

**ASSESSING COUNTY GOVERNMENT MODALITIES FOR DISSEMINATING
AGRICULTURAL INFORMATION TO FARMERS IN ALEGO USONGA WARD,**

SIAYA COUNTY, KENYA

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DECLARATION

I declare that this project is my original work and has not been presented in any other university/institution for consideration. This research project has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited in line with anti-plagiarism regulations.

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ABSTRACT

Access to current, accurate, and authoritative agricultural information is essential for competitive markets and agricultural sector development. The purpose of this study was to assess the County government modalities for disseminating agricultural information to farmers in Alego-Usonga ward in Siaya County. This study explored the channels used to disseminate agricultural information, established the competencies and skills of staff involved in agricultural information dissemination, the contribution of extension officers in disseminating agricultural information, in Alego Usonga ward of Siaya County, and the challenges experienced in dissemination of agricultural information. Both qualitative and quantitative research approaches were used for this study. The study was conducted in Siaya county; AlegoUsonga ward. This sub county was purposely selected because it had the highest population and therefore the highest number of farmers. The farmers and agricultural information service providers formed the target population. Purposive sampling was used to sample the population. Interviews and questionnaires were used for data collection. Qualitative data was collected, analysed and summarised thematically giving narrative conclusions out of it, while quantitative data was summarised coded and put in SPSS software for analysis according to the objectives of the study. The study established that the channels that were widely used for disseminating agricultural information consisted of audio and audio visuals and that the staff that provided agricultural information were fairly competent. The study recommended that effective, easy to access and affordable channels of dissemination should be applicable in disseminating agricultural information to farmers in Siaya County, and that the staff involved in agricultural information dissemination should be well trained, and experienced. The study also recommended that the current channels of dissemination like social media as well as peers, site visits and agricultural shows should be enhanced for disseminating agricultural information, and that the staff competencies and skills should be enhanced to ensure effectiveness in the performance of their duties.

ABBREVIATION AND ACRONYMS

AET	Agricultural Education and Training
AI	Artificial Insemination
ATIRI	Agricultural Technology and Information Response Initiative
CBO	Community Based Organization
FAO	Food and Agriculture Organization.
FBO	Faith Based Organization
FEW	Frontline Extension Workers
FFS	Farmers Field Schools
ICT	Information and Communication Technology
ILRI	International Livestock Research Institute
KARI	Kenya Agricultural Research Institute
KBC	Kenya Broadcasting Co-operation
KENFAP	Kenya National Federation of Agricultural Producers
LIS	Library and Information Science
NAFIS	National Farmers Information Service
NGO	Non-Governmental Organization
NALEP	National Agriculture and Livestock Extension Programme
SFAA	Shifting Focal Area Approach

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CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

This chapter covers background to the study, statement of the problem, purpose, and objectives of the study, research questions, and significance of the study, limitation and delimitations of the study, assumptions, theoretical and conceptual framework, and operational definition of terms.

1.2 Background to the Study

According to Rivera (2001) poverty alleviation and food security are major concerns to Food and agriculture organization (FAO) and its member states, including Kenya. Information and communication have always mattered in agriculture due to a number of factors such as changes in ecological conditions and technology among others. Updated information allows the farmers to cope with and even benefit from these changes (McNamara et. al, 2014). According to FAO (1996), Promotion of productivity and income generation can be achieved through the transfer and exchange of agricultural information by rural extension officers. Small farmers and the poor farmers in rural areas who are far from urban centers can also benefit from extension services by accessing agricultural information and technological transfer. A research done in America showed that people refer to various resources depending on the type of information they are seeking (Pounds, 1985). Phipps..et..al (2001) in their study found out that; newspapers, newsletters, friends, family, magazines, farm, associations and neighbors were the most information resources frequently used. However, Richardson (1995) noted that despite the

diverse needs of the audience, the delivery methods that are preferred are usually the same. According to Orr (2003), extensions use many methods to disseminate information, he further states that a lot of information can be retrieved in media formats such as videos, internet and computer packages, apart from the meetings and farm visits that are used by extension officers. This therefore calls for a dire need to know the audience in advance in order to know the methods that can suit disseminating information to them.

In Nigeria, the Nigerian government invested in numerous agricultural institutes, colleges and universities with functional agricultural libraries or collections. This was done to enhance the study, teaching and research in agriculture. The colleges and their libraries have been mandated to generate and disseminate agricultural information or knowledge to agricultural extension workers, researchers, teachers, students, farmers and policy makers in the government. Aguolu,(2000). Olodede (2006) is of the view that, information plays a vital role in enhancing development in the agricultural sector, like increased productivity, improved marketing, and even strategies for distribution. Information gives opportunities for sharing knowledge, best practices, sources of financial aids and new markets. As posited by Aina et al (1995) information plays a vital role in having an improved and sustained agricultural productivity in any given nation.

In Kenya, dissemination of agricultural information services has been advancing through agricultural Research Institutions, media organizations like KBC, NGOs, which support agriculture in Kenya such as world vision, KENFAP, ILRI and KARI. Their main objective is to disseminate information for the enhancement of agricultural productivity. The NAFIS (National farmers Information Service), is an information service with the intention of serving farmers

information needs throughout the country. It covers also the rural areas where internet access is limited. It enables the farmers access vital extension information through phone calls, internet, or checking their website. The website is updated by officers and a voice based service that has information that is summarized, and can be accessed through mobile phone. The languages used are Kiswahili, English, and Kenyan local dialects. It covers both general and specific agricultural themes on processing, post-harvest preservation and marketing. The information is accompanied by graphics, texts, audios, and video to ease its accessibility. Information is presented with text, graphics, audio and video in an effort to be as accessible as possible, in the most suitable format. The advantage it has, is that the farmers can research on information that can be downloaded for later viewing or listening.

However despite these elaborate mechanisms, the farmers who are not computer literate are left out. Really this is a void that needs to be filled. In developing countries, one of the reasons why agriculture has failed to benefit the rural communities is because of inadequate, inefficient information and knowledge flows to enable farmers adopt innovations. Against this background, French, (1990) suggests that through networks of agricultural extension agents, governments should invest in sponsoring agricultural research and dissemination of agricultural information.

Siaya County is one of the six counties in the Nyanza region. The county is divided into six sub counties including Bondo, Rarieda, Ugenya, Ugunja, Gem, and Alego Usonga. The sub counties are further divided into wards with the county having a total of 30 wards. Alego Usonga sub county is the largest covering an area of 605.8Km squared, and has the most locations. Siaya county is bordered by Kisumu county to the South East, Busia county to the North-west, Vihiga and Kakamega counties to the North –East and Homabay County across Winam gulf to the South.

The land surface area in Siaya County 2530 Km squared and the water surface area which forms part of lake victoria is 1,005Km².

The village which forms the lowest administrative unit in the county consists of nine communities namely; Uholo, Asembo, Sakwa, Ugenya, Alego, Uyoma, Gem, Yimbo, Alego Usonga where the research was carried out. Siaya County shares the shores of Lake Victoria with other neighboring counties.

1.3 Statement of the Problem

The Kenyan Government, specifically at the county level where agricultural services are devolved, has employed agricultural extension officers to disseminate agricultural information to farmers, per ward in the county. As pointed out in the background , one of the reasons why agriculture has failed to benefit the rural communities in developing countries is because of inadequate, inefficient information and knowledge flows to enable farmers adopt innovations. In Kenya especially Siaya County there is a gap between the agricultural information and the intended recipient because the channels used for disseminating agricultural information such as farmers field days, agricultural shows, and stake holders meetings leaves majority of farmers out. In addition field extension officers only do their demonstrations in selected areas like shows and in specific centers where only the most successful farmers are invited to participate, leaving out small scale farmers who cannot access such centers. Secondly the elaborate mechanisms that involve the application of ICT's like the use of websites and videos to disseminate information leaves out some farmers because of the digital divide. As regards libraries and information centres, their collections are more general as opposed to being specific to agriculture

information, this implies that there is little to disseminate in terms of agriculture information. If this situation continues, most of the farmers may not benefit from new frontiers being disseminated to selected few. There is thus a possibility that a significant number of farmers in Alego Usonga will be victims of negative effects of ecological changes which in turn will affect the agricultural output. It is therefore necessary to evaluate the measures put in place to disseminate information with a view of suggesting interventions in areas that require redress.

1.4. Purpose of the study

The purpose of the study was to assess the agricultural information dissemination process to farmers in Siaya County, identify weaknesses if any and propose intervention measures for addressing them.

1.5 Objectives of the Study

The objectives of the study were to:

- i. Assess the channels of disseminating agricultural information to farmers.
- ii. Establish the competencies and skills of staff involved in agricultural information dissemination.
- iii. Establish contributions of agricultural extension officers in disseminating agriculture information.
- iv. Identify the challenges experienced in disseminating agricultural information to farmers.

1.6 Research questions

- i. What are the channels of disseminating agricultural information to farmers?
- ii. What are the competencies and skills of staff involved in agricultural information dissemination?
- iii. What is the contribution of extension officers disseminating agricultural information?
- iv. What are the challenges experienced in disseminating agricultural information to farmers in, Alego-Usonga ward in Siaya county ?

1.7 Significance of the Study

The study gives insights that are useful to agricultural stake holders in the county on dissemination strategies. The findings and recommendations of this study are of benefit to the farmers of Siaya County in improving on their farm output. Policy makers may also refer to the study when formulating and implementing agricultural information policies. The research also contributes to knowledge in the library and information science field, and can be used for research and education by the learning fraternity.

1.8 Limitations and Delimitations of the Study

1.81 Limitations of the Study

The study was affected by limitations such as using the questionnaire as an instrument for collecting data, the research did not have control of the respondents in regard to the information they filled in the questionnaires. Some farmers were illiterate forcing the researcher to interview them individually.

1.82 Delimitations of the Study

The study was delimited to Siaya County and was restricted to dissemination of information among the farmers in Alego-Usonga ward because the ward has the highest population of farmers as compared to other wards in Siaya County.

