survey, they obtained 91 responses in which 21% of the respondents are project managers from the manufacturing sector. The project managers in manufacturing ranked the most critical factor for project success as availability of resources, followed by top management support, the third most important factor was preliminary estimates, followed by project manager performance and client consultation.

In this survey, it also shows that in respect to the criteria used to measure success (cost, time, quality and client satisfaction), the organizational structure (pure, functional or matrix) and project size (more and less than 100 activities), the factors related to the organization which were availability of resources and top management support are still the dominant factors on the list. From the second survey done using a questionnaire which targeted the project managers, out of the 57 responses that they obtained, 40.7% respondents are from manufacturing which formed the largest response group. The respondents from manufacturing sector indicated that factor related to the organization is most critical. Further to that, the project managers from manufacturing rank top management support, coordination and competence of project manager as the most important factors for project success, in fact these three factors were ranked equally important followed by commitment, technical background and communication of project members as the next 3 important factors.

2.2 Empirical Literature Review

Mann (2003) conducted a study on smallholder agriculture and productivity growth-starter pack in Malawi, concludes that Malawi’s food security has depended on the productivity of fertilized hybrid maize. In the 1980s, fertilizer use was supported by the credit program that provided a universal fertilizer subsidy to primary wealthier small holders deemed eligible for credit. Many bought the subsidized fertilizer, and made a rational decision that the least risk option was to sell this to large-scale farmers. The subsidy program was completed by a stiffer credit recovery effort which collapsed in the wake of a disastrous drought in 1994 and a new political climate. Free distribution of seed and fertilizer in subsequent years prevented immediate famine. By the 1997/1998 farming season, Malawi was facing a dire food crisis. However, improved best bet maize productivity packages were developed, which included economically viable fertilizer doses tailored to regional soil conditions. Within five years of testing in over 1,700 field sites, the maize
productivity task force had identified the most cost effective package of maize cropping and rotation practices for each of Malawi’s agro climate regions.

Adoption and ownership of funded community projects is dependent to the income level of the beneficiaries from other sources external to the program or the financial benefits expected from the project being implemented. A study by Gan (2001) on antipoverty program found out that citizens were well involved in the program due to material gains accruing from the projects for example paid labour. Community participation in the implementation of the program was tied to age rates and frequency. As reported by the same study, it is only in the implementation stage of many projects where the communities are paid for labour they provide thus enhancing their effective implementation.

Lack of finances contributes to people’s powerlessness. Frances (2009) argues that the poor and marginalized feels stigmatized and rarely join with others in community projects. Lack of capital has been identified in many studies as a major constraint in expansion of projects. In Central Kenya, Macharia (2010) found out that lack of affordable credit was a major impediment to intensified use of modern farming methods and technology. Reduced opportunity costs of the program attract project implementers and mostly in agricultural projects. In the implementation of projects for food security, the beneficiaries need the ability to perform many functions to ensure food is available and accessible to all. A study conducted by Webbs and Rogers (2003), shows that in order to produce more and more nutritious food the beneficiaries have to use agricultural knowledge and farming skills which are technical assets. Capacity building is not only a stand-alone training interventions but rather a strategically coordinated set of activities aimed at improving the abilities of skills of individuals for a better performance.

A study by Shalmali (2006) on the programme’s implementation reveals that lack of knowledge and skills have prevented people from taking full advantage of recent government agricultural programmes. Policies to support small-scale farmers have the same double objectives of providing short-term support in conjunction with long-term structural changes. These however cannot be realized without further resources geared to farmer’s capacity building in gathering information, market functioning and general education. Personnel issues, including recruitment, selection of training is among the common critical success factors in effective project implementation, Jeffrey and Denis, (2007). Poor communication is a sign of poor leadership and management. Wang (2000) argues that communication should be two way so that it can provide information to improve understanding and responsibility and to motivate staff. Also they argue that communication should not be seen as a one-off activity throughout the implementation process. In many cases it is not so and therefore communication still remains a challenge to strategy implementation process.

