
**EFFECTS OF AGRICULTURAL EXTENSION EDUCATION ON
PROMOTION OF HORTICULTURAL FARMING: A CASE OF
KAITI FARMERS ASSOCIATION, MAKUENI COUNTY,
KENYA**

¹**Daniel Thathi Mwanja**

Postgraduate Student, St Paul's University, Kenya

E-mail of Corresponding author: mdslmr682913@spu.ac.ke

²**Dr. Antony Odek**

Senior Lecturer, St Paul's University, Kenya

aodek@spu.ac.ke

Dr. Nason Vundi

Senior Lecturer, St Paul's University, Kenya

Publication Date: October 2021

ABSTRACT

Purpose of the Study: Agricultural Extension occupies a central role in instilling information that increases farmer's productivity; this is based on the fact that information is the most critical element in farming since it empowers them to be able to make the right decisions. This research therefore sought to investigate how farmers in Kaiti Sub County are influenced by the extension services. The objectives of the research included: To establish the effects of information dissemination by extension officers on horticultural farming; to discuss the effects of frequency of contact by extension officers with farmers on horticultural farming and to assess the effects of monitoring activities by extension officers on horticultural farming in Kaiti Sub County, Makueni County.

Statement of the Problem: Farmers in Kaiti Sub County are under pressure to adopt modern farming methods, innovative practices and information about market trends. This adoption of the practices will ultimately improve their agricultural production. However, not much research has been done to explain the nexus between the agricultural practices and the extension services,

especially in Kaiti Sub County and this creates a gap in knowledge especially in rural areas which demonstrates how agricultural extension plays a role in horticultural growth.

Methodology: The study adopted a descriptive case study design and specifically targeted Kaiti Horticultural farmers' association and extension officers in Kaiti Sub County who were selected purposively. The study also adopted both qualitative and quantitative approaches in which questionnaires and interviews were administered to the respondents. The farmers were selected randomly until when the sample of 97 was reached based on Krejcie and Morgan (1970) formulae of selecting an appropriate sample. For every ten farmers, one extension officer was selected randomly, hence out of the 97; there were 9 extension officers in addition to 88 farmers. Data was analyzed with the aid of the computer software statistical package for social sciences (SPSS) in which graphs, percentages and figures were used for illustration of data. At the same time, qualitative information was analyzed by grouping the collected information into themes and then it was described in prose using verbatim and narration. The aim was to corroborate the quantitative data.

Result: It was established that as much as there are deliberate efforts to enhance extension education services in Kaiti Sub county, there are still gaps in terms of accessibility of the field officers as well as the frequency of meetings between the farmers and the extension officers and this has had an impact of not being able to reach out many farmers. At the same time, it was also established that monitoring and evaluation of the disseminated information is still low and it needs to be enhanced in order to have a more sustainable effect. It is anticipated that the study will benefit not only policy makers, but also the farmers in Kaiti and other areas as well as the National and County governments.

Conclusion: The study concludes that there should be a diversification of communication strategies in order to increase coverage to many people in order to improve information uptake.

Recommendation: The study recommends that the county government employs more extension officers as well as remunerate them properly in order to improve their services.

Keywords: *Agricultural Extension, Horticultural farming, Kaiti Sub County.*

INTRODUCTION

Agricultural Extension education occupies a pivotal role in not only availing the right information to farmers and enabling them to make the right decisions, but also as far as enhancing their productivity is concerned. According to Kithaka (2017), Agricultural extension can be defined as the transfer of knowledge that is scientific in nature to the farmer for the sake of applying it to the agricultural practices through farmer education. In other words, it is the delivery of 'information inputs' to farmers. In fact, the role of extension education is invaluable in teaching farmers how to improve their productivity. Furthermore, extension education permits the movement of research from the lab to the field. According to WFP (2018), national research and extension systems need to be prioritized if the issue of food security is to be effectively dealt with. This is because of the significance that information occupies in the life of farmers. The need for extension is even more need in rural areas where farmers have limited or no information that is keeping in mind the emerging trends in their respective fields. From this perspective, information is the master stroke towards successful farming.

Globally, the concept of Agricultural extension has its roots in the mid 19th century in Ireland. This was when there was a great famine and Lord Clarendon instructed his handlers to give advice on how to tackle the situation. It then found its way to Germany which adopted itinerant teachers who gave farmers advice based on technical knowledge and expertise. In the USA, it came a bit later in the early 20th Century and the concept has spread to all parts of the world. According to Anderson (2007), extension agents in the US are usually attached to a university and their role is to develop as well as to deliver educational programs which are aimed at assisting people in not only community development, but also in economic development. They are also dubbed as county agents or rather extension educators. This was given rise to by the Smith Lever Act of 1914 which established a system of cooperative extension that was operated by universities with the aim of informing people about current developments in agriculture and home economics.