1.9 Assumptions of the Study

- The farmers in Alego Usonga ward in Siaya County are aware of the existence of agricultural information services.
- Agricultural information is disseminated to farmers in Alego Usonga in ward Siaya county.
- The farmers in Alego Usonga ward in Siaya County are literate.
- That farmers in Alego Usonga ward in Siaya County seek agricultural information.

1.10 Theoretical and Conceptual Framework

1.11 Theoretical Framework

The study was based on the theory of social contagion. (1995) Which received attention from social science researchers from the mid-19th century. It's a specific social form of influence with early investigations including cultural diffusion research by Edward Burnett Tylor an English anthropologist (1871), innovation adoption examination by French sociologist Gabriel Tarde (1903), and exploration of the collective mind dynamic by Gustave Le Bon (1895).

Le Bon in particular helped popularize the idea of social contagion in his seminal study of crowd-induced panics. In this work, Gustave Le Bon analyzed the process in which beliefs or information is spread within a group in a social set up forming mass contagion. Researchers of the 20th century, including British psychologist William McDougall and American sociologists Herbert Blumer,(1904) Robert Park,(1904) Ralph Turner,(1957) and Neil Smelser (1962) subsequently provided more substantive ways of examining and conceptualizing aspects of social contagion.

The theory of collective behavior is basically pegged on the idea that thoughts and moods can become contagious within a given type of group. Once the group has been influenced by these thoughts their behaviors become irrational and people end up doing the unexpected. Any individual with the information becomes the carrier and ends up influencing the others. This process occurs under circumstances where a crowd of people focuses their attention on the same object, person, or event. As soon as a common focus occurs, crowd members begin to influence each other.

According to Gladwell, (2000) social epidemics are governed by three main principles: who the messenger is matters (the Law of the Few), what the content of the message is matters (the Stickiness Factor), and the specific nature of the social environment matters (the Power of Context). For the purpose of this study, it is the Law of the Few that deserves greater elaboration.

This principle is of the view that behaviors, ideas, and beliefs of members of a given social group for example the farmers, is brought about by a few members of a group. These members have

roles like; those who provide the message who are called mavens(Subject experts)Mavens have the desire to share their knowledge, but more so, yearn to learn more on a given subject, secondly there are those who spread the subject(Connectors) ;those who spread a message very fast due to connections that they have in social networks. There are also those who persuade others to act on the message (Salesmen) ; those who advertise and market in order to convince others of existing and none existing needs. Individuals in these three roles facilitate the successful and rapid spread of information (and by extension, knowledge) throughout and among social networks.

The theory is relevant to the study in that the dissemination of agricultural information from information Centers, and agricultural extension officers, to the farmers who will share it amongst themselves, takes place in the same way.

1.12 Conceptual Framework

The figure 1.1 illustrates the relationships and interrelations between variables it follows that agricultural information dissemination is the dependent variable while the independent variables are dissemination channels, staff skills and competencies, Library contribution, extension officer's contribution. Effective dissemination of agricultural information is affected by dissemination channels used, how effective the libraries and extension officers disseminate the information, and how competent the staffs disseminating the information to farmers are. The interrelationship is depicted in fig.1.1 below.

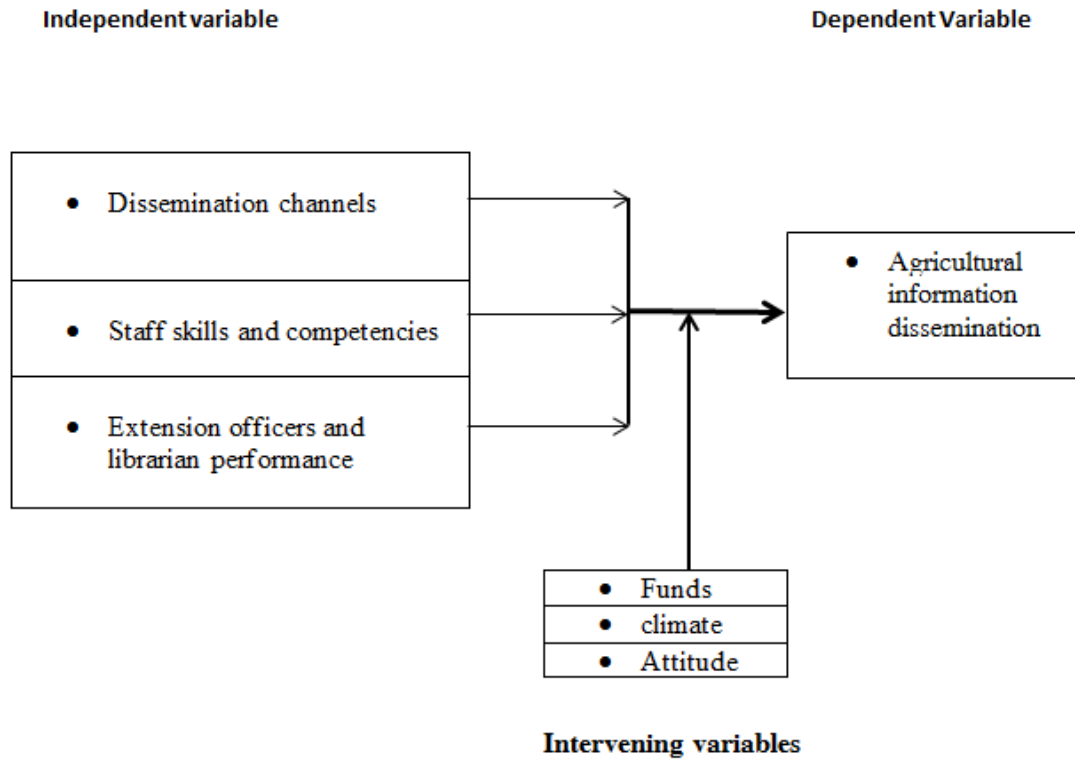


Fig.1:1 Conceptual Framework

It follows therefore that if agricultural information is disseminated to farmers through poor channels, and if libraries and extension officers fail to perform their dissemination roles then the farmers may not get it and so the farming output may also be poor but if the dissemination channels used are effective, and the staff providing dissemination services are competent enough, as well as the agricultural extension officers performing their duties effectively, then agricultural information dissemination will have a higher chance of meeting its effectiveness. The intervening variables are funds, climate and attitude.

1.13 Operational Definition of Terms

Information

Information is one or more statements, facts or news received by a human that have some form of worth to the recipient, and is necessarily accurate, timely and new.

Dissemination of Information

Disseminating information means scattering, or spreading information, or knowledge or opinions widely.

Agricultural Information

This is information concerning the art and science of cultivating the soil, growing crops and raising livestock. It also includes the preparation of plant and animal products for people to use and their distribution to markets.

Farming Activities

Farming activity" means a condition or activity which occurs on a farm in connection with the commercial production of farm products.

Agricultural extension officers

Agricultural extension is the application of scientific research and new knowledge to agricultural practices through farmer education. The field of 'extension' now encompasses a wider range of communication and learning activities organized for rural people by educators from different disciplines, including agriculture, agriculture marketing, health, and business studies

Communication Channels

This is a medium through which a message is transmitted to its intended audience, such as print media or broadcast (electronic) media. Thought must be given to what channels are used to complete various tasks, because using an inappropriate channel for a task or interaction can lead to negative consequences.

Information literacy

Information Literacy is the ability to identify what information is needed, understand how the information is organized, identify the best sources of information for a given need, locate those sources, evaluate the sources critically, and share that information

Co-operative Society

A commercial organization or enterprise distributing goods or services to its members who participate in profit-sharing schemes.

Information Repackaging

Information repackaging is the act of selecting, analyzing, and having information processed with the aim of relaying information in an effective and convenient form to a specific group of people. Libraries repackage information by Selective dissemination of information, and translation services.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviews related literature to the study. A general review of the concept of agricultural information dissemination is done. This is followed by a detailed review of the channels used to disseminate information to farmers; competencies and skills of staff involved in agricultural information dissemination, contribution of libraries and agricultural extension officers in disseminating agricultural information, and the challenges experienced when disseminating agricultural information to farmers. These are thematic areas derived from the objectives.

2.2 Agricultural Information Dissemination

Low (2000) gave a definition of information dissemination as; the awareness and the proper use of information to produce tangible knowledge, the transfer of events to add new meaning that can change life experiences. In agriculture, the role of information in enhancing agricultural development cannot be over emphasized.

According to Ifukor,(2013) Information can be defined as any news or message told verbally, viewed, read in order to add knowledge, to provide understanding and awareness on some topics or problems that prepares one for uncertainties. Gilbert and de Watteville (2000) viewed information as anything that can cause one to change his mind or opinion about the current state of the world.

As posited by Aina et al (1995) Information provides a platform for sharing best practices, sources of financial aids, new markets and has an important role in sustaining and improving agricultural production.

Lucky and Achebe (2012) also support the fact that information is vital for enhanced agricultural productivity; information is a resource that when used effectively for decision making, it enables one to make an informed decision. Those who possess appropriate and timely and up-to-date information are more likely to make a more rational decision than those who do not have. The World Bank study of Kenya's extension effort (1999) also supports that adequate and responsive information to farmers is inevitable, and adds that the farmers inability to access information can hinder the new innovation adoption by farmers.

2.3 Channels Used to Disseminate Information to Farmers

The transfer of information from one place to another, or from one person to the next person that produces a reaction that is positive or negative is known as communication. This communication is facilitated through channels of information dissemination and acquisition. For communication to take place there must be a sender to transmit the message, and a receiver to make decisions from this information received that may include ideas, opinions, facts and attitudes. James ..et..al (2004)

According Oto et...al (2011), for better understanding of knowledge to farmers in the rural areas, the practical and visual transfer of knowledge cannot be avoided. It is important to use communication channels because the knowledge provided gives proper understanding thus predicting the outcome of a communication process.

