

## **Communication Strategies for Enhancing Production and Consumption of African Indigenous Vegetables: The case of Farm Concern International in Kenya.**

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### **Abstract**

The study analyses the efficiency of communication strategies used by Farm Concern International (FCI) in enhancing the production and consumption of African Indigenous Vegetables in Lari Sub-County, Kenya. The study used both quantitative and qualitative research designs and used purposive sampling, followed by random sampling to select 100 farmers from the five villages in Lari Sub County. The data was gathered from the primary sources through the use of structured questionnaire for both quantitative and qualitative. The data was then processed and presented by the use of graphs, tables and pie charts and analysed by use of descriptive analysis. The study used two theories, Rational Argumentation Theory propounded by Cragan and Shields (1998) and Trans theoretical Model (TM) by Prochaska, Johnson and Lee (1998). The study established that the rate of AIVs production has increased since the implementation of DoHoMa Project. The rate of consumption has also increased with the majority of farmers eating AIVs on a daily basis due to their higher nutritional value. Only a few who consumed the value chain three to six times a week. The findings also indicated that FCI majorly used two forms of Ora-Media, *barazas* and demonstrations, to promote production, consumption and commercialisation of AIVs. The study recommends that agriculture-based NGOs need to use more of demonstrations than *barazas* because most of the farmers have basic education. The Ministry of Agriculture needs to facilitate farmers to dig boreholes for enhancing irrigation during dry spells.

**Key terms:** Communication Strategies, Farm Concern International, Indigenous Vegetables

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## INTRODUCTION

Farm Concern International (FCI) is an Africa-wide market and agriculture-based development Agency in Africa which majorly focuses on the commercialisation of smallholder farmers and agro-pastoral communities in Africa. The organisation trains and informs farmers on emerging technologies, market trends and business concepts that add value to smallholders' livelihoods.

“FCI develops modern marketing concepts and building business relationships through strategic alliances to enhance competitiveness in the market place, economic growth, sustainability and profitability of Agro enterprises in various countries of Africa,” (FCI Annual Report, 2013, p.5).

Most of the major objectives FCI aims to achieve revolve around promoting nutrition, commercialisation of smallholder farmers, environmental conservation, training on emerging technologies and financial literacy, mobilisation and linking farmers to viable markets. A case in point is a five-year project dubbed *Domestic Horticultural Market* (DoHoMa). The project is funded by Bill and Melinda Gates and implemented by FCI across the four countries in Africa, which include Kenya, Tanzania, Rwanda and Malawi.

DoHoMa was designed for domestic market mainstreaming with a focus on Traditional African Vegetables (TAVs), Bulb Onion and Irish potatoes based on lessons learnt in various pilot phases in the region implemented by FCI. The project predominantly targets domestic markets, while regional markets are a secondary target market. The project is implemented through the organisation's leading model of Commercial Village, developed and implemented by Farm Concern International. “Through this model, FCI aims at building efficiency by streamlining farm-gate to the market system which ensures the farmer ends up being the major beneficiary,” (FCI Programme Briefs, 2013, p.2).

“In Kenya, DoHoMa project is implemented in Kiambu, Kieni and Meru regions. The target commodity value chains for commercialisation are TAVs, red bulb onion and Irish Potatoes” (FCI Programme Briefs, 2013, p.3).

The project is in its final year phase and would be used to benchmark the ability of FCI to communicate important messages for the programmes it implements to beneficiaries. FCI is located in Nairobi Kenya, KARI Campus along Waiyaki Way.

### **Agriculture and Production of AIVs**

Research done by Salami (2010) shows that the four East African countries; Ethiopia, Kenya, Tanzania and Uganda can be characterised as agriculture-based, that is, agriculture is the backbone of these economies. The researcher also notes that smallholder farmers dominate agriculture. These farmers occupy the majority of land and produce most of the crop and livestock products. However, the key long-standing challenge of the smallholder farmers is low productivity stemming from the inability to access credit, markets and technology, in the recent past, and this has been further complicated by the ever-changing food and energy prices and very recently by the global financial crisis.

Abukutsa-Onyango (2010) concurs with the idea that farming in Kenya is typically carried out by small scale producers that account for over 70% of the total production. She further observes that the horticulture sector has grown in the last decade to become the most vibrant industry and a major foreign exchange earner, employer and source of food in the country. The sector employs millions of people, directly and indirectly, the majority of them being women.