In the African continent, the concept has gained popularity because of the benefits that it accrues to the farmers in terms of improving their farming endeavors. For example, FAO (2013) reports that the growth of Tef, a cereal in Ethiopia that is a staple food, has been poorly done by farmers mainly because of insufficient extension services which could have convinced the farmers to grow a better yielding breed of the crop. With time, however, after the idea of extension services was adopted, there were tremendous developments on the increase of their productivity. In Zaire, there was an improved yield partly because of training that was given to farmers (DZARC, 2018), the farmers were given extension education which in effect enabled them to improve their farming practices. In Mozambique, the Alliance for Green Revolution in Africa (AGRA) started a management training program to farmers; the end result was that there was an improved output from the farming practices.

In Kenya, since the inception of the 2010 Constitution, agriculture was placed under the county government. However, the fourth schedule of the constitution part 1 function 32 assigns capacity building and technical assistance function to the National Government. According to the GOK (2017), the agricultural sector contributes about twenty six percent of the country's GDP annually in addition to twenty seven percent in terms of manufacturing, distribution as well as the service sectors. In fact, the sector employs over eighty percent of the rural work force and provides more than 18% of the formal employment (GOK, 2017). This scenario calls for a purposeful consideration of the need to prioritize agricultural extension and education, especially targeting the rural farmers. Indeed, according to the GOK (2013), the Agriculture Policy places a lot of emphasis on development of effective human resource by formulation of standards for agricultural training and skills development and promotion of investment in agricultural education, research and extension.

Makueni County has made tremendous progress regarding horticulture farming. Before devolution set in, a lot of changes were witnessed. According to NALEP (2018), Agricultural Extension and Education has helped farmers to improve produce of mangoes, citrus fruits and cabbages. This has registered considerable progress in horticulture business. In fact, the county government set up a factory to process their fruits into juice and this has translated to improved income to the farmers. It is against this background that this study seeks to investigate the effects of Agricultural Extension Education in Kaiti Sub County.

STATEMENT OF THE PROBLEM

Agricultural extension is a critical component to successful agricultural practices; this is because of the fact that information that is disseminated to farmers play an important role in enabling them to make decisions pertaining types of crops, varieties, methods of farming as well as crop management and marketing. For a long time, this component of agriculture has not been studied and abstracted. Rural farmers particularly have a lot to benefit from the expertise that comes along with agricultural extension because of the limitations of information on farming. Horticulture farming has been a major boost to farmers in Kaiti Sub County and thus to the development of the county. This is because of the fact that since the inception of devolution, the farmers have found considerable support from the county government.

This support has enabled them to not only do value addition to their products, especially through processing them and selling as fruit juice, but also the support has relieved them from post-harvest loses. This support has enabled them to get more returns to their agricultural investments and as a result boost their income levels. However, one fundamental aspect of horticulture farming in the sub county that has not been fully researched and ascertained is the issue of whether agricultural extension education has impacted on the farming. Studies done elsewhere like those of Anderson (2007), World Bank (2007), World Agro forestry Center (2015) have revealed that there is a very strong link that exists between agricultural extension education and community development; when farmers have adequate knowledge and skills, they end up making the right decisions and thus getting more returns.

This in effect leads to development of the society because of the economic empowerment that comes with it. From this perspective, it is apparent that the farmers in Kaiti Sub County are under pressure to adopt modern farming methods, innovative practices and information about market trends. This adoption of the practices will ultimately improve their agricultural production. However, not much research has been done to explain the nexus between the agricultural practices and the extension services, especially in Kaiti Sub County and this creates a gap in knowledge especially in rural areas which demonstrates how agricultural extension plays a role in horticultural growth. At the same time, horticulture farming is relatively new in the sub county; for a long time, farmers have been used to the traditional crops which have proved to be unsustainable. Therefore, based on this, they adopted new ventures and this demands that there ought to be knowledge that links horticulture farming to extension services. This is thus the motivation for the study which aimed to investigate how agricultural extension impacts on horticultural farming practices in the Sub County.

OBJECTIVES OF THE STUDY

- i. To establish the effects of information dissemination by extension officers on horticultural farming in Kaiti Sub County
- ii. To examine the effect of frequency of contacts by extension officers with farmers on horticultural farming in Kaiti Sub County
- iii. To assess the effects of monitoring activities by extension officers on horticultural farming in Kaiti Sub County.