To ensure good information awareness and literacy programs to farmers, different communication channels should be applied. The method of providing such channels in delivering information should be considered. Meitei and Devi (2009) made a clear observation that different channels should be used to identify types of farmer information needs.

Oto et.al (2011), opined that the rural areas farmers from whom a lot of farm produce comes are not used to reading printed media, and they prefer the use of mother tongue for dissemination of agriculture information.

Community leaders, journals, farmer groups, bulletins and newspapers were mentioned by Mtega and Benard (2013), as some of the information channels used by farmers in accessing their agricultural information. Farmers were found to be using posters,televisions,radios,extension services, as a major source of information in yet another study by Daudu et al. (2009) Further revelations by FAO, (1997) proved that neighbors, cooperative societies, fellow farmers, were preferred information sources used by farmers. As for Ogboma (2010), the sources of information majorly used by rice farmers, were noted to be: non-governmental organizations, officers from local government, ministry of agriculture, magazines of agriculture, extension officers, posters, libraries, workshops, friends, and personal experience. Daudu et al (2013) further showed the major information sources used by farmers in accessing agricultural information as libraries, extension agents, radios and friends. Similarly, Bozi and Ozcatalbas (2010) opined that, input providers, extension services, mass media, neighbours as the key sources of information for farmers. Other ways of delivering agricultural information to the rural farmers include: print, video, television, films, slides, pictures, drama, dance, folklore, group discussions, meetings, exhibitions and demonstrations (Munyua, 2000).

A general observation made by Daudu and Anyanwu (2009), Oladeji, (2011) is that there were different channels through which farmers can access agricultural information including mass media, agricultural extension agents, social networks, folk tales, interpersonal relationship with fellow farmers, and agricultural project administrators, advertisements in different formats ,information literacy, and a forum where information generated by librarians can be disseminated to farmers,(Oladeji, 2011)

2.4 Staff Skills and Competencies

Chisita, (2013) opines that availability of agricultural information results to an increase in food productivity. This objective he says can be met by having agricultural librarians develop an agricultural information system. In order to improve on library and information service delivery, capacity building on library staff and disseminating agricultural information to the relevant users and stakeholders in the agricultural field is inevitable. This observation was made by Thapisa (1997) According to Durani (2008), agricultural librarians should be all inclusive while disseminating agricultural information to their patrons.He further argues that trainee librarians should be armed with preliminary agricultural course in rural life conditions awareness and on job training on the same. Wallace (1997) noted reluctance in embracing new patterns of needs and advices on the need for continued skill sharpening and learning new trends so as to keep pace with the dynamics.Chisita (2003) saw the need of Library and Information studies empowering and changing the environment by providing information that can have a positive impact on the rural farmers.

The dynamic nature of librarianship emanating from information explosion on the web, makes it a necessity for the library and information science students to undergo a training on Information

and communication technology to enable them work in a digital library set up effectively.(Abriza..et..al 2009)

A study by Dube (1993) emphasizes that: The education of extension agents has always been considered one of the fundamental approaches in agricultural development. It is responsible for the education (training) of agricultural extension staff. The training programs include a certificate, diploma, and undergraduate degree. Farmer training centers are also used as sites for conducting in-service workshops for farmers. Currently, the farmer training centers are used for many other purposes. For example, they are used for conducting in-service workshops and meetings for various groups. The research station is charged with the responsibility of conducting basic and applied research activities.Yasuke(2014) is of the opinion that for one to become an extension officer, one has to pass a national exam.

2.5 Libraries and Extension Officers.

According to Aguolu (2000) agricultural libraries are charged the duties of acquiring, processing, and disseminating agricultural information. They also receive reports that are technical in nature, provide reference services, reprography, and play a vital role in achieving the objective of their parent institution. They play this role by performing the following functions or activities:

- Collection, organization and provision of information materials in general agriculture or particular area of specialization as well as in allied subjects.
- Receiving and disseminating technical reports and information reference, queries services, inter-library loan service literature search current awareness services such as distribution of accession lists, content pages of journals.
- Selective dissemination of information (SDI) service.

- Provision of reprographic services.

According to Muyiwa (2015) Information repackaging can be done through various forms to suit the targeted group. Libraries working with communities and other stakeholders encourage research, recording and documentation that has practical uses in agriculture, forestry, health and sustainable development.

According to Zakaria and Nagata (2010), extension officers are the major links between farmers and the agencies since they provide information on demand that can be used to make important decisions by all patrons. They also provide a forum for gaining more knowledge to promote active interactions and exchange of ideas between extension officers and farmers.

Fukuda (2003) pointed out that facilitation of communication and interaction among farmers and also between farmers and agencies is the role that extension officers play in agricultural communities. This they do in order to spread knowledge and innovate techniques. The other role played by extension is helping the farmers acquire managerial and technical skills in agriculture. They collaborate with the agricultural ministry, forestry and fisheries, agricultural universities and research institutions.

The extension officers are expected to serve two functions: “specialist” function, and “coordinator” function. Specialist function means “extension activities to provide farmers with advanced techniques and related knowledge (including managerial knowledge and skills), as appropriate to local environments.” The coordinator function is to “help local farmers and related parties share future goals, clarify tasks they need to address, develop an approach to the tasks, and conduct it, under the cooperation with leading farmers as well as relevant organizations

within and around local communities.” Thus, the officers are not only supposed to help farmers to build and maintain social capital, but also to impart them with agricultural knowledge and skills.

According to Muyanga *et al* (2006) in their paper “Agricultural Extension in Kenya: Practice and Policy Lessons” some of the approaches to extension services are as follows:

2.5.1 National Agriculture and Livestock Extension Program (NALEP)

NALEP is a major extension program offered by the government, and supported by Swedish international development agency. Its main objective is improving agricultural contribution for enhanced economic development and poverty eradication by providing extension service to farmers. The idea behind it is that the stakeholders should be involved to add value to the process. NALEP-SIDA provides facilitation and involves chosen groups within their areas of interest, which receive extension services for a one year period. Specialized officers with skills are deployed in a given area to work with frontline extension workers during this period subject to availability of funds, after which the activities are to continue under NALEP-GOK supervision. (Republic of Kenya, 2005)

Alex *et al* (2002) is of the view that extension has become complex with both government and private sectors providing it. With the Ministry of Agriculture taking a leading role in agricultural extension services, with a major focus on food crops, farmers in Kenya have taken advantage of it. The government put in place progressive or model farmer approach, farm visit, training and management, farmer field schools (FFS), an approach that involves rural development that is integrated, attaching of officers to organizations, and farming systems approaches. Secondly

there is the commodity-based extension which majors on commercial crops. The third one is the privatized agricultural extension initiatives provided by community based organizations, private companies, non-governmental organizations (NGOs), and faith based organizations (FBOs).

2.5.2 Competitive Grants for Research Outreach

Kenya Agricultural Research Institute (KARI) initiated the Agricultural Technology and Information Response Initiative (ATIRI) charged with the duty of technologically empowering farmers in order to make technology and information demands on agricultural services viable. It targets community-based organizations (CBOs) by giving Grants that cover acquisition of technologies (for example, planting material), exchange visits to other farmers who have embraced the technology, visits by the institute's staff, and other costs of observing, learning, and adopting technologies. Smaller grant requests are given priority over larger ones in order to expand the number of beneficiaries. (Republic of Kenya, 2005)

2.5.3 Private Companies

Private companies have invested in extension as part of marketing strategy. Most of NGOs, community based organizations, and faith based organizations have been participating in the provision of agricultural extension services. They train their staff in various agricultural disciplines ranging from certificate to degree level. To promote small scale agriculture, the community is asked to identify the crops that can do well in their area, and then the program supports them to produce such crops for commercial purposes. During the training they are asked not to grow their crops when everybody is doing so because when the supply is high the prices are forced to decrease.

There are also commercial extension programs that provide agricultural extension services in areas where high profits are likely to be realized, by disseminating information about the technologies that they apply like the use of hybrid seeds Major agricultural shows are also co-financed by these companies besides the advice given to farmers in the dairy sectors on artificial insemination, feeding, and proper hygiene in handling milk. Demonstrations, field days, and stockists are methods used to give extension advice by these companies.

2.6 Challenges Experienced in Dissemination of Agricultural Information

It is reasonable to say that library and information services provision facilitates enhancement of agricultural productivity. Poor communication as a result of uncoordinated channels of information delivery to farmers was pointed out by (Rees et.al. 2000) as being a major deterrent to information flow between researchers and farmers. Aina (1990) was of the view that;“ Lack of trained personnel in agricultural information service provision, high illiteracy levels among farmers, and having limited numbers of television and radios, were the main factors hindering agricultural information flow to farmers in Africa.” The major challenges faced by farmers in accessing agricultural information as explained by Babu et al. (2011) were late provision of information, farmers not being aware of information sources available and, poor reliability. Mtega and Benard (2013) found out in their study on the state of rural information and communication services that; increased cost of ICT’S, high illiteracy levels, poor information infrastructure, have led to limited access to information resources in rural areas.Sakoya..et..al (2014) made an observation that there is lack of awareness on modern strategies that can improve farming methods, and even marketing. Furthermore he alluded that there is need for the

awareness of the role of the librarian in disseminating necessary agricultural information and teaching to farmers for significant improvement to be seen in the planting season.

Lack of political and economic power is yet another challenge experienced in disseminating agricultural information, as observed by Ochogwu,(2007). He further goes on to state that, the library profession lacks the political and economic power to compete for relevance and recognition in the community of other professionals. In Africa, the library profession has not adequately asserted its influence on the political and social process; as a consequence, the value of library and information services has not been appreciated. Other services agencies and organizations in the educational, medical, legal fields are better recognized, appreciated and rewarded Worst still, every Dick and Harry are employed as librarians and are thereby making the profession a dumping ground.