Rosegrant and Hazell, (2000) also observe that small scale farmers foster agricultural growth and improves productivity and thus effective in reducing poverty and hunger and raising rural living standards, as demonstrated in large parts of Asia during the Green Revolution.

### Indigenous Vegetables

Indigenous vegetables refer to vegetables grow naturally a particular locality (Maundu, 1997). More than 45,000 plant species can be found in sub-Saharan Africa, and this includes approximately 1000 species that are consumed as green leafy vegetables. And, according to MacCalla (1994), these usually form an integral part of traditional African diets. Traditional and indigenous, as used in this context, refer to leafy vegetables which have for long been part and parcel of the sub-Saharan African food systems for ages. Indigenous leafy vegetables grow naturally in Sub-Saharan Africa whereas traditional leafy vegetables were brought to Africa more than a century ago and, since they have been in use for long, they have become part of the food culture in the sub-continent (Smith, & Eyzaguirre, 2007).

Examples of AIVs found across Eastern Africa include African nightshade (*Solanum scabrum*), spider plant (*Cleome gynandra*), vegetable amaranth (*Amaranthus hybridus*), slender leaf (*Crotalaria brevidens*), jute mallow (*Corchorus olerarius*), vegetable cowpea (*Vigna unguiculata*), African kale (*Brassica carinata*) and pumpkin leaves (*Curcubita muschata*), among others (Abukutsa-Onyango, Tushaboomwe, Onyango, & Macha, 2005). These are the vegetables that are the focus of this study.

AIVs, in spite of their higher nutritional and economic value, have an image problem and have faced a myriad of challenges. Some of them include low awareness of their nutrition potential, perception as poor man's crop among farmers, lack of quality seed, technical production, utilisation packages and poor marketing system among others (Abukutsa-Onyango, 2002). Abukutsa-Onyango

(2003) adds that AIVs have been neglected for long by researchers, policymakers and funding agencies. As a result of this neglect, many of these vegetables are facing extinction, yet the communities in the region continue to languish in malnutrition and poverty. The study will, therefore, investigate the FCI's ability to promote AIVs among smallholders' through the NGO's subsidiary role of communication.

Shaheen (2012) points out that most of the NGOs use both verbal and nonverbal methods to convey their messages through community mobilisers, but they find verbal communication more reliable and effective as it is simple and easy to communicate with common people in the mobilisation process. It is on this basis this study is formulated and will look into the impact the DoHoMa project had in Lari Sub County, as one of the areas it was implemented in Kenya by Farm Concern International. The indicators of efficient communication strategies used would be an increased production of AIVs, increased financial income and increased rate of consumption at the household level among the smallholder farmers.

### LITERATURE REVIEW

#### Communication strategies

Nawabi (2005) states that proper communication and information flow in NGOs is key to the effective and efficient translation of their strategic aims and values into their programme activities. He further observes that communication is essential in fostering community development; that with good communication strategies, community members would take ownership of development initiatives in their hands and that good and effective communication would foster community development.

“Community Mobilisers (CMs) and Extension Workers (EWs) [working with NGOs] are used as a focal point to

introduce Partner's programs and projects to communities. Interaction between CMs and EWs with technical staff at the field level is regular" (Nawabi, 2005, p.5).

NGOs have also adopted the emerging technologies to cut down unnecessary cost and time wastage in communicating both internally and externally. Internal communication refers to information exchange within an organisation, while external communication takes place between the organisation and the outside world that includes the project beneficiaries (Nawabi, 2005).

#### **Use of internet/Email and website**

NGOs using the internet not only benefit themselves but can also benefit the communities that they work with. This could be done by downloading and distributing information relevant to their target beneficiaries. Partner NGOs in Afghanistan in the last two years benefited greatly from their use of the Internet/email through reduced transmission costs, access to new and relevant information, and greater contact with their own offices and partner organisations (Nawabi, 2005). Nawabi (2005) further suggests that a website is another means of communication used by NGOs. He views a website as important because it acts both as a source of information and communication, especially for the organisations outside the country. He, however, suggests that the organisation must develop a mechanism to regularly update and promote this site.