LITERATURE REVIEW

According to FAO (2018), the concept and practice of agricultural extension are the central themes of successful agriculture. Extension is a term which is open to a wide variety of interpretations. Each extension agent operates in a unique environment which in turn influences his perspective and approach. However, according to World Bank (2016), extension is used to refer to a process embedded in education which permits the benefiting of rural folks. The intention of this process is that it targets the rural farmers and gives them not only advice, but also information that will enable them to address their problems. When this is done, there is usually an increase in not only production, but also it translates into the increase in the standard of living of the farm that is being targeted. Wheeler (2016) avers that what extension aims at achieving is the changing deliberately and systematically the perceptions, attitudes and outlook in solving their problems.

According to Dolinska and D'Aquino (2016), the origin of agricultural extension is not very clear but in the last two thousand years, Chinese agricultural officials used to provide advice to farmers on how they can engage in farming practices. At the same time, there is evidence to the effect that in about eight hundred BC, the official that was in charge of agriculture in China's Zhou dynasty used to organize for training for farmers in which he taught them on crop rotation as well as drainage. Furthermore, the official also facilitated farmers by leasing to them grain stores and he also supplied food to them in times of famine.

In modern times, Dolinska (2016) reports that agricultural extension begun in the mid nineteenth century in Ireland. This was because of the destruction of Irish potatoes by fungal infection between the years 1854 and 1951 as well as severe famine. Consequently, the British government had to arrange for specialists in form of instructors to visit farmers in the rural places in order to teach and inform them on the best ways to engage in farming and more so alternative farming. The success of this endeavor was lauded by Germans and they in turn had to come up with their own approach which also involved sending instructors to the field to visit farmers and educate them. By the close of the nineteenth century, this practice had spread to the whole of Europe including France, Italy as well as Netherlands and Denmark.

According to Dolinska and D'Aquino (2016), it is not uncommon to find farmers with a lot of knowledge as pertaining the context that they operate within in terms of their farming system. However, the work of extension is to avail the requisite knowledge to them to boost that they have in order to make the right decisions. One good example revolves around knowing what causes crops to be damaged, how to control pests and even processes of making and understanding how manure and compost manure works in order to nourish plants. Such information is very key to farmers in terms of making them make the right decisions.

When the farmer puts into application this knowledge that means that the farmer will be able to get acquainted with skills that are new and this application may enable the farmer to have technical knowledge that will make him counter inevitability of farming. In addition, the farmer may gain soft skills like organizational ones; the possession of such skills will also enable the farmer to be able to understand the dynamics of group management. Other benefits may entail; economic skills, analytical skills as well as record keeping skills; all of them will boost the ware withal of the farmer in terms of improving productivity. According to Oni (2008), information acts like a 'software' tool which enables the user to be well poised to make the right decisions. In fact, successful farming is pegged on the decisions of the farmer; if the decisions are well

informed, then the end result is success in farming. However, if the decisions are not well informed, then the end result will be failure in farming. Therefore, agricultural agencies ought to prioritize information dissemination because this is what may differentiate the success or otherwise of farming.

Closely related to the issue of information is the proximity and availability of the extension officers; agricultural information is dynamic and this dynamism bestows on the extension officers the need to constantly update and reinforce information to the farmers. For example, Oni (2008) avers that change of a season can have tremendous effect on the routine of farmers. This will demand that they be educated on how to handle such a change. The same applies to the crop breeds; they need to be updated with the different varieties as well as the best at each time. Therefore, this means that extension officers are supposed to be frequent visitors to the farmers. At independence, the department of extension services was empowered fully and this enables the extension officers to frequently meet the farmers; however, with time, the department begun losing touch with farmers and it became very difficult to meet the farmers. This has had a net effect on farming produce.

Just as giving information is important, monitoring to ensure that the information given has been implemented properly is equally important. According to Wallace (1996), farmers who are not literate tend to misunderstand instructions given and as a result, can easily fail to implement fully and properly the information given by extension officers. Therefore, unless the extension officers have full proof mechanisms to monitor, their efforts can end in futility. In the era of technology, monitoring goes beyond physical visitations to include calling, sending pictures and even video clips demonstrating what is being implemented. For this to happen, both the farmers and the extension officers ought to appreciate the role of technological advancements.