According to Kalusopa, (2005), Research results should be disseminated to the target group, including the farmers so that they get new knowledge in order to eradicate traditional agricultural approaches, and trial and error. There is need for tremendous improvement in agricultural practices. According to Mittal and Tripathi (2009) the challenges experienced by farmers due to poor information dissemination like few agricultural extension officers, and farm locations being far from agricultural research centres may be alleviated by embracing ICT tools, for example, using mobile phones and video conferencing to reach farmers in distant areas where land line phones are limited. The approach can reduce on expenses of travelling to remote areas.

Sanginga and Woomer (2009) identified low levels of literacy as the main challenge to effective communication of soil fertility information among farmers in Sub Saharan Africa. Omosa (2000) concluded that for the use of communication channels to be successful, the socio-economic

factors such as the level of literacy (education level) and wealth status as well as other factors like political environment must play a big role. Similarly, Opara (2008) argued that apart from channels of information/knowledge meeting the minimum thresholds of credibility, reliability and accessibility they must be adapted to socio-economic environment of the recipient.

Adolwa,(2008) opined that the overall impact on farmer adoption of new technologies is lacking due to problems associated with the extension system in Kenya. Public extension agents in Kenya face numerous constraints which hinder them from carrying out their functions effectively. The various problems encountered by extension agents have been occasioned by inadequate funding from the government and donors (Federet.al., 2010; Nambiro et.al.,(2005). Constraints include lack of adequate fuel and maintenance of the few available vehicles and motorbikes, lack of communication gadgets like mobile phones, lack of equipment to deliver services, under-staffing and conflict of interest between government and other service providers e.g. NGOs. Feder et.al. (2010) cites, poor programing, bureaucratic inefficiency and implementation as factors that have led to poor performance and disjointed links with client farmers and researchers. This has led to poor penetration of extension activities in rural areas, especially in the more interior and inaccessible parts. Cases of conflict of interest arise when NGOs give incentives and provide some services for free resulting in a situation where communities are inclined to ignore the services offered by government extensionists. This is corroborated by Muyanga and Jayne (2006) who report the incidences of conflict where some extension officers give out seeds, goats, heifers, for free while others strongly advocate for cost recovery making the community to expect much thus getting more confused in the process.

Adolwa (2008) discovered in his study that “ICT-based channels such as DVD/CD videos, mobile phones and the internet also portended very minimal advantages to farmers a scenario

that can be attributed to the relatively high costs of accessing them and complexity of use. The digital divide in Africa – a situation where there is a disparity in access to ICTs between rural and urban populations – has been a topic of discussion by many scholars (Oguya, 2006; Munyua, 2007; Sopazi and Andrew, 2005). High costs and inadequate investment in infrastructure that can support internet services in rural areas has resulted in the failure of many poor and small-scale farmers to embrace the internet revolution thus the very low utilization of the internet. Obidike (2011) concluded that; the community agricultural development is usually impeded when Information and knowledge is poorly disseminated as a result of certain constraints.

It is therefore recommended that librarians should be proactive in information service delivery, alternative funding mechanism should be sought for to support the dwindling government funding in terms of fees charged for services delivery and a need for private participation in agricultural information provision in view of the global commercialization of information services provision and agricultural information services provision in particular.

The other challenges as observed in a study by Olorunyomi (1992) were the technical reports on agriculture having poor bibliographic control, and lack of materials for acquisition by libraries due to outdated lists. Poor facilitation given to agricultural libraries may also limit the purchase of enough relevant materials; the confidential nature of some reports also may bar them from being availed to users. Agoulu (2000) identified lack of proper training in agricultural information, documentation and retrieval, lack of appreciation of the agricultural library in meeting the parent organization's agenda, to be the bottle necks that hinder agricultural libraries from rendering effective services to their patrons.

2.7 Summary and Gap Identification

2.7. 1 Summary

The literature has been reviewed as per the following aspects ; the channels used to disseminate information to farmers; competencies and skills of staff involved in agricultural information dissemination, contribution of agricultural extension officers in disseminating agricultural information sand the challenges experienced when disseminating agricultural information to farmers.

2.7. 2 Gap Identification

Librarians in the agricultural sector should have a thorough understanding of agriculture. Unfortunately this is not the case. Secondly, farmers have been excluded from new research findings in agriculture since useful cutting edge information has only been communicated to the academia and researchers (Kaluposa, 2005).This exclusion denies farmers the right of access to relevant information to leverage their farming activities. Therefore the need to assess the modalities that the government has put in place to disseminate agricultural information to farmers especially in Siaya county.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter gives elaborates on the design that was used for the study by detailing the variables of the study, The research methodology and location of the study. Besides, explaining the target population, sampling techniques and sample size; research instruments; pre-testing/piloting study; validity and reliability; data collection techniques; data analysis; logistical and ethical considerations.

3.2 Research Design

A research design from Creswell's perspective (2013) is a plan or a procedure for research that gives decisions from a broad assumption to a detailed method of data collection and analysis. It connects research questions to data based on framework and strategy. It also shows how and from whom data will be collected. (Punch, 2009)Therefore, a research design is the overall plan that gives a guide to the research, right from the beginning till the end. For this study, descriptive research design was used. The benefit of this design is that it can accommodate both quantitative and qualitative data for solutions to be found on whatever is being studied.

3.2.1 Variables

The dependent variable for this study is agricultural information dissemination, while the dissemination channels, staff skills and competencies, and the contribution of extension officers, are the independent variables. The intervening variables are funds, climate and attitude.

3.2.2 Research Methodology

Research methodologies, referred to as strategies of inquiry by Creswell (2013), are types of qualitative, quantitative, and mixed methods designs or models that provide specific direction for procedures in a research design. Research methodologies predominant in qualitative research include: narrative research; phenomenology; ethnographies; grounded theory studies, and case study, (Creswell, 2013). For this study, a case study was used. A case study is a research strategy that focuses on the in-depth, holistic and in-context study of one or more cases. Punch (2009) broadly categorises case study into two: single case studies, where focus is within the case; and multiple case study, or comparative case study, where the focus is both within and across cases. A case can, therefore, be an individual, or a role, or small group, or an organization, or community. In this study, semi structured interview schedules were used to collect data from the farmers. The researcher interviewed the farmers who were available one by one for a period of one month, Secondly, self-administered questionnaires in hard copies were issued to agricultural extension workers to complete. The filled questionnaires were later collected after two weeks from the participants, for analysis.

3.2.3 Location of the study

The study was carried out in Siaya County, Alego Usonga ward, where a sample was drawn from. This is because the ward had the highest population of farmers, and the highest number of information resource centres as compared to other wards in Siaya County.

3.3 Target Population

Target population is a population to which a researcher ideally generalizes study results (Gay, Mills, and Airsian , 2009). Target population is thus the entire group of persons or set of objects and events the researcher wants to study, and from which the sample will be drawn. The target population comprised the farmers in Alego Usonga Ward Siaya County, who were 100, agricultural extension officers who were 30, and librarians who were 10.

3.4 Sampling Techniques and Sample Size

3.4.1 Sampling Techniques

Purposive sampling was applied since a specific group of people formed the informants, for instance the farmers, and the resource persons in the agricultural field.). Purposive sampling involves a deliberate selection of particular units of the universe (Miller & Yang (2008). Purposive sampling can enable a researcher to choose a given subject that provides extensive information about the area being studied. (Kombo & Tromp (2009).The Purposive sampling was used because it enabled the researcher reach the targeted sample quickly.

3.4.2 Sample Size Determination

Gay, Mills, and Airsian (2009) posit that there is no hard and fast rules that specifies a “correct” sample size in qualitative study. A qualitative study can be carried out with a particular participant or with as many as 20 or 70 participants representing multiple contexts.

The sample size was determined using Krejcie and Morgan table (1970) whereby from a sample of 100 farmers the sample size was 80, out of 30 extension workers 28 formed the sample and out of 10 librarians 10 formed the sample. The total sample size was 118 as shown on the table below.

Study population and sample size.

Table 3.1

	Population	Sample size
Farmers	100	80
Librarians	10	10
Extension Officers	30	28
Total Population	130	118

Source: Researcher (2016), Krejcie and Morgan (1970)

3.5 Research Instruments

Research instruments are tools that the researcher uses to collect data. Kombo and Tromp (2006) identify four research instruments: questionnaires, interview schedules, observation and focus

group discussion. The questionnaires were administered to the extension officers, and the farmers were involved in the interview.

The questionnaires were preferred because they enabled the researcher reach many people, and to collect them at a later date, while the interview method was preferred because it enabled the researcher observe the body language while interviewing.

3.6 Pilot Study

The pretesting of the interview schedule was done at Siaya Town ward because it was closer and convenient to the researcher, 20 farmers were chosen to participate in the pretesting of the interview schedule. This was done to test the adequacy of the research instruments. The piloting helped determine the relevance and wording of the interview questions. It also helped eliminate unnecessary question and added necessary questions. The piloting also helped estimate the time needed to conduct the interview. The questionnaire was pretested on 10 extension officers. The pilot study helped the researcher to improve the questionnaire from the technical language to simple language.

3.6.1 Validity

Validity is the extent to an instrument gives an accurate measure of what it is supposed to measure. If it can do what it's intended to do in terms of measuring instruments, and experimental procedures. (Grinnell, 2005).The validity of the instrument was measured by administering 15 questionnaires in pilot testing to test the degree of accuracy of the instrument used to collect data. The outcome of the study necessitated the need to simplify the language used to the level of farmers

3.6.2 Reliability

Reliability is; the consistency, accuracy, precision degree in result of a measuring instrument. It also includes the instruments ability to produce the same results when the same variable is measured continuously.(Grinnell, 2005).

The reliability of the research instrument was established by use of retest method. This involved asking the same questions to the respondent in the pretesting ward. The same questions were then subjected to the same respondent after some time. The reliability of the instrument was estimated by examining the consistency of the responses between the two tests, where the consistency was confirmed.

3.7 Data Collection Techniques

This section describes the methods and instruments used to achieve the objectives of the study. The main methods that were used are; questionnaires; which were self-administered to the librarians and extension workers. These were left with them for a period of two weeks, and thereafter they were collected by the researcher from them for analysis. An interview schedule was used to interview the farmers who availed themselves one by one for a period of one month.