Once a community needs are identified, and terms of partnership agreed upon, the technical staff of a particular program is introduced to the community to carry out further activities. From that point onward, there seems to be regular interaction between the CMs/EW and the communities, with the technical staff visiting communities as well. When planning a project for a community, the technical staff also relies on information provided by the Regional Managers (RMs) and CMs/ EWs, including their

overall view (Nawabi 2005). This suggests that communication between an NGO and the programme beneficiaries is systematic and involving. It calls every stakeholder on board so as to establish a rapport among the parties involved in project implementation by defining and redefining the objectives of the project. This enhances all the stakeholders involved to have common goals towards the success of the project.

#### **Use of broadcast and print media.**

A study of nutrition education in rural Mexico compared the effectiveness of a mass media group (radio with posters and pamphlets) with a direct education group (teachers and audio-visuals) in transmitting nutrition concepts (Cerqueira et al., 1979). It was observed that radio messages were more uniform than the regular face-to-face methods of education, as messages were received in identical format by all listeners. Also, style of presentation and content did not vary as they did from teacher to teacher indicating the uniqueness and uniformity of educational radio in teaching disadvantaged adults in developing countries (Sweeney, & Parlato, 1982).

Educational radio programs can be very effective when used with the help of trained facilitators, group learning, group discussion (dialogues), feedback, and the use of multimedia approaches. For example, Perraton (1978) argued that trained facilitators must be used in order to successfully utilise educational radio. Similarly, Higgs and Mbithi (1977) contend that a good program has to be backed by careful training of trainers, preparation of training materials and continuous improvements in these. Perraton (1978) states that group learning is more effective than individual learning and that group discussion is an effective method of learning from the radio. The facilitator must converse with students in order to emphasise the main points covered by radio programs as well as to provide feedback where necessary. According to Daniel and Marquis (1983), the facilitator must ensure that

programs are supported by visual demonstrations, that groups are cohesive, and that discussions are carried out effectively by employing techniques of group discussion. Also, multimedia such as print materials, posters, films, and chalkboards, must be used to elaborate the main points to students.

### Use of Ora-media

Ora-media is another method of communication used by NGOs. According to Wangari (2012), ora-media is the transmission and dissemination of information by word of mouth and performing techniques. She adds that the information transmitted carries specific messages targeting a specific audience. Ora-media has some advantages over the use of radio due to its high participatory nature between the communicator and the audience, thus eliciting a quick response and necessary action. Ora-media can also take the form of drama and thus be more entertaining than any other form (Wangari, 2012). In addition, ora-media includes all theatrical media.

“It incorporates African indigenous forms of performance, which comprises; dancing, narration, singing, and respect for elders, among others. This points out the fact that Africans are enriched with defined culture and tradition” (Wangari, 2012, p.33).

Also, Kerr (1995) refers to popular theatre and micro-media as ora-media in his research study. He suggests that the two approaches of communications emanate from the desire to replace the “top-down” communication strategy with a “bottom-up” approach that increases participation and can enhance development.

### Use of drama

Thiong’o (1996) perceives drama as a multifaceted means of communication. He states that drama was not an isolated event in pre-colonial Kenya; it was an integral part

of the rhythm of the seasonal and daily life among other activities, mostly energised by the same activities. Drama also was entertaining in that participants were able to derive enjoyment from it, as well as a source of moral instruction, and it was also a strict matter of life and death and communal survival. It was meant to showcase the real-life experience in the artistic arrangement. It mirrored the tradition and culture of the people.

The components, according to Thiong’o were not merely artistic appreciation but also educating the people. They may be performed anywhere, wherever there was a need for that. It could take place anywhere-wherever there was an “empty space”. The same, use of drama, can be used by NGOs to disseminate information while exhibiting the organisation’s culture through the participants dressing code, way of talking and degree of respect towards the project beneficiaries and elders. Mumma (1995) posits that the theatre or drama form can be particularly suitable for grass root communication because of its self-sustaining potential, its entertainment function, its flexibility in overcoming language barriers, and its capacity for popular participation in message design and planning. The aspect of entertainment, therefore, attracts a huge audience making it efficient in the delivery of the message. However, there is paucity in the research focusing on the efficiency of communication strategies used by NGOs there to promote AIVs among the smallholder farmers.