Aaltonen and Ikavaloko (2008) state that the amount of strategic communication in most organizations is large with both written and oral communication being used in form of top down communications. However, a great amount of information does not guarantee understanding and there is still much to be done in the field of communicating strategies. Donors have clear guidelines on Monitoring and evaluation (M & E) where all stakeholders must be involved in the Monitoring and evaluation process. According to ACF, (2011), the communities in which a project was implemented should have a sizeable say in shaping and undertaking M&E activities, as well as in decision-making around M&E findings. A participatory monitoring and evaluation framework in food security projects was to assess the degree of relevance and success of a project through
satisfaction feedback from beneficiaries and other stakeholders on whether needs were being addressed (ACF, 2011). A participatory M & E encouraged the ownership of and accountability for the M&E process and outputs by the communities themselves (CARE_PMERL, 2012). The success of food security projects was a function of the community involvement in M & E activities throughout the projects life cycle. When key stakeholders in an intervention were allowed to participate in the project and provide feedback that contributed to a successful project (ACF, 2011).

3.0 Research Methodology

This study adopted a descriptive survey design. The study randomly selected 150 beneficiaries appearing in the list of 30,643 beneficiaries provided by Kitui County Long Rains Food Security Assessment Report (2013). This study used primary data which was collected through use of a questionnaire. In order to test and enhance the validity of the questionnaire, the researcher selected a sample of five randomly selected agricultural extension officers within the county and discussed the contents of the questionnaire. Twenty questionnaires were piloted by issuing them to respondents who were not included in the final study sample. The twenty questionnaires were then coded and responses input into SPSS which were used to generate the reliability coefficient. After data had been collected through questionnaires, it was prepared in readiness for analysis by editing, handling blank responses, coding, categorizing and keying into Statistical Package for Social Sciences (SPSS) computer software for analysis. SPSS was used to produce frequencies, descriptive and inferential statistics which were used to derived conclusions and generalizations regarding the population. A multiple linear regression model was used to test the significance of the influence of the independent variables on the dependent variable.

4.0 Findings, Results and Discussion

4.1 Sample Characteristics

4.1.1 Gender of Respondents

The respondents were asked to indicate their gender. Figure 1 shows that majority (62%) of the respondents were male and 38% were female. The findings imply that the agricultural sector is a male dominated field.

![Figure 1: Gender of respondents](image-url)
4.1.2 Age of the Respondents

The respondents were asked to indicate their age brackets. Results in figure 2 revealed that 1% of the respondent was between 18 and 25 years and 22% of the respondents were aged between 26 to 35 years. The findings also showed that 44% were aged between 36 to 45 years, and another 22% were between 46-55 years. The findings imply that most of the respondents were at their energetic age hence they had the energies to engage in farming as their career.

![Age of respondents](chart.png)

Figure 2: Age of respondents

4.1.3 Years Engaged in Farming Activities

The respondents were asked to indicate the number of years they have been engaged with farming activities. Figure 3 reveals that 46% of the respondents had been in the farming activities for a period of more than 7 years, while 25% indicated between 6 to 7 years and 25% of the respondents had been in farming for a period of between 3-5 years. The findings imply that all the respondents had been in the field for a long period hence accurate response regarding the study.
4.2.1 Implementation of Hunger Eradication Project

This section tested the views of the farmers regarding the implementation of hunger eradication project by better seed distribution. Table 1 shows that 77.2% of the respondents disagreed that Kitui County has never had hunger problems, 43.5% agreed that they have never failed to feed themselves and their family and 46.5% disagreed that they have more than three types of crops in their farm which ensures food sufficiency for their family the whole year. In addition, 58.4% agreed that they are aware of some government projects which are meant to improve food sufficiency in Kitui County, 58.4% agreed that food projects initiated by the Government are quite helpful and 41.6% agreed that food projects initiated by the Government are still continuing. Seventy nine point two percent (79.2%) of the respondents agreed that they normally work hard to ensure their family does not suffer food shortage any time of the year and 56.5% agreed that the seeds being distributed by the government can resist draught since they are treated. The mean score for the responses was 3.06 which indicate that many respondents were neutral towards to the statements regarding implementation of hunger eradication projects.