3.8 Data Analysis

The qualitative data was summarized, coded and analyzed as per the objectives of the study giving a narrative conclusion out of it, and the quantitative data was analyzed using SPSS.Charts tables and graphs were used to present the findings.

3.9 Logistical and Ethical Considerations

Relevant authorising documents were obtained from the department of Library Science and graduate school, to enable the researcher identify herself and seek permission to conduct the research in the selected case studies. The privacy and confidentiality of the respondents was also ensured, all sources referred to were cited, and integrity of the work was also observed.

CHAPTER FOUR

PRESENTATION OF FINDINGS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter gives a discussion, interpretation and presentation of the field findings. It gives a presentation of the background information of the respondents, data analysis, and findings based on the objectives of the study which included: assessing the channels of disseminating agricultural information to farmers in Siaya county, establishing the competencies and skills of staff involved in agricultural information dissemination, establishing the contribution of agricultural extension officers in disseminating agricultural information, and identifying the challenges involved in disseminating agriculture information.

4.2 General and Demographic Information

4.2.1 General Information

The study targeted a sample size of 118 respondents from which 101 responded giving a response rate of 85.6%. This response rate was excellent for the conclusions made on this study. Mugenda and Mugenda (1999) assert that a response rate of 50% can be adequate for reporting and analysis. A response rate of 60% is good and that of 70% is excellent. Based on this school of thought, the response rate was excellent.

4.2.2 Gender distribution

The researcher wanted to find out the gender category of the respondents, and the responses were as presented in table 4.1

Table 4.1 Respondents' Gender Distribution

Gender	Frequency (F)	Percentage (%)
Male	52	51.5
Female	49	48.5
Total	101	100

From its findings, the study established that the majority of the respondents as represented by 52 (51.5%) were males whereas 49 (48.5%) were female. This gives an indication that both genders were fairly involved in the research thus eliminating gender bias.

4. 2.3 Level of education

The respondents were asked to indicate their education level. Their responses were as presented in figure 4.1.

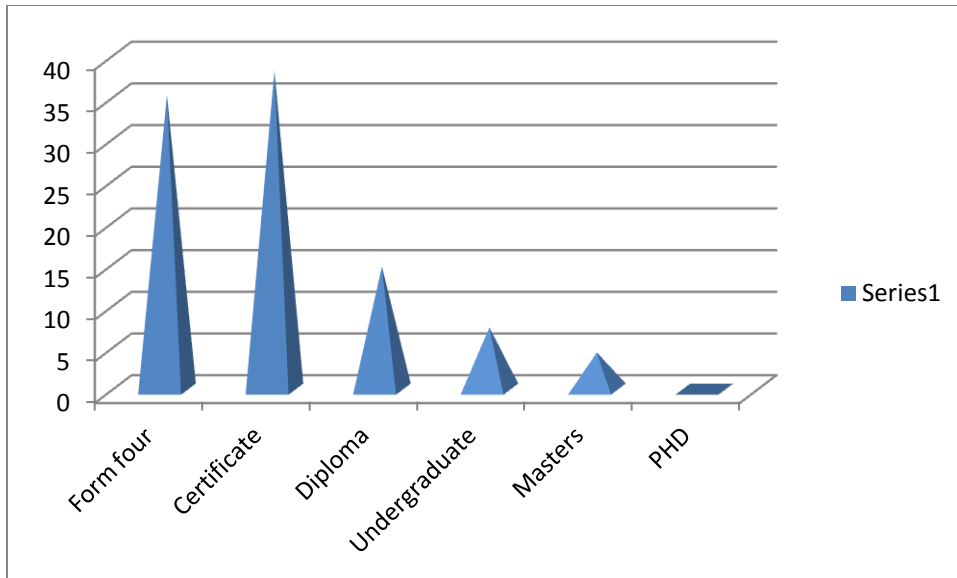


Figure 4.1: Farmers Level of Education

From the findings, the study, established that the majority of the respondents as shown in figure 4.1, 26(38.2%) had certificates, followed by 24(35.3%) who had form four certificates, then 10(14.7%) had diplomas, 5(7.4%) were undergraduates, 3(4.4%) had masters, and none had a PhD. This was an indication that the respondents were well educated and so could understand the questions very well and give authoritative answers for the research.

4.2.4 Experience Levels

The researcher requested the respondents to indicate their level of experience, in farming. Their responses were as presented in figure 4.2

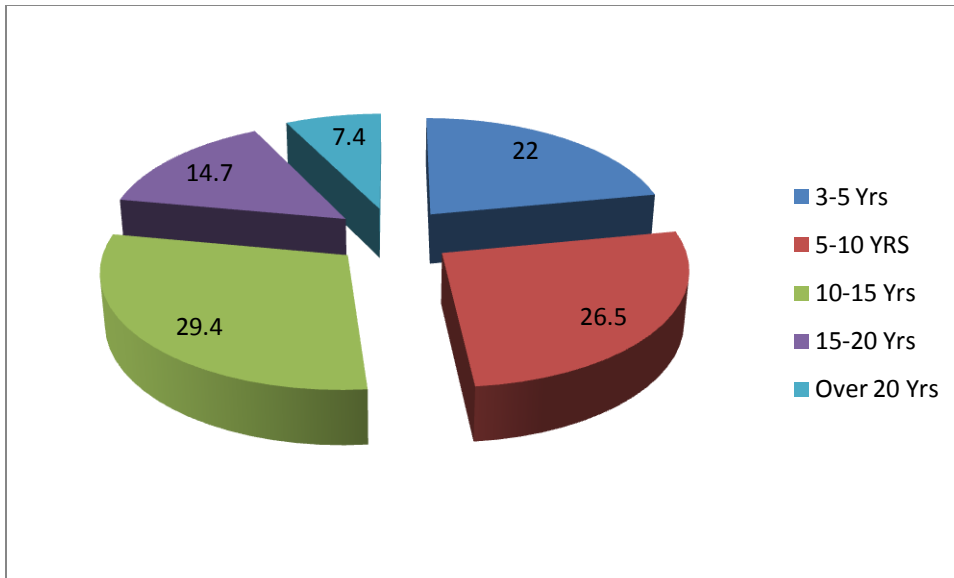


Figure 4.2: Farmers level of experience

From the findings the study established that the majority of the farmers, 20(29.4%) had 10-15 years' of experience while 18(26.5%) had experience ranging between 5-10 years. Another 15(22%) had 3-5 years' experience 10(14.7%) had 15-20 years' experience, 5(7.4%) had over 20 years' experience. This indicates that farming is the main occupation for majority of families who have engaged in it for decades and it still attracts more people especially those who have done it for between 3 to 5 years and 5 to 10 years respectively.

4.2.5 Age brackets of respondents

The researcher sought to find out from the respondents consisting of agricultural extension officers and librarians, their age brackets. Their responses were as shown in figure 4.3.

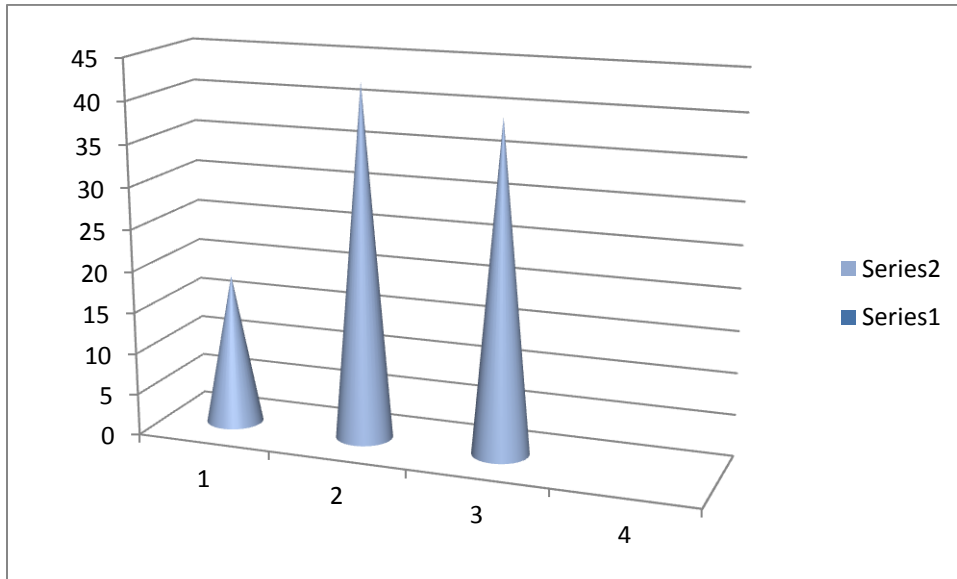


Figure 4.3 Age bracket

The study established that majority of them were between the age bracket of 35-50 forming 14(42.4%), 13(39.4) were over 50 years and 6(18.2%) were below 35 years old. This implies that respondents were well distributed in terms of their age. The figure 4.3 above depicts the facts.

4.2.6 Access to agricultural information channels

The first task of this study was to assess the channels of disseminating agricultural information to farmers. The farmers were asked to state if they had access to agricultural information. Their responses were as presented in figure 4.4.