### Production of AIVs

Ekesa, Walingo and Abukutsa-Onyango (2009) enumerate the advantages of AIVs as having short production cycles, the requirement of a few purchased inputs, thriving in poor soil, resistance to pests and diseases, and are quite acceptable to local tastes. African Leafy Vegetables (ALVs) grow well in the small farms and amidst the scarce resources possessed by village families, yet they produce high yields and have strong nutritional value (National Research Council, NRC, 2006). Apart from the fact that

ALVs are economical to produce, they have the additional benefit of having other attractive nutritional characteristics such as high fibre and minerals content as well as vitamins (vitamin A and C). Consequently, ALVs can, therefore, support rural, peri-urban and urban populations in terms of subsistence and income generation, without requiring huge capital investments (DFID, & R4D, 2010). This is especially so for the resource-poor women and men farmers with low capital investments (Mwaura, Muluvi, & Mathenge, 2013). However, a study carried out by Farm Concern International and IFPRI between June and July 2011 in Kiambu County, shows an increase of production and consumption of AIVs especially in Kiambu which has been attributed to various technical supports offered to Male Headed Households (MHH) and Female-Headed Households (FHH) (Mwaura et al., 2013).

Assistance given to farmers to encourage the production of ALVs is referred to as ALV farming technical support. This support comes in the form of value chain intervention, seed supply systems, promotion and awareness campaigns carried out by community-based organisations like IFPRI and Farm Concern International. Out of the 55 MHH, 67.3 per cent had no access to technical support for ALVs farming, while 32.7 per cent had. Of the 28 FHH, 64.3 per cent had no access to technical support, while the remaining 34.7 per cent had access to technical support (Mwaura et al., 2013) as shown in table 1 below. This indicates the extent of AIVs neglect by the Ministry of Agriculture and other responsible stakeholders in ensuring proper and optimum production.

**Table 1: Access to technical support services.**

Access to technical support	MHH (%)	FHH (%)
YES	32.7	34.7
NO	67.3	64.3

(Source: 4th International Conference of the African Association of Agricultural Economists, September 2013 pp. 22-25).

However, the increased production of AIVs has been attributed to increased consumer demand. Mwaura et al. (2013) observe the increased demand resulting from AIVs entering the supermarket chains and other lucrative markets, which result in better incomes. As a result of increased demand, there has been a tremendous increase in the production of ALVs in Kiambu district. Empirical studies by Udoh and Etim (2006) document that for farmers to optimise production, available resources must be utilised as efficiently as possible and being managers of land, farmers need to manage problems arising from deteriorating natural resources.

#### Consumption of AIVs

The information on the importance of adopting AIVs both for commercial and domestic consumption needs to be transmitted effectively so as to produce positive results. As stated earlier, AIVs need to be promoted so as to wipe out the negative perception that the majority of people have. The use of the word “poor” taints the image of AIVs, thus calling for a spirited joint campaign in Africa to sensitise the populace on the importance of AIVs. It would be appropriate if such campaigns would be spearheaded by different gatekeepers like the researchers, media, academicians and community leaders to create a great and quick needed impact (Kabuye, Maundu, & Ngugi, 1999).

Taruvunga and Nengovhela (2015) further cite the degree of urbanisation, seasons and poverty status as other factors that hamper the level of consumption. They also identify a lack of awareness of these vegetables, westernisation, negative attitudes and poor taste as the most quoted reasons for the decline in consumption. On a positive note, however, the two scholars suggest that ALVs are believed to contain significant levels of diverse micro and macro-nutrients essential for human health capable of addressing the nutritional needs of rural households. Odhav, Beekrum, Akula and Baijnath (2007) point out that indigenous

vegetables and fruits represent inexpensive but high-quality nutritional sources for the poor segment of the population. Since many indigenous food plants grow wild, they are accessible; they can be collected freely and are thus available to everyone, including the poor.