The standard deviation on the other hand describes the distribution of the response in relation to the mean. It provides an indication of how far the individual responses to each factor vary from the mean. A standard deviation of more than 1 indicates that the responses are moderately distributed, while less than 1 indicates that there is no consensus on the responses obtained. Therefore an average standard deviation of 1.217 shows a significant variation from the mean.
Table 1: Implementation of hunger eradication project

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitui county has never had hunger problems</td>
<td>56 (55.4%)</td>
<td>22 (21.8%)</td>
<td>10 (9.9%)</td>
<td>7 (6.9%)</td>
<td>6 (5.9%)</td>
<td>1.86</td>
<td>1.209</td>
</tr>
<tr>
<td>I have never failed to feed myself and the family</td>
<td>22 (21.8%)</td>
<td>18 (17.8%)</td>
<td>17 (16.8%)</td>
<td>36 (35.6%)</td>
<td>8 (7.9%)</td>
<td>2.9</td>
<td>1.315</td>
</tr>
<tr>
<td>I have more than three types of crops in my farm which ensures food sufficiency for my family the whole year</td>
<td>16 (15.8%)</td>
<td>31 (30.7%)</td>
<td>15 (14.9%)</td>
<td>31 (30.7%)</td>
<td>8 (7.9%)</td>
<td>2.84</td>
<td>1.247</td>
</tr>
<tr>
<td>I am aware of some government projects which are meant to improve food sufficiency in Kitui County</td>
<td>11 (10.9%)</td>
<td>19 (8.8%)</td>
<td>12 (11.9%)</td>
<td>43 (42.6%)</td>
<td>16 (15.8%)</td>
<td>3.34</td>
<td>1.259</td>
</tr>
<tr>
<td>Food projects initiated by the Government is quite helpful</td>
<td>7 (6.9%)</td>
<td>20 (19.8%)</td>
<td>15 (14.9%)</td>
<td>47 (46.5%)</td>
<td>12 (11.9%)</td>
<td>3.37</td>
<td>1.138</td>
</tr>
<tr>
<td>Food projects initiated by the Government is still continuing</td>
<td>27 (26.7%)</td>
<td>14 (13.9%)</td>
<td>18 (17.8%)</td>
<td>42 (41.6%)</td>
<td>0 (0.0%)</td>
<td>2.74</td>
<td>1.254</td>
</tr>
<tr>
<td>I normally work hard to ensure my family does not suffer food shortage any time of the year</td>
<td>3 (3.0%)</td>
<td>5 (5.0%)</td>
<td>13 (12.9%)</td>
<td>43 (42.6%)</td>
<td>37 (36.6%)</td>
<td>4.05</td>
<td>0.984</td>
</tr>
<tr>
<td>The seeds being distributed by the government can resist draught since they are treated</td>
<td>11 (10.9%)</td>
<td>19 (18.8%)</td>
<td>14 (13.9%)</td>
<td>33 (32.7%)</td>
<td>24 (23.8%)</td>
<td>3.4</td>
<td>1.327</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>19 (18.9%)</strong></td>
<td><strong>19 (18.3%)</strong></td>
<td><strong>14 (14.1%)</strong></td>
<td><strong>35 (34.9%)</strong></td>
<td><strong>14 (13.7%)</strong></td>
<td><strong>3.06</strong></td>
<td><strong>1.217</strong></td>
</tr>
</tbody>
</table>

4.2.2 Seed Delivery Timing

The first objective of the study was to establish the extent to which seed delivery timing affect the implementation of hunger eradication projects in Kitui County. Results on table 2 indicates that 54.5% of the respondents disagreed that the seed are delivered on time by distributors, 67.3% disagreed that everybody in their neighborhood was given seeds for planting by the government and 68.3% disagreed that the roads in their area are accessible during heavy rainfalls. Sixty point four percent (64%) of the respondents disagreed that farmers in Kitui County are able to deliver
their produce to the market due to good roads, 48.5% disagreed that the government was committed to eradicate hunger and poverty in their area and 72.3% agreed that during rainy seasons vehicles are able to access their homes to deliver seeds. The mean score for the responses for this section was 2.45 which indicate that many respondents disagreed that there was timely seed delivery. The findings imply that seed delivery was a key determinant in implementation of hunger eradication project.

The standard deviation on the other hand describes the distribution of the response in relation to the mean. It provides an indication of how far the individual responses to each factor vary from the mean. A standard deviation of more than 1 indicates that the responses are moderately distributed, while less than 1 indicates that there is no consensus on the responses obtained. Therefore an average standard deviation of 1.376 shows a significant variation from the mean.