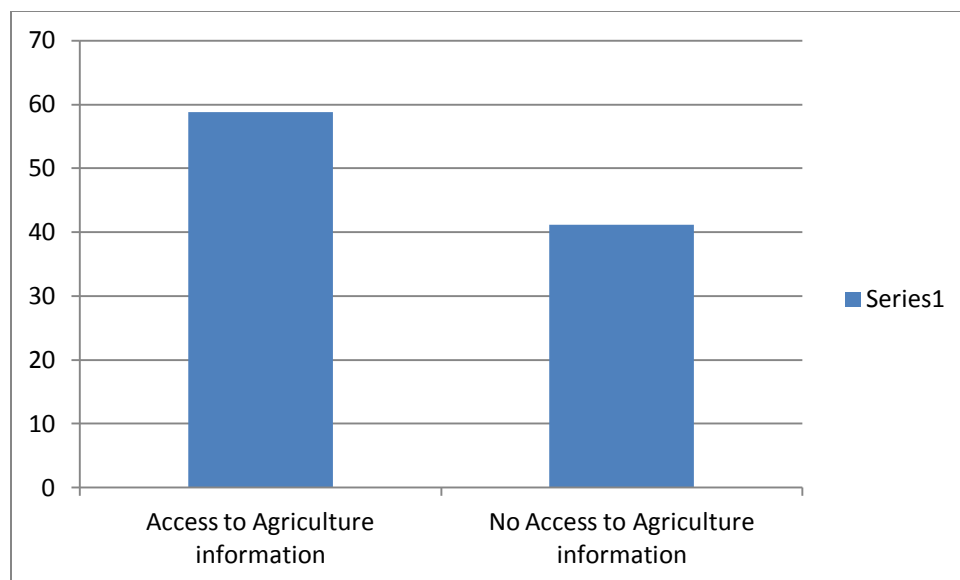


Figure 4.4 Farmers Access to Agriculture Information

The study established that, majority of farmers that is 40(58.8%) of them had access to agricultural information while the remaining farmers forming 28(41.2%) had no access to agricultural information. This implies that the access to agricultural information is significant as depicted on the figure above.

4.2.7 Channels for disseminating agriculture information

The respondents were asked to state the channels used to disseminate agricultural information among farmers. Their responses were as presented in figure 4.5.

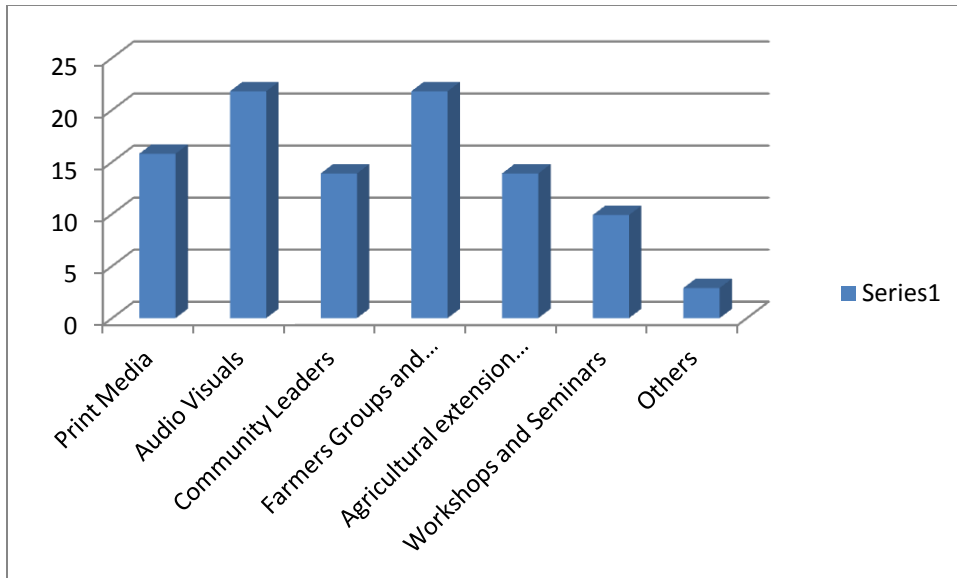


Figure 4.5 Channels of Dissemination of agricultural information

The study established that audio visuals, farmers groups and cooperative societies were the most used channels at 44(21.8%) each, followed by print media at 16(15.8%), community leaders forming 14(13.9%), agricultural extension workers also forming 14(13.9%), workshops and seminars forming 10(9.9%) ,and others formed 3(2.9%).From the above findings it was concluded that the channels preferred were the most available to the farmers, thus registering the highest use.

4.2.8 Reasons why they preferred the Chosen Channels

Asked to explain why they preferred the stated channels, the responses were as shown in figure 4.6.

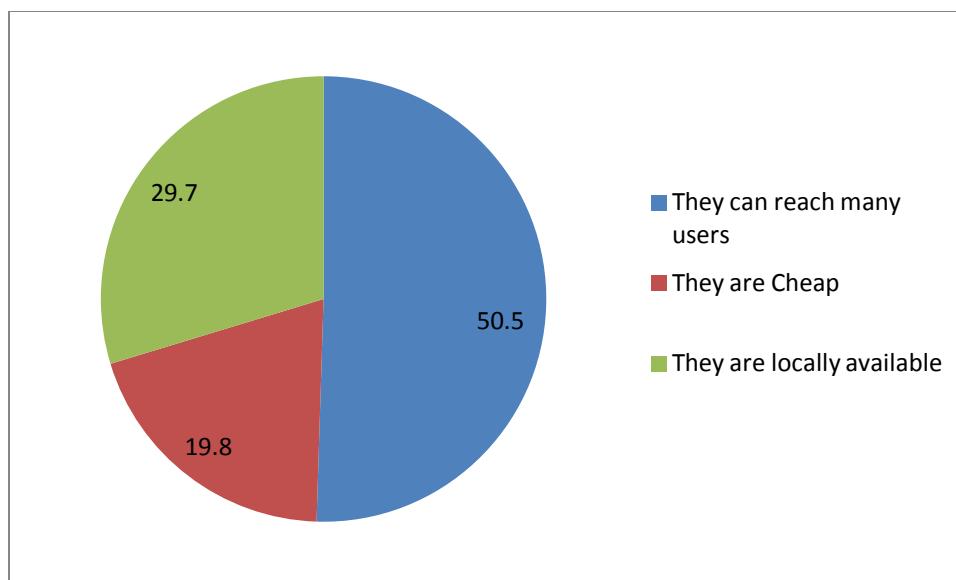


Figure 4.6 Reasons for the preferred channel

The respondents who gave, reaching many users as their reasons were 51(50.5%),30(29.7%) mentioned local availability of some channels while 20(19.8%) gave low cost as the reason why the channels were preferred.From the pattern of response, a variety of channels are deployed to disseminate agriculture information to farmers.

4.2.9 Other Preferred Channels

The respondents were asked to state the other channels that they would recommend for disseminating agricultural information. Majority of them preferred the use of social media like Facebook, Whattsup and Short Message Services, the rest forming suggested peers, site visits, agricultural shows, and roadshows. “Most of us farmers nowadays have invested in smart phones and so access to face book and whattsup is not a big deal “Stated one farmer. The data was quantitatively established out of the interview with the farmers who participated in the exercise.

4.2.10 Professional Qualifications of staff Providing Agricultural Information Dissemination Services

The study sought to establish the competencies and skills of staff who disseminate agricultural information and requested the respondents to indicate their level of education. Their responses were as presented in figure 4.7.

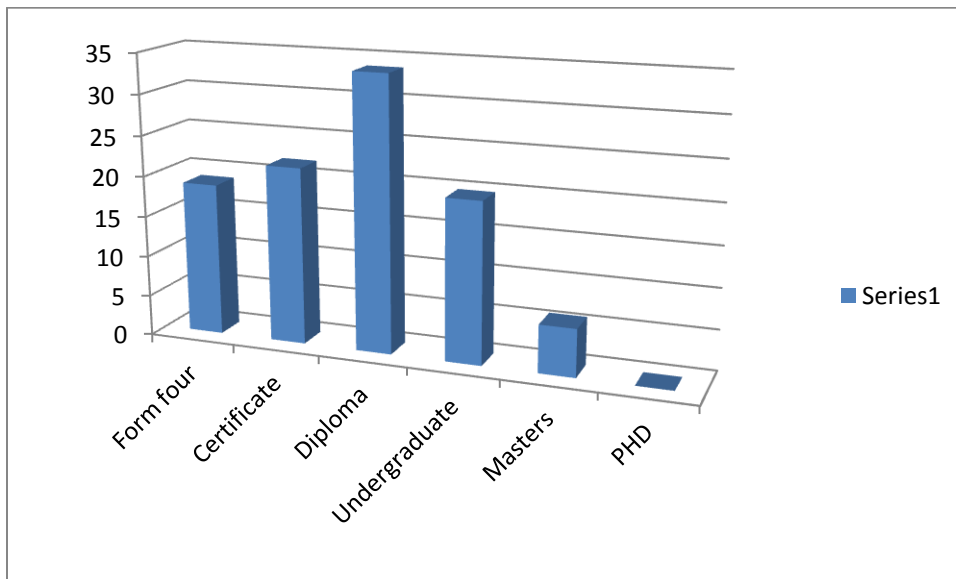


Figure 4.7 Staff qualification levels

From the findings, the study, established that the majority of the respondents as shown by 11(33.7%) had Diploma qualification, followed by 7(21.8%) who had certificates, then 7(19.8%) who were graduates, 2(5.9%) had masters, and none had a PhD as shown in the figure above. These were an indication that the respondents were competent enough and were well skilled to give agricultural information dissemination effectively

4.2.11 Level of Experience

The respondents were requested to indicate their level of experience in disseminating agricultural information. Their responses were as depicted in figure 4.8.