### METHODOLOGY

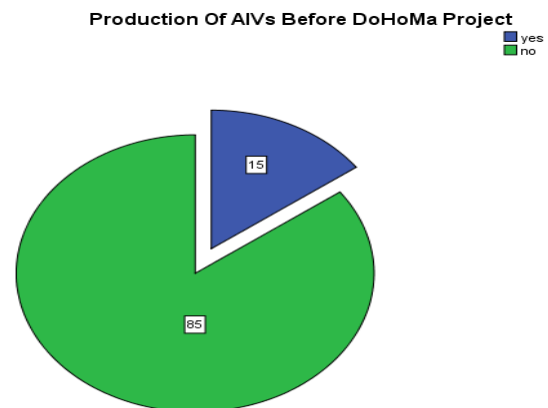
The study used both quantitative and qualitative design. Lari Sub-county was purposively selected due to its proximity to the capital city where the huge urban and peri-urban markets are for AIVs as well as other value chains like grains, dairy and horticultural products. It's also one of the sub-counties where the five-year DoHoMa project was implemented. This study's target population was 619 smallholder farmers involved in the DoHoMa Project and produced AIVs in Lari Sub-County. Purposive sampling followed by random sampling were used to select 100 smallholder farmers out of the total 619 engaged in the production of AIVs and under the DoHoMa Project. This sample constitutes to 16.16% of the target population. Five villages were purposively selected based on where the DoHoMa project was implemented. In each village, 40 houses were identified, and the researcher gave them numbers. He then picked every house that had an even number so as to have 20 houses which gave a sample size of 100 respondents. The data was collected from the primary source through the use of a questionnaire for both qualitative and quantitative research designs. Graphs and other infographics like tables and pie charts were used to present data. To establish the validity and reliability and of the interview schedule, 10 smallholder holder farmers under the DoHoMa programme were randomly selected and interviewed by the use of an actual questionnaire which helped to make corrections and changes where possible before the same activity was done on the actual sample.

### FINDINGS AND DATA ANALYSIS AND INTERPRETATION

#### Rate of AIVs Production

#### Production of AIVs before the DoHoMa Project

Most of the farmers did not produce AIVs before FCI implemented the DoHoMa Project in Lari Sub County. Only 15% produced AIVs, while 85% did not as shown in figure 1. However, after the implementation of the DoHoMa Project in 2010, the majority of farmers in Lari Sub-County turned to AIVs farming. This concurs with a study carried out by Mwaura et al. (2013) in Kiambu County which shows an increase of production and consumption of AIVs attributed to various technical support offered to Male Headed Households (MHH) and Female-Headed Households (FHH).

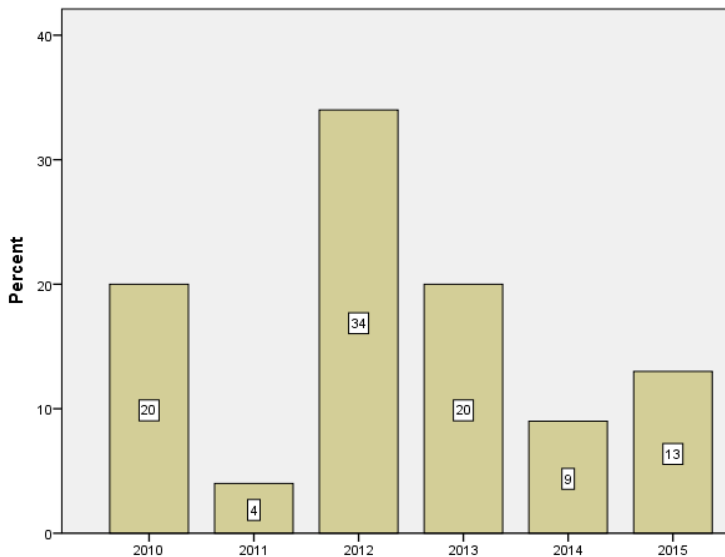


**Figure 1: Production of AIVs before DoHoMa Project**

The finding thus shows that FCI was successful in promoting the production of AIVs in the region.

#### When respondents joined the project

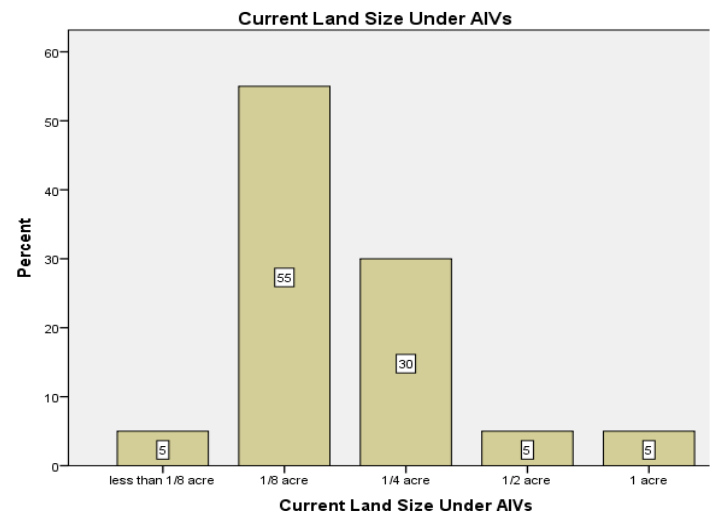
DoHoMa Project begun in 2010 but the majority, 34%, of farmers joined the project in 2012 while a few, 9%, joined in 2014. In both 2010 and 2013, only 20% in each case joined while 13% joined in 2015, as shown in figure 2 below.