Wallace (1996) posits that whenever extension officers visit farmers, the purpose ought to be on improving the previous visit's advice; based on this premise, it would be meaningless to have several meetings without having a deliberate follow-up plan. The visit itself will entail the extension officer taking notes based on what he/she has observed. This will involve taking note of each microscopic detail that the officer is able to observe and gather. Organization is key for this to be attained; the officer must have a place that he/she can record the day that the farmer was visited and the intention of that visit. This should be followed by a recommendation that came about as a result of the visit. This step is very important in that it allows the officer to arrange a follow-up activity with the farmer. Based on the recommendations, the agent can decide to have a follow up activity such as referring a colleague who has knowledge in a specific area who can share the information with the farmer. If this is not done, Wallace (1996) warns that it could end up disappointing the farmer or even end up losing trust in the extension officer all together.

The entire process demands utmost confidence and trust by the farmer in the extension officer; for this to be efficiently done, a lot of mechanisms ought to be in place that will guarantee that the effects in as far as improving people's livelihoods is adhered to and fully met. Monitoring helps track changes in the patterns of livelihoods to decipher its effects; if there are any effects, it is said that there has been a transformation and as such the objectives of extension will have been met. Monitoring is also a recent trend in organizational and project management; for projects to be said to have succeeded, they are evaluated based on their satisfying the targets that were set at the onset. These are evaluated during the monitoring and evaluation stage. Therefore,

agricultural extension education ought to be subjected to benchmarks that allow the conception of whether they have met the intended objectives or not.

METHODOLOGY

This study employed a descriptive research design. This is a type of design that is applied to a specific topic especially when carrying out an assessment of the topic to determine and report things the way they are and if a researcher wants to get details about the issue under investigation (Mugenda & Mugenda, 2003). In this research, the target population was Horticultural farmers in Kaiti Sub County Makueni County. The Kaiti horticultural farmers association has a membership of 130 farmers (County Government of Makueni 2019). According to Krejcie and Morgan (1970), the appropriate sample for 130 is 97. Therefore, based on this formula, 97 farmers and agricultural extension officers were targeted for the study.

The research adopted two types of sampling namely: purposive and systematic. Since this study was a case study, the horticulture farmers were selected purposively. They were targeted based on their membership into the Kaiti Horticultural Farmers Association. Thereafter, systematic sampling was employed in which from the list, the farmers were selected randomly until when the sample of 97 was reached based on Krejcie and Morgam (1970) formulae of selecting an appropriate sample. For every ten farmers, one extension officer were selected randomly, hence out of the 97; there were 9 extension officers in addition to 88 farmers

The researcher employed both qualitative and quantitative instruments of gathering data. Whereas the quantitative tools were questionnaires, the qualitative tools were interview guides. Questionnaires were convenient when handling a large number of respondents and can also be filled without the presence of the researcher. Because of the fact that the study employed both quantitative and qualitative approach to data collection, the analysis also followed the same pattern. Quantitative data was derived from the closed ended questions in the questionnaires while qualitative data was derived from the interviews and observation. Therefore, based on this understanding, quantitative data was analyzed by use of Statistical Package for Social Science program (SPSS) to calculate descriptive statistics like the mean, mode median and standard deviation.

RESEARCH FINDINGS AND DISCUSSIONS

A total of 80 questionnaires were administered to the respondents. Out of these, 77 of them came duly filled. This represented a response rate of 96.2 which was considered appropriate given the challenges that came with administration of questionnaires in view of the current COVID-19 pandemic challenges.

Demographic Characteristics of Respondents

In order to establish the features of the respondents, the researcher investigated the demographic features of the respondents to ascertain their appropriateness in being able to respond to the responses from the questionnaires. The study found that out of the total number of the respondents, the percentage of females was higher, 51.9% in comparison with that of the males which stood at 48.1%. This was because many women were easily available at the time of research being that they are fully at home taking care of the household. However, the disparity was a representation of the situation on the ground where women are left by their men to take care of the households as they go out to fend for their families. Age was also considered as an important parameter in this study. This is because of the fact that as one gets older, there comes

experience and as such the person is better poised to respond to the issues appropriately. A majority of the respondents, 80.5% were within the age bracket of above 30. Another 16.9% were aged between 20 and 30 with only a paltry 2.6% ranging between 0-20 years. This was an indication that the respondents had the appropriate capacity based on their experience to respond to the questions that were raised over the issues under investigation. Further, it was apparent that a majority of the respondents, 76.6%, had been practicing farming for a period of between 3 to 6 years while the remaining 23.4% had been farmers for a period of between 0 to 3 years. It was considered that this was requisite experience that the farmers had to enable them understand the issue of agricultural extension and hence appropriately respond to the issues under the investigation of this study. It was also established that only 20.8% of the respondents indicated not having any educational qualification. However, a majority of them were literate; 58.4% indicated having certificate qualifications while those with diploma were 13.0%. The remaining had a degree and masters respectively at 6.5% and 1.3%. This was an indication that a majority of the farmers that were targeted were literate and hence understood properly the issue of agricultural extension. Finally, a majority of the respondents, 77% were married while another 18.2% were single. The remaining 2.6% and 1.35 indicated as divorced and others respectively. This was therefore that the respondents were living in homesteads and as such, were accustomed to the livelihood of farming.