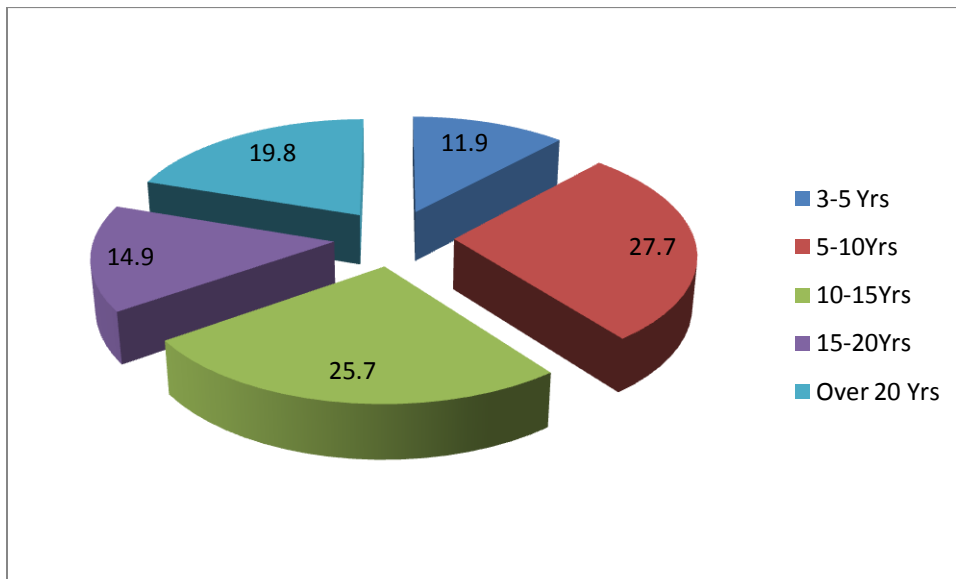


Figure 4.8: Staff experience on the job

From the results the study established that the majority 9(27.7%) had experience ranging between 5-10 years,8(25.7%) had 10-15 years' experience, 7(19.8%) had over 20 years' experience, 5(14.9%) had 15-20 years' experience, and 4(11.9%) had 3-5 years' experience, this implies that the extension staff have enough experience to perform the duties assigned as shown in the figure 4.8.

4.3 Contribution of Extension Officers in Disseminating Agricultural Information

4.3.1 Awareness of the existence of agricultural extension officers

Among the farmers interviewed the study sought to find out if they were aware of the existence of extension officers. Their responses are as depicted in table 4.2.

Table 4.2 Farmers Awareness of the existence of Agricultural Extension Officers

Farmers	Frequency	Percentage
Aware of existence of extension officers	48	70.6
Not aware of existence of extension officers	20	29.4

The findings were that majority of them 48(70.6%) were aware of the existence of agricultural extension officers, while just a few of them 20(29.4%) were not aware of their existence, this implies that most of the farmers are informed as far as the existence of extension officers are concerned.

4.3.2 Delivery of agricultural extension services

The study sought to find out among the farmers interviewed if they received extension services, their responses were as presented in figure 4.9.

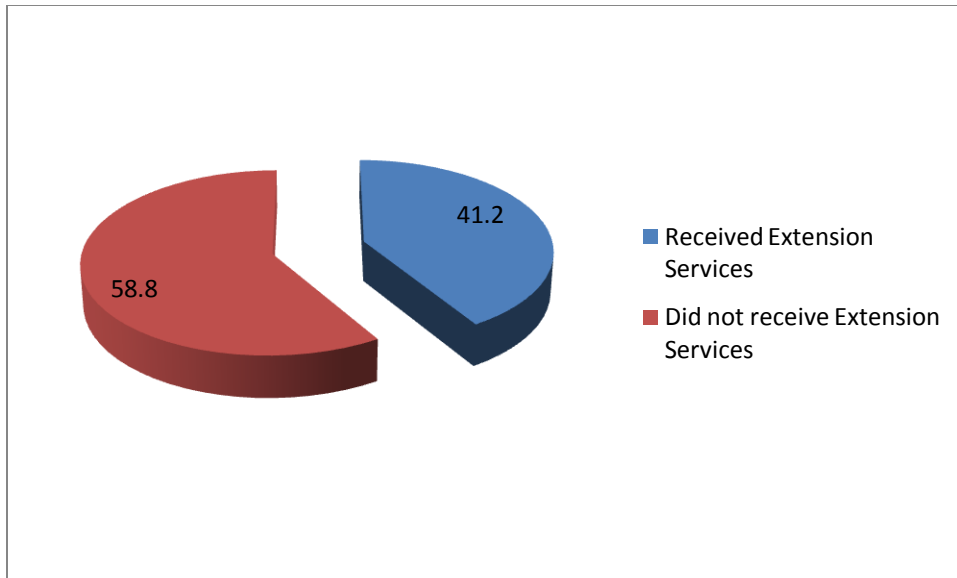


Figure 4.9 Farmers receiving Agricultural extension services

The findings were that a majority 40 (58.8%) of the farmers did not receive extension services, while a few 28 (41.2%) are the ones who received the services. This may be attributed to either laxity or incompetence on the part of agricultural extension officers in providing services which they are hired to do. It may also be attributed to lack of interest by some farmers to seek and exploit agriculture extension services.

4.3.3 Types of agriculture extension services

The study sought to find out the services provided by extension officers. From the farmers interviewed, the study found out that the farmers got information on climate change and weather patterns for farming, information on certified seeds for planting, better farming methods, agricultural mechanization, pest control and preservation of farm produce, poultry farming, care of newly hatched chicken, and animal vaccines. According to those farmers who have exploited

these services there are no regrets since they are able to fulfill their social economic obligations without much struggle.

4.3.4 Dissemination of agricultural information by extension officers

The study sought to find out if the agricultural extension officers disseminated agricultural information effectively. Their responses were as shown in figure 4.10.

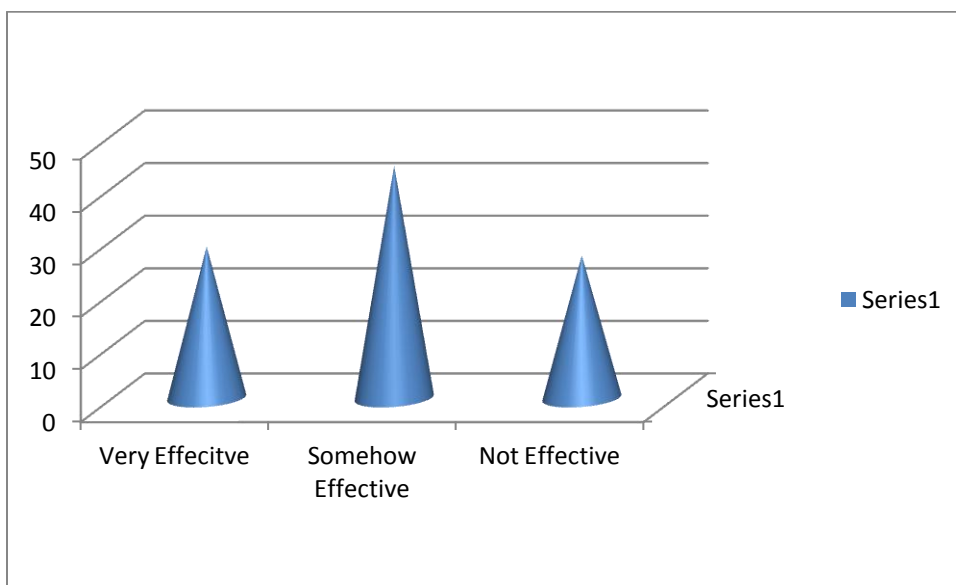


Figure 4.10 Respondents view on the effectiveness of agricultural information dissemination.

The respondents were asked to rate how effective the extension officers were in disseminating agricultural information, the study found out that, majority 30(44.1%) felt that they were somehow effective and 20(28.8%) of the respondents felt that they were very effective, while 18(27.1%) felt that they were not effective, as illustrated in the figure 4.10 above. Thus despite agricultural extension officers reaching a substantial number of farmers, there are those who

have not felt their impact. They are therefore duty bound to make efforts of reaching every farmer.

4.3.5 Effectiveness of Agriculture Information Dissemination

The research further sought to know why they gave the varied responses on the effectiveness of agricultural information dissemination .From interviews conducted on some key respondents, the respondents gave many reasons for choosing extension officers being very effective including; Farmers being informed on current agricultural practices; extension officers being trained therefore high understanding of the information they relay, and improved farming activities. Some respondents had reasons for choosing not effective including; Lack of equipment and material support; lack of collaboration with partners, farmers not being aware of new farming activities; and poor perception by farmers on use of new technology.

4.3.6 Performance of Extension Officers

The respondents were asked to rate the performance of extension officers. Their responses were as shown in the figure 4.11.

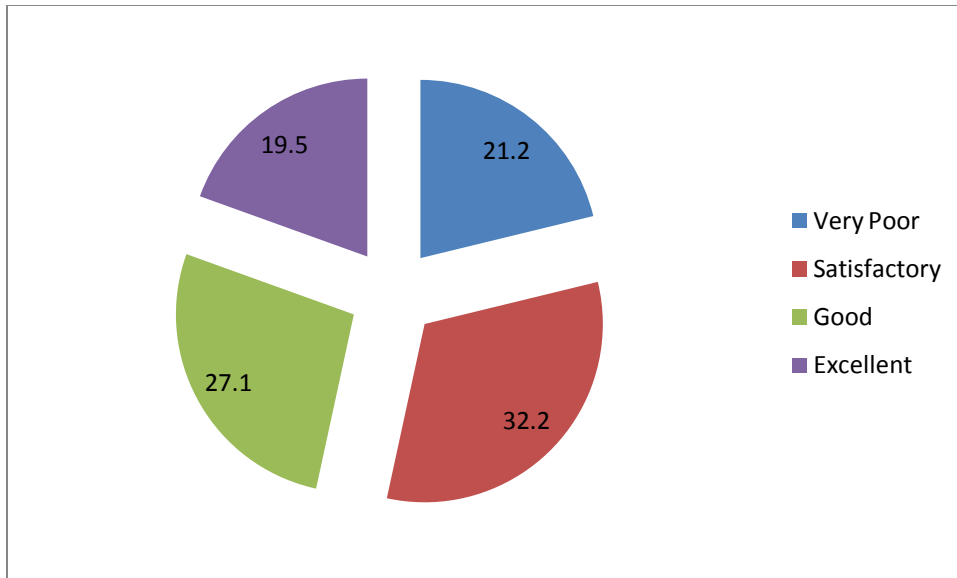


Figure 4.11: Performance rating of extension officers

The study found out that majority 22 (32.2%) felt that their performance was satisfactory, 19(27.1%) felt that their performance was good 14(21.2%) felt that their performance was very poor while 13(19.5%) felt that their performance was excellent. This shows that despite the effort made by the extension officers, they still need to strive for excellent performance in order to fully satisfy their user needs.