**Figure 2: Year when farmers joined DoHoMa Project**

**Current Size of Land under AIVs**

A majority, 55%, of the respondents interviewed used an eighth-acre piece of land to produce AIVs, 30% used quarter-acre while 5% used a quarter acre or more as shown in figure 3 below.



**Figure 3: Current land size under AIVs**

The statistics thus indicates that, in spite of the majority of farmers producing AIVs, only a few have apportioned relatively large piece of land for the value chain. Only 10% apportioned over half-acre for AIVs while others produced the crop in less than an eighth-acre piece of land.

**1) How respondents have benefited from the Project**

70% of the respondents acquired market for the AIVs, while 15% each benefited from capacity building and cultivated more land, as shown in Table 2 below.

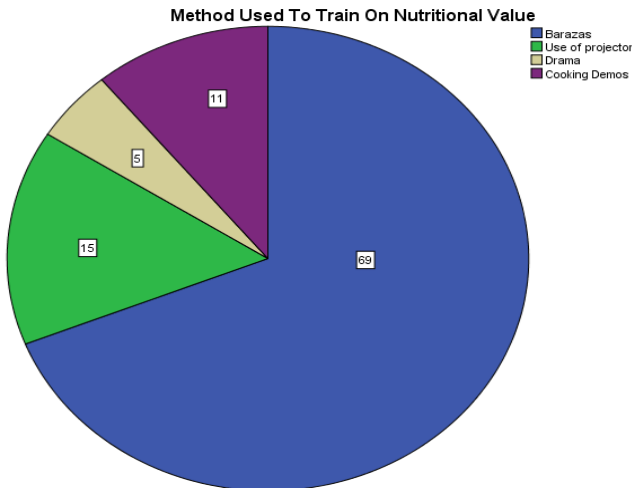
**Table 2: Benefits accrued to the project**

	Frequency	Per cent	Cumulative Percent
find market	70	70.0	70.0
capacity building	15	15.0	85.0
cultivate more land	15	15.0	100.0
Total	100	100.0	

**Rate of AIVs Consumption**

All the respondents interviewed admitted to having been informed of the nutritional value of AIVs by FCI and agreed to have been consuming the vegetables.

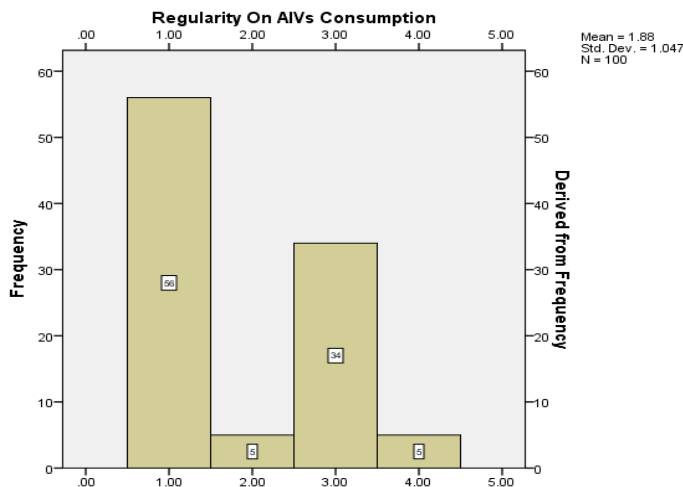
**Communication method used to train on nutritional value**



**Figure 4: Method used to train on nutritional value**

69% of the training on nutritional value was conducted through *barazas*, 15% Use of projector, 11% cooking demos and 5% drama as shown in figure 4 above. This indicates that FCI majorly used *barazas* to train on nutrition and on few occasions used cooking demos.