Effects of information dissemination on horticultural farming

Agricultural extension entails interactions between the farmers and the extension officers. For these visits to be meaningful and productive, they ought to be organized frequently. Therefore, the researcher wanted to find out the frequency off visits of the extension officers to farmers. The findings are presented in Figure 1:

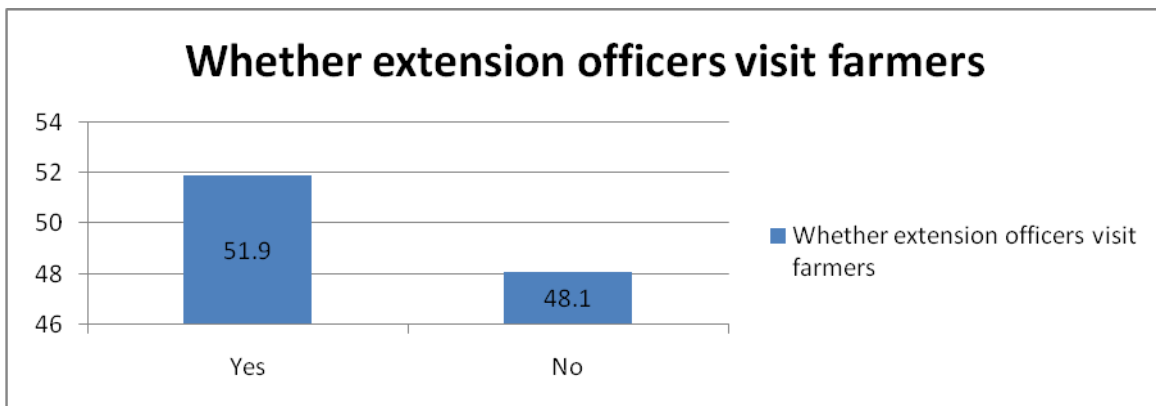


Figure 1: Visit by Extension Officer

From the figure above, a slight majority of the farmers, 51.9% indicated that the extension officers do visit them frequently. However, another 48.1% answered in the negative that the extension officers do not visit them frequently. Some went ahead to insist that they have never seen them in their farms at any given point. This was a clear demonstration that the extension officers were not as exhaustive and widespread as possible in the sub county to cover the entire population which is need of its services. Asked to state if the visits are useful, the farmers had divergent views on the same; 50.6% answered in the affirmative while another 49.4% answered in the negative. This also was an apt demonstration that the activities of the extension officers were not as remarked and did not have a great impact on the farmers as it is supposed to have.

Oni (2008), avers that information acts like a ‘software’ tool which enables the user to be well poised to make the right decisions. In fact, successful farming is pegged on the decisions of the farmer; if the decisions are well informed, then the end result is success in farming. However, if the decisions are not well informed, then the end result will be failure in farming. Therefore, agricultural agencies ought to prioritize information dissemination because this is what may differentiate the success or otherwise of farming. If this is ignored, then farmers run the risk of making irreversible mistakes that can cost them while failing to guarantee the issue of food security in their respective societies.

Effects of frequency of contacts by extension officers on horticultural farming

The purpose of agricultural extension is to enable the farmer to keep up to date with the current trends in farming so as they make the right decisions that pertains their practice. This therefore, demands that they ought to be kept abreast with the latest information. To be able to find out if agricultural extension workers visit the farmers in Kaiti Sub County regularly, the respondents were asked to indicate whether extension officers give current information to them. The findings are presented in Table1:

Table 1: Whether given frequent information

	Frequency	Percent	Valid Percent	Cumulative Percent
yes	31	40.3	40.3	40.3
no	46	59.7	59.7	100.0
Total	77	100.0	100.0	

From the table 1 above it is apparent that a majority of the respondents, 59.7% indicated that they are not given frequent information by extension effect. On the other hand, another 40.3% did indicate that they were given information on a frequent basis. Ideally, farmers ought to appreciate the role of extension officer in making them to engage in the right decisions. This therefore presents a significant challenge in terms of not being able to get the correct information on time. Some farmers averred that most of the information that they have on recent developments is gotten from the media; they cited some educative television channels which give them a lot of updated information that if used, helps them to improve their farming practices. Some even cited internet where they explained that they are able to get the right updated information in terms of the best breeds and crop diseases as well as market information through the internet. The fact that farmers are able to traverse these sources to get the right information means that there is a discernible gap that needs to be filled in terms of agricultural extension services.