<table>
<thead>
<tr>
<th>Table 2: Seed delivery timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement</td>
</tr>
<tr>
<td>The seed are delivered on time by distributors</td>
</tr>
<tr>
<td>Everybody in my neighborhood is given seeds for planting by the government</td>
</tr>
<tr>
<td>The roads in my area are accessible during heavy rainfalls</td>
</tr>
<tr>
<td>Farmers in Kitui County are able to deliver their produce to the market due to good roads</td>
</tr>
<tr>
<td>The government is committed to eradicate hunger and poverty in my area</td>
</tr>
<tr>
<td>During rainy seasons vehicles are able to access our homes to deliver seeds</td>
</tr>
<tr>
<td>Average</td>
</tr>
</tbody>
</table>
4.2.3 Corruption

The second objective of the study was to find out the effect of corruption on the implementation of hunger eradication projects in Kitui County. Table 3 shows that 72.3% of the respondents agreed that corruption was a challenge to all residents in Kitui County. 65.3% agreed that only the financial stable residents are given seeds by the distributors and 50.5% agreed that the project officers sell the project seeds to residents. Ninety point one percent of the respondents agreed that farm inputs are still expensive and another 90.1% agreed that all taxes on farm inputs should be eliminated if the government wants to make farming more meaningful. The mean score of the responses for this section was 3.87 indicating that more respondents agreed that corruption was a key determinant in hunger eradication project implementation. The findings imply that corruption influenced implementation of hunger eradication project since it led to loss of seeds or seed being distributed to the wrong beneficiaries.

The standard deviation on the other hand describes the distribution of the response in relation to the mean. It provides an indication of how far the individual responses to each factor vary from the mean. A standard deviation of more than 1 indicates that the responses are moderately distributed, while less than 1 indicates that there is no consensus on the responses obtained. Therefore an average standard deviation of 0.978 shows non-significant variation from the mean.

Table 3: Corruption

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corruption is a challenge to all residents in Kitui County</td>
<td>0 (0.0%)</td>
<td>16 (15.8%)</td>
<td>12 (11.9%)</td>
<td>40 (39.6%)</td>
<td>33 (32.7%)</td>
<td>3.89</td>
<td>1.038</td>
</tr>
<tr>
<td>Only the financial stable residents are given seeds by the distributors</td>
<td>1 (1.0%)</td>
<td>23 (22.8%)</td>
<td>11 (10.9%)</td>
<td>46 (45.5%)</td>
<td>20 (19.8%)</td>
<td>3.6</td>
<td>1.078</td>
</tr>
<tr>
<td>The project officers sell the project seeds to residents</td>
<td>6 (5.9%)</td>
<td>17 (16.8%)</td>
<td>27 (26.7%)</td>
<td>35 (34.7%)</td>
<td>16 (15.8%)</td>
<td>3.38</td>
<td>1.121</td>
</tr>
<tr>
<td>Farm inputs are still expensive</td>
<td>1 (1.0%)</td>
<td>6 (5.9%)</td>
<td>3 (3.0%)</td>
<td>66 (65.3%)</td>
<td>25 (24.8%)</td>
<td>4.07</td>
<td>0.778</td>
</tr>
<tr>
<td>All taxes on farm inputs should be eliminated if the government wants to make farming more meaningful full</td>
<td>0 (0.0%)</td>
<td>8 (7.9%)</td>
<td>2 (2.0%)</td>
<td>33 (32.7%)</td>
<td>58 (57.4%)</td>
<td>4.4</td>
<td>0.873</td>
</tr>
<tr>
<td>Average</td>
<td>2 (1.6%)</td>
<td>14 (13.8%)</td>
<td>11 (10.9%)</td>
<td>44 (43.6%)</td>
<td>30 (30.1%)</td>
<td>3.87</td>
<td>0.978</td>
</tr>
</tbody>
</table>
4.2.4 Beneficiary Participation

The third objective of the study was to determine the influence of beneficiary participation on the implementation of hunger eradication projects in Kitui County. Table 4 shows that 72.3% of the respondents agreed that the government should involve all the stakeholders in the implementation of projects, 70.3% agreed that Agricultural extension officers are key in educating farmers on how to improve their farm productivity and 42.6% agreed that they attend all seminars organized by the agricultural officers. In addition, 78.2% agreed that the government should look for ways of communication modern methods of farming using locally understood languages and 77.2% agreed that the government promotes agricultural show in the county for farmers to learn more. The mean score for the responses for this section was 3.70 which indicate that many respondents agreed that beneficiary participation was a key driver of hunger eradication project implementation.