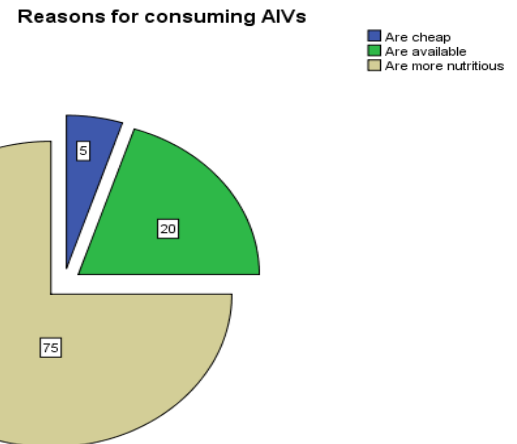
**Regularity of AIVs consumption**



**Figure 5: Regularity of AIVs consumption**

Although all the respondents admitted to having been consuming AIVs, their degree of consumption differed greatly. 56% ate on a daily basis, 34% ate thrice in a week, and 5% ate twice and once in a week each as shown in figure 5 above. This indicates that FCI managed to promote the consumption of AIVs among the people in the region and also overcome the negative perception of the crop being a poor man’s food.

**Reasons for eating AIVs**



**Figure 6: Why respondents consumed AIVs**

A majority, 75%, of the respondents ate AIVs because they were nutritious than the exotic vegetables while 20% ate because they were available and 5% ate because they were cheap than exotic ones as shown in figure 6 above.

The finding coincides with Odhav et al. (2007), that indigenous vegetables represent an inexpensive but high-quality source of nutrition for the poor segment of the population. Since many indigenous food plants grow wild, they are accessible; they can be collected freely and are thus available to everyone, including the poor. The finding also indicates that the information on the nutritional value

of AIVs shared by FCI was well accepted by people and changed their negative perception towards the crop.

### Production of Exotic vegetables

In spite of a higher number of farmers adopting the production of AIVs, almost all 91% intercropped both the AIVs and exotic vegetables. Only 9% of the interviewees did not produce the exotic type, as shown in figure 7 below. A study carried out by Mwaura et al. (2013) indicates a gradual increase of AIVs production and consumption in Kiambu County which has been attributed to various technical supports offered to farmers by Farm Concern International.

Production Of Exotic Vegetables

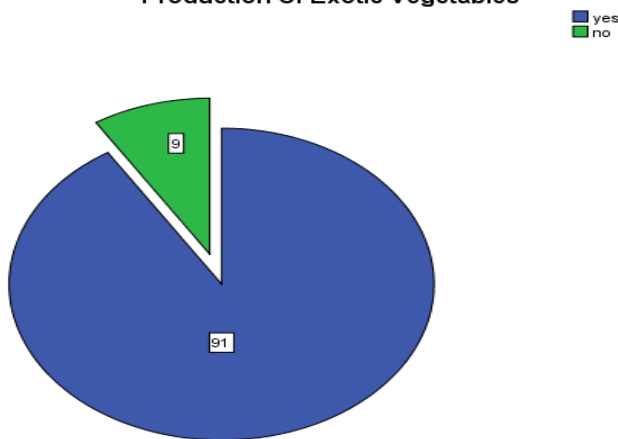


Figure 7: Percentage of respondents who produced Exotic Vegetables

### Size of land under exotic vegetables

Only a few people apportioned relatively huge chunks of land for producing exotic vegetables. A majority, 34% apportioned less than an eighth of an acre, 23% used eighth, 14% used a quarter, 15% set aside a half-acre while 5% apportioned three-quarter acres. 9% of the respondents, however, did not produce Exotic vegetables at all, as shown in figure 8 below.