Duration of Visits

Agricultural extension visits are focal points in enhancing the interaction between the officers and the recipients of the services who are the farmers. Therefore, to this end, the study sought to find out how frequent the meetings are held between the farmers and the extension officers. The findings are presented in Table 2.

Table 2: Frequency of visits

	Frequency	Percent	Valid Percent	Cumulative Percent
weekly	15	19.5	19.5	19.5
monthly	15	19.5	19.5	39.0
after two months	29	37.7	37.7	76.6
after three months	18	23.4	23.4	100.0
Total	77	100.0	100.0	

A majority of the respondents, 37.9% indicated that the extension officers visited them after every two months. Another 23.4% indicated that they visited them after every three months. The remaining indicated that they were visited after ever week and monthly at 19.5% and 19.5% respectively. Asked if they are comfortable with the frequency of visits, the farmers answered in the negative stating that for horticulture farming, there are usually a lot of changes in the farm produce even weekly and if they are not addressed, they may end up suffering staggering loses. They therefore expressed their wish that if the visits were to be increased so that they take care of every little development that take place, they would be more meaningful to them and to their farming enterprise.

In an interview with one of the KIIS, the following was established:

The reason as to why we as extension officers do not visit the farmers regularly is because of the fact that were are not fully facilitated by the government. It if was our wish, we could even be doing it weekly but that demands that we have extra cash in terms of logistics but that is not the case; the facilitation we have is so meager. (KII 001).

This serves to demonstrate that the extension officers are usually impeded by the financial constraints which prevent them from moving freely and accessing the farmers regularly as may be the case. It thus behooves on the department of agriculture to be able to come up with mechanisms that will enable them to regularly visit the farmers.

If farmers are there to receive information

One challenge that usually faces the agricultural extension services is the interplay that is there between the farmers and the officers in the field. As much as the field officers may be willing to disseminate the information to the farmers, the farmers may demonstrate inertia and ineptitude in receiving the information. Therefore, to this end, the researcher sought to establish whether farmers were always there to receive the information given by the extension officers. The responses are presented in Figure 2:

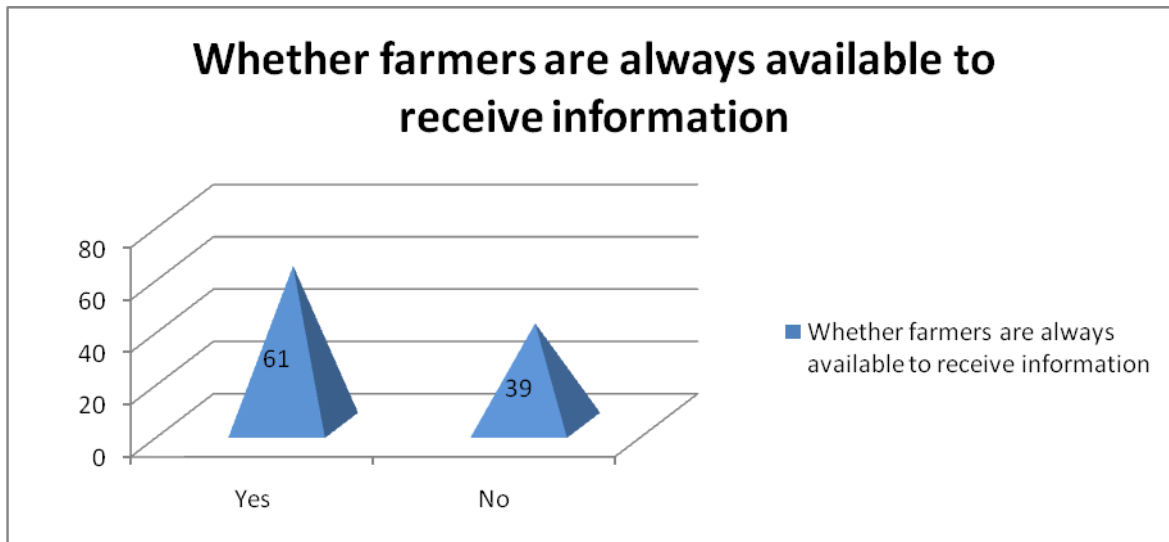


Figure 2: Availability of farmers

From the figure above, a slight majority of the respondents, 61%, indicated that the farmers are always there to receive information from the extension officers. Another 39% indicated in the negative. Those who indicated in the affirmative said that since the extension officers always have a schedule of events that they shared with the farmers, they always anticipate their visits and as such present themselves to receive them. However, those who answered in the negative stated that they have other businesses to attend to and as such, if their schedule is not in tandem with that of the extension officers, their schedule takes precedence. They also stated that if they are not available, they usually sought information given from those who are available. This therefore is another challenge because if the farmers fail to turn up for extension services, the end loser are usually the farmer and the farming practices.