4.3.7 Approaches for Enhancing Agricultural Information Dissemination

The respondents were asked to suggest what agricultural extension officers should do to enhance the dissemination of agricultural information and they gave the following approaches from the qualitative data; use of ICT in disseminating agricultural information; use of farmer group approach; engage in more outreach activities, and documentation of agricultural information in different languages. One farmer lamented that “language barrier at times hinders our

understanding thus making us miss vital pieces of agricultural information therefore; I support the need to document agricultural information in different languages.”

4.3.7 Challenges Experienced in Disseminating Agricultural Information

The study sought to find out the challenges experienced when disseminating agricultural information and the responses were as shown in figure 4.12.

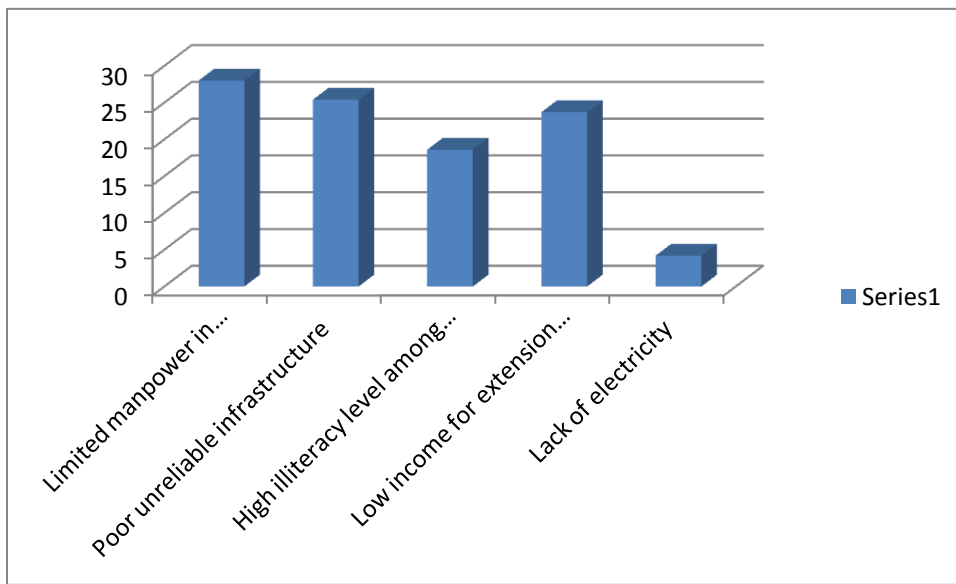


Figure 4.12: Challenges as cited by respondents

The study found out that most of them that is 28(28%) stated the challenge of limited manpower in disseminating necessary information and leading farmers on better use of current information, 26(25.4%) indicated poor and unreliable infrastructure as a challenge, 24(23.7%) suggested low income for extension officers, 19(18.6%) cited high illiteracy levels among farmers, 4(4.2%) mentioned that lack of electricity and high cost of ICT as shown in the figure 4.12 as challenges facing dissemination of agricultural information. Thus the intended agricultural information dissemination is bedeviled with a myriad challenges that require redress

if the farmers have to be equipped or supplied with the necessary information for their farming activities.

4.3.8 Solutions to the challenges

The study sought to find out from the respondents what should be done to overcome the challenges experienced when disseminating agricultural information. Their suggestions are as recorded in figure 4.13.

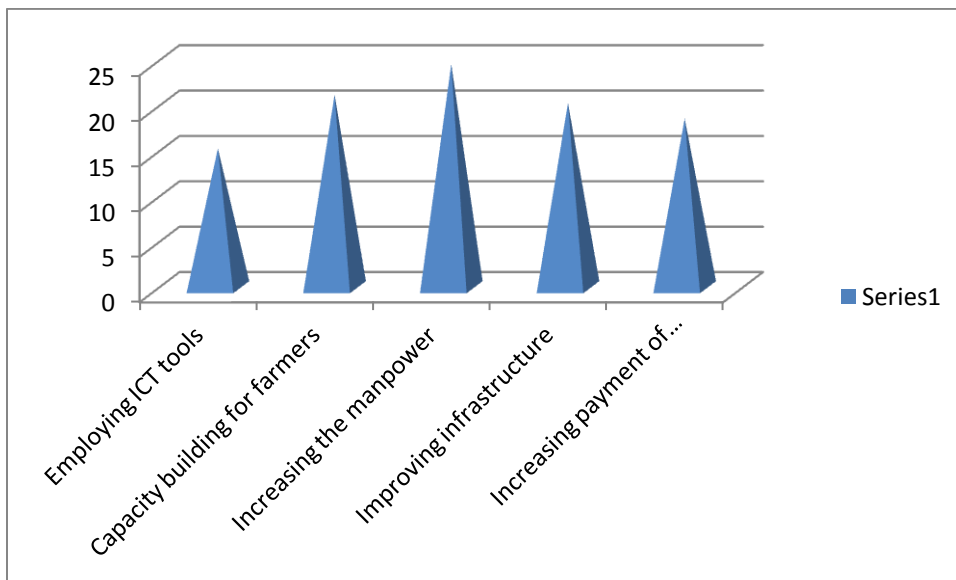


Figure 4.13: Respondents view on how to overcome challenges of agricultural information dissemination

The majority 25(24.6%) of the respondents proposed increasing the manpower to disseminate agricultural information, 21(21.2%) chose capacity building for farmers to improve their literacy levels, 21(20.3%) suggested improving infrastructure 19(18.6%) talked about increasing payment allowance to extension officers, and 15(15.3%) suggested employing ICT tools to

provide an information bridge between agricultural experts and farmers. This implies that majority of farmers are in dire need of agricultural information, and capacity building for farmers to improve their literacy level thus improving on their agricultural practices.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECCOMENDATIONS

5.1 Introduction

This chapter Presents the summary of the findings, conclusions and recommendations in line with the objectives of the study which included: Assessing the channels of disseminating agricultural information to farmers, establishing the competencies and skills of staff involved in agricultural information dissemination; establishing contributions of agricultural extension officers in disseminating agricultural information, and identifying the challenges experienced in disseminating agricultural information to farmers.

5.2 Summary of the Findings

5.2.1 Channels of disseminating agricultural information to farmers

The study established that there was significant access to agricultural information by farmers in Alego Usonga Sub County in Siaya County. The channels that were mostly used in disseminating agricultural information are audio and audio visuals as well as farmers groups and co-operatives, while agricultural extension services are not widely used.

5.2.2 Competencies and skills of staff involved in agricultural information dissemination

The study established that the staff disseminating agricultural information were fairly competent and skilled to provide information dissemination services. Besides they have requisite professional qualifications varying from diploma to Masters degree levels.

5.2.3 Contribution of agricultural extension officers in disseminating agricultural information.

The study established that most farmers were aware of the existence of agricultural extension officers, but most of them did not receive services from them. There was little evidence of agricultural information received from the few farmers who got access to agricultural extension services. The study also established that the contribution of agricultural extension officers in disseminating agricultural information is minimally fair, and their effectiveness is also not felt by the farmers. The performance rating was slightly below average and below the expected performance since agricultural extension services are supposed to form a vital part of agricultural information dissemination.

5.2.4 Challenges experienced while disseminating agricultural information

The study established that the greatest challenges experienced when disseminating agricultural information were: limited manpower in disseminating necessary agricultural information and leading farmers on better use of current information. Poor infrastructure and low income for extension officers, was also found to be another challenge.

5.3 Conclusions

Based on the findings from the channels used in disseminating agricultural information, the study concludes that effective, easy to access and affordable channels of disseminating agricultural information should be applied depending on the target group and economic prowess in order for the agricultural information to reach all the farmers in Alego-Usonga Sub County.

As far as the competencies and skills of staff involved in disseminating agricultural information is concerned, the study concludes that well trained and skilled staff who are experienced on the job are suitable for disseminating agricultural information effectively.

Regarding the contribution of extension officers in disseminating agricultural information, the study concludes that extension officers' contribution to dissemination of information should be significant and effective, if they can also spread their services so that their services are received by many farmers

5.4 Recommendations

Based on the findings and challenges that have been, experienced while disseminating agricultural information the study recommends that;

- I. The channels of disseminating agricultural information should be complemented with contemporary channels like the use of social media including Facebook, Whattssup and Short Message Services, as well as peers, site visits, agricultural shows, and road shows, among others.
- II. The competencies and skills of the extension staff should be enhanced through training and workshops in order for them to perform their jobs effectively.

- III. Since extension services are inadequately used, the extension officers should enhance their contribution towards agricultural information dissemination by incorporating in their services support on alternative modalities such as; farmer group approach, engage in more outreach activities, and documentation of agricultural information in different languages. The Siaya County Government should facilitate the extension services by giving them enough finances including transport to ensure they cover a wide coverage, enhance the number by hiring more extension officers in order to add value on the dissemination of agricultural information.
- IV. The Siaya County Government should build capacity for farmers to improve their literacy level..

4.5 Recommendation For Further Studies

This study has assessed the government modalities of disseminating agricultural information to farmers in Alego –Usonga sub county of Siaya County. However further research should be done on information seeking behaviors of Farmers for enhanced agricultural knowledge

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APPENDICES

Appendix I: Questionnaire for agricultural extension workers

Section 1: Demographic information

- 1) Indicate your gender .Male() Female()
- 2) What is your age bracket(a)Below 35 () (b)35-50 () (c)over 50 ()
- 3) What is your education level? Tick one (a)Form four () (b)Certificate() (c)Diploma() (d)Undergraduate() (e) Masters () (f) PHD ()
- 4) For how long have you been providing agricultural information services?(a) 3-5years() (b)5-10 years() (c)10-15 years() (d)15-20 years () (e) Over 20 years()

Section 2: Channels of disseminating agricultural information to farmers in Siaya