The standard deviation on the other hand describes the distribution of the response in relation to the mean. It provides an indication of how far the individual responses to each factor vary from the mean. A standard deviation of more than 1 indicates that the responses are moderately distributed, while less than 1 indicates that there is no consensus on the responses obtained. Therefore an average standard deviation of 1.195 shows a significant variation from the mean.

Table 4: Beneficiary participation

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The government should involve all the stakeholders in the implementation of projects</td>
<td>2 (2.0%)</td>
<td>15 (14.9%)</td>
<td>11 (10.9%)</td>
<td>34 (33.7%)</td>
<td>39 (38.6%)</td>
<td>3.92</td>
<td>1.129</td>
</tr>
<tr>
<td>Agricultural extension officers are key in educating farmers on how to improve their farm productivity</td>
<td>3 (3.0%)</td>
<td>18 (17.8%)</td>
<td>9 (8.9%)</td>
<td>39 (38.6%)</td>
<td>32 (31.7%)</td>
<td>3.78</td>
<td>1.163</td>
</tr>
<tr>
<td>I attend all seminars organized by the agricultural officers</td>
<td>25 (24.8%)</td>
<td>13 (12.9%)</td>
<td>20 (19.8%)</td>
<td>22 (21.8%)</td>
<td>21 (20.8%)</td>
<td>3.01</td>
<td>1.48</td>
</tr>
<tr>
<td>The government should look for ways of communication modern methods of farming using locally understood languages</td>
<td>0 (0.0%)</td>
<td>14 (13.9%)</td>
<td>8 (7.9%)</td>
<td>43 (42.6%)</td>
<td>36 (35.6%)</td>
<td>4.00</td>
<td>1</td>
</tr>
<tr>
<td>The government promotes agricultural show in the county for farmers to learn more</td>
<td>9 (8.9%)</td>
<td>9 (8.9%)</td>
<td>5 (5.0%)</td>
<td>50 (49.5%)</td>
<td>28 (27.7%)</td>
<td>3.78</td>
<td>1.205</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>8 (7.7%)</td>
<td>14 (13.7%)</td>
<td>11 (10.5%)</td>
<td>37 (37.2%)</td>
<td>31 (30.9%)</td>
<td>3.70</td>
<td>1.195</td>
</tr>
</tbody>
</table>
4.2.5 Project Monitoring

The fourth and last objective of the study was to establish how project monitoring affects the implementation of hunger eradication projects in Kitui County. Results on table 5 shows that 57.4% of the respondents disagreed that the agricultural officers visit the farmers promptly to check on their crops, 58.6% disagreed that the government follows up on the use of distributed seeds to check how they are being used and 65.4% disagreed that training was offered practically to residents on how to take care of different crops. Forty nine point five percent of the respondents agreed that the government offers advice on the type of crop that can do well in semi-arid area and 77.3% agreed that the government should invest in more research on the most appropriate farming methods for Kitui County. The mean score for the responses for this section was 2.90 which indicate that many respondents disagreed with the statements on project monitoring. The findings imply that there were poor project monitoring practices hence the residents did not know whether they are carrying out the project effectively or not. The standard deviation on the other hand describes the distribution of the response in relation to the mean. It provides an indication of how far the individual responses to each factor vary from the mean. A standard deviation of more than 1 indicates that the responses are moderately distributed, while less than 1 indicates that there is no consensus on the responses obtained. Therefore an average standard deviation of 1.264 shows a significant variation from the mean.