The Effects of Monitoring and evaluation by extension officers on horticultural farming

Agricultural extension not only has the effect of helping the farmers to improve their crop production, but it also has the effect and objective of ensuring that they access markets as well as have innovative practices. To be able to establish this, the researcher asked the farmers several questions that are presented below:

If officers manage to visit all areas in the sub county

Comprehensive coverage of the extension officers of their jurisdiction is a very important step towards attaining the objectives of extension. This is because every area has unique challenges and peculiarities that need to be addressed uniquely. Therefore, the respondents were asked to indicate whether the extension officers visit all areas of the sub county. The responses are presented Table 3.

Table 3: Intensity of visits

Whether Extension Officers visit all areas in the sub county				
	Frequency	Percent	Valid Percent	Cumulative Percent
yes	32	41.6	41.6	41.6
no	45	58.4	58.4	100.0
Total	77	100.0	100.0	

From the table, it is apparent that the extension officers do not visit all the areas in the sub county by the responses from 58.4% farmers who indicated in the negative. Those who indicated that the extension officers visit all areas in the sub county were 41.6%. Asked further to indicate what the reasons could be explained for this disparity in visits, those who indicated that they visit all areas stated that the field officers are few and as such their coverage cannot comprehensively attend to all areas in the sub county; instead, farmers are asked to move to those areas that are designated for extension services and receive their training from these areas. On the other hand, those who indicated that the officers do not visit all areas stated that the extension officers fail to visit far flung areas of the sub county and this affects their ability to get information on markets and innovative practices.

In an interview with one of the KII, it was found out that distance is a major constraint as can be deduced from this statement:

The Sub County is vast and in some cases it is so remote. This could be a limiting factor to the extension officers who have limited knowledge of the areas and the net effect of this is the failure to disseminate the information to all farmers. Even those who relay the information that they have been given do not do it in exactly the same way as they were told; at the same time, each farm is unique in its own respects and it needs advice based on the uniqueness of the case. (KII 4).

Therefore, from the above, it can be deduced that the distance to and from the centers as well as the proximity can greatly influence the success or otherwise of the extension officers. This finding is in sync with those of, Oni (2008) that when the distance between the farmer and the extension officer is long, it tends to disadvantage the farmer because he/she may miss out on important information. At the same time, distance also keeps the extension officer out of touch with the realities on the ground.

Whether distance discourages farmers from meeting officers

Because of manpower challenges; the distance to particular places is bound to hinder the extension officers from attaining full coverage. Therefore, the farmers were asked to indicate if they are hampered in terms of distance from getting to the centers that extension services are offered. Their response is indicated Table 4.

Table 4: Effects of Distance

	Frequency	Percent	Valid Percent	Cumulative Percent
agree	47	61.0	61.0	61.0
disagree	30	39.0	39.0	100.0
Total	77	100.0	100.0	

From table 4 above, it is apparent that distance is a major hampering factor in as far as making it difficult for farmers to meet extension officers as indicated in the 61% of the respondents who answered in the affirmative. The remaining 39% indicated in the negative. This implies that as far as distance is concerned, the farmers were constrained from getting access to the services; this, in effect, means that they would largely be disadvantaged and the intention and objectives of agricultural extension will not be met as intended. Asked to explain how distance limits them, they stated that the centers that the extension officers usually hold their meetings and seminars are far flung; in most cases they are near towns and urban centers and as such, it becomes difficult for them to travel to those areas because of logistical effects.

If farmers forget what they are told because of less meetings

Monitoring and evaluation ensures that the skills and knowledge disseminated to farmers are put into constant use and practice. To be able to understand whether farmers keep in mind what they are told frequently by the extension officers, they were asked to indicate if they forget what they are told by extension officers. The findings are presented in Table 5.