Land Size Under Exotic Vegetables

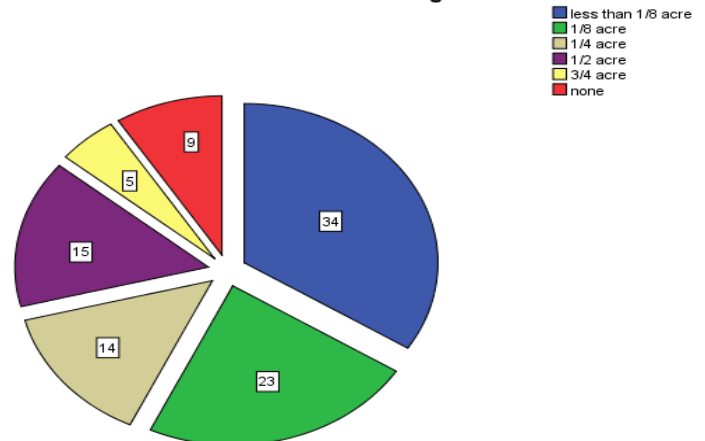


Figure 8: Size of land under exotic vegetables

### Regularity of consumption of Exotic vegetables

A majority, 47%, of the respondents ate Exotic vegetables once per week, while 19% did not eat at all. Only a few, 5%, ate on a daily basis while 9% and 5% ate twice and thrice a week respectively. Also, 15% ate the vegetables once a month, as shown in figure 9 below. Compared to the consumption of AIVs, exotic consumption is quite minimal. On the other hand, the reason for high consumption of AIVs has been noted by Odhav et al. (2007) as being cheap, available and high-quality nutritional sources for the poor segment of the population.

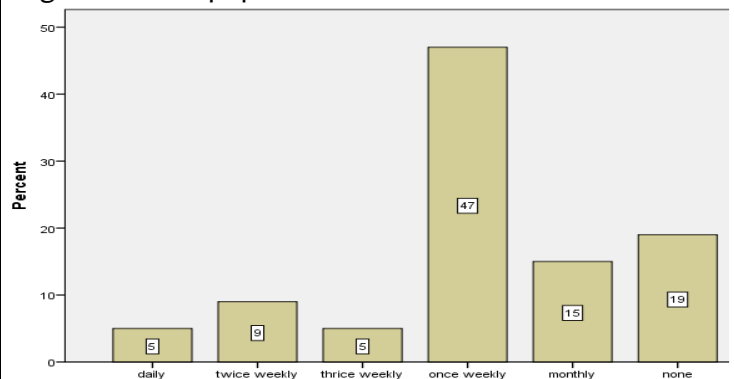
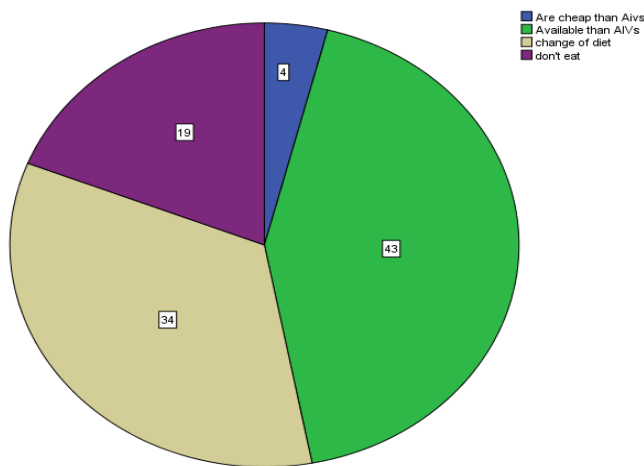


Figure 9: Rate of consumption for Exotic vegetables

### Why respondents eat Exotic vegetables

A majority, 43%, of the respondents ate exotic vegetables because they were more available than AIVs while a minority, 4%, ate because they were cheap than AIVs. A relatively higher number, 34%, of respondents ate just to change the diet while 19% did not eat at all, as shown in figure 10 below.



**Figure 10: Reasons for eating Exotic vegetables**

This agrees with Taruvinga and Nengovhela (2015), who cites that AIVs are seasonal and the majority of smallholder farmers rely on rainfall for production. Seasonal production thus largely contributes to the consumption of exotic vegetables.

### CONCLUSION

FCI communication strategies were fairly efficient in promoting production, consumption and commercialisation of AIVs since a majority of farmers still

produce exotic vegetables in large pieces of land. Other means of communication like mainstream media, internet, posters and billboards were not used to promote AIVs. Majority of farmers preferred demonstrations as a method of communication due to its practicality aspect as compared to the use of *barazas*.

Production of AIVs has numerous advantages as compared to exotic vegetables ranging from the use of small pieces of land, easy and cheap production, and resistance to drought, market availability to high income. However, the mentality that AIVs are food for the poor is still etched in people's mind resulting in the huge production of exotic vegetables.

### RECOMMENDATIONS

The study makes the following recommendations based on the research findings;

- a. NGOs should capitalise on the use of demonstrations as a major means of communication to farmers than the use of *barazas* since most of the farmers have basic education.
- b. The Ministry of Agriculture (MOA) both at national and county level need to facilitate farmers to dig boreholes into enhancing irrigation during dry spells. MOA also need to tarmac feeder roads to enable farmers to transport AIVs during rainy seasons.

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