Table 5: Project monitoring

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The agricultural officers visit the farmers promptly to check on their crops</td>
<td>31 (30.7%)</td>
<td>27 (26.7%)</td>
<td>11 (10.9%)</td>
<td>26 (25.7%)</td>
<td>6 (5.9%)</td>
<td>2.5</td>
<td>1.324</td>
</tr>
<tr>
<td>The government follows up on the use of distributed seeds to check how they are being used</td>
<td>20 (20.2%)</td>
<td>38 (38.4%)</td>
<td>16 (16.2%)</td>
<td>18 (18.2%)</td>
<td>7 (7.1%)</td>
<td>2.54</td>
<td>1.206</td>
</tr>
<tr>
<td>Training is offered practically to residents on how to take care of different crops</td>
<td>21 (20.8%)</td>
<td>45 (44.6%)</td>
<td>13 (12.9%)</td>
<td>8 (7.9%)</td>
<td>14 (13.9%)</td>
<td>2.5</td>
<td>1.293</td>
</tr>
<tr>
<td>The government offers advice on the type of crop that can do well in semi-arid area</td>
<td>15 (14.9%)</td>
<td>15 (14.9%)</td>
<td>21 (20.8%)</td>
<td>48 (47.5%)</td>
<td>2 (2.0%)</td>
<td>3.07</td>
<td>1.142</td>
</tr>
<tr>
<td>The government should invest in more research on the most appropriate farming methods for Kitui County</td>
<td>10 (9.9%)</td>
<td>13 (12.9%)</td>
<td>0 (0.0%)</td>
<td>25 (34.7%)</td>
<td>43 (42.6%)</td>
<td>3.87</td>
<td>1.354</td>
</tr>
<tr>
<td>Average</td>
<td>19 (19.3%)</td>
<td>28 (27.5%)</td>
<td>12 (12.2%)</td>
<td>27 (26.8%)</td>
<td>14 (14.3%)</td>
<td>2.90</td>
<td>1.264</td>
</tr>
</tbody>
</table>
4.3 Inferential Statistical Analysis

4.3.1 Regression Analysis

In order to establish the statistical significance of the independent variables on the dependent variable (hunger eradication project) regression analysis was employed. The regression equation took the following form.

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \]

Where

- \( Y \) = Implementation of Hunger Eradication Projects (Better seed distribution project)
- \( X_1 \) = Seed delivery delay
- \( X_2 \) = Corruption
- \( X_3 \) = Beneficiary participation
- \( X_4 \) = Project monitoring

In the model, \( \beta_0 \) = the constant term while the coefficient \( \beta_{ii} = 1 \ldots 4 \) was used to measure the sensitivity of the dependent variables (\( Y \)) to unit change in the predictor variables. \( e \) is the error term which captures the unexplained variations in the model. Table 4.7 shows that the coefficient of determination also called the R square is 56.6%. This means that the combined effect of the predictor variables (seed delivery timing, corruption, beneficiary participation and project monitoring) explains 56.6% of the variations in implementation of hunger eradication projects. The correlation coefficient or R of 75.2% indicates that the combined effect of the predictor variables has a strong and positive correlation with hunger eradication projects implementation. This also meant that a change in the drivers of hunger eradication projects has a strong and a positive effect on hunger eradication projects implementation.

5.0 Conclusion and Recommendations

5.1 Conclusions

Based on the objectives and the findings of the study the following conclusions can be made: seed delivery timing is a key driver to hunger eradication project implementation in Kitui County. It can therefore be concluded that the farmers were happy about the government initiative of distributing seeds, fertilizers and have farmers given grants for basic farm mechanization which would make farmers become self-sufficient but should be delivered on time of need.

Beneficiary participation was found to be effective in determining hunger eradication project implementation. The study findings stresses the fact that achievements of community projects are tied on community participation which calls for active involvement of all community members in influencing the direction and execution of projects, rather than merely receiving a share of project benefits from a distance. Working as a team assists in tapping the energies and resources of individual citizen within the community for the benefits of the entire community.

5.2 Recommendations

Implementation of community food projects requires full involvement of the beneficiaries for ownership and sustainability. In order to ensure sustainable food security, the study recommends
that project initiators must strive to strike gender parity or at least bring more males into tow to support inception, implementation and management of community food projects. The researcher therefore recommends for rigorous mobilization and sensitization of the community on need for active involvement in execution of community projects especially for food security. It is recommended that the farmers embrace the government initiated projects being implemented in the area as this will help improve food production in the area and avoid food drought and fight poverty. This effort can lead to successful implementation of the projects and subsequently lead to better productivity and by extension that of the overall farms.

Seed delivery timing was found to be statistically significant in explaining hunger eradication project implementation. The study recommends that the government should put in place several distribution centres which are accessible by all residents. There should also be well written procedures and policies to guide on the distribution of seeds; this is to ensure that all the residents are given equal opportunities. Corruption was statistically significant in explaining hunger eradication project implementation. The study therefore recommends that the Government should put in place effective policies and procedures to ensure that the seed being distributed reach the intended residents. The study further recommends that the government should ensure that the officers found faulting the processes are punished.

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**Conflict of Interest**

The authors declare no conflict of interest.

**References**


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