Table 5: Farmer’s Level of Forgetfulness

Whether you forget what you are told by extension officers	Frequency	Percent	Valid Percent	Cumulative Percent
agree	53	68.8	68.8	68.8
disagree	24	31.2	31.2	100.0
Total	77	100.0	100.0	

From the table 5 above, a majority of the farmers, 68.8% did indicate that they forget what they are told by extension officers while another 31.2 disagreed with the statement. This was an indication of the need for more monitoring and evaluation to ensure that the farmers implement what they are told and also to ensure there is a follow up of the skills that are disseminated to the farmers. Asked to indicate why they forget, the farmers averred that the sessions are usually not very long and exhaustive as to ensure they internalize the concepts. At the same time; the farmers pointed out that the sessions are not interactive because the farmers usually do not get a change to ask relevant questions and raise their concerns. They suggested that if the sessions were more inclusive, it would enable them have an opportunity to remember and internalize the concepts and hence the problem of forgetting would be a thing of the past.

Whether extension officers monitor progress

To ascertain if the extension officers monitor the progress of their services, the farmers were asked to indicate whether their farms are monitored by the extension officers. The responses are presented in Table 6.

Table 6: Monitoring and Progress

Whether extension officers monitor progress				
	Frequency	Percent	Valid Percent	Cumulative Percent
yes	27	35.1	35.1	35.1
no	50	64.9	64.9	100.0
Total	77	100.0	100.0	

From the table above, it can be seen that the majority of the respondents, 64.9% indicated that the extension officers do not monitor their progress while the remaining 35.1% indicated in the affirmative. Therefore, what this implies is that there is need for more monitoring activities by the extension officers to reinforce their training to the farmers. Monitoring can assist to clear the misunderstanding of information that was given to a farmer by an extension officer. In some cases, extension officers may advice farmers based on a general principle but in practice, it may prove to be ineffective; therefore, what monitoring does is that it ensures the entrenchment of this information to the farmers and follows up. Feedback is also a very necessary component of agricultural extension; it enables the extension workers to know the areas that they can improve in terms of making their training be more fulfilling to the farmers.

If extension officers give information based on progress of farming

Lastly, the respondents were asked to indicate whether the extension officers give information based on progress of farming. This is a very important aspect of agricultural extension because the information ought to be tailor made to meet the needs of the specific farmers. The responses are presented in Table 7.

Table 7: Information by Extension officers

Whether Extension officers give information based on progress of farming				
	Frequency	Percent	Valid Percent	Cumulative Percent
yes	32	41.6	41.6	41.6
no	45	58.4	58.4	100.0
Total	77	100.0	100.0	

It can be deduced that a majority of the respondents, 58.4% did not believe that the extension officers gave information based on progress of farming. The remaining 41.6% answered in the affirmative. Wallace (1996) posits that whenever extension officers visit farmers, the purpose ought to be on improving the previous visit’s advice; based on this premise, it would be meaningless to have several meetings without having a deliberate follow-up plan. The visit itself will entail the extension officer taking notes based on what he/she has observed. This will involve taking note of each microscopic detail that the officer is able to observe and gather. Organization is key for this to be attained; the officer must have a place that he/she can record the day that the farmer was visited and the intention of that visit. This should be followed by a recommendation that came about as a result of the visit. This step is very important in that it

allows the officer to arrange a follow-up activity with the farmer. Based on the recommendations, the agent can decide to have a follow up activity such as referring a colleague who has knowledge in a specific area who can share the information with the farmer. If this is not done, Wallace (1996) warns that it could end up disappointing the farmer or even end up losing trust in the extension officer all together.

CONCLUSIONS

The study concludes that as much as there is a degree of information that is disseminated, there still needs to be a diversification in the methods that the extension officers employ in disseminating information. This can be through the emerging platforms such as creating user friendly websites as well as through social media interactive platforms such as what sup groups as well as face book pages and virtual meetings such as zoom and Google meet.

The study also arrived at the conclusion that regarding the frequency of contacts between the farmers and extension officers, they need to be increased in light of the many changes that take place in horticulture farming. It was established that at times, when the contacts are less frequent, the farmers loose the critical information they need at specific stages of their crops and this interferes with their crop production.

Regarding the effects of monitoring and evaluation by extension officers on horticultural farming, the study concludes that there should be an increase in monitoring of agricultural activities in order to ensure that the farmers follow the instructions as well as the guidelines that they are given by the extension officers. At the same time, monitoring ensures that the extension officers follow what they are supposed to do in order to improve their services.

RECOMMENDATIONS

Based on the study findings, the following are the recommendations for not only practical purposes, but also theoretical purposes: The first is that the County Government employs more agricultural extension officers. At the same time, the officers should be facilitated with adequate means of transport to increase their coverage. Furthermore, farmers ought to be encouraged to utilize agricultural extension services. Besides, information Communication and Technology (ICT) be strengthened in order to allow remote learning between the farmers and the extension officers. Lastly, more research should be done to ascertain how best agricultural extension can be utilized to promote agriculture in rural areas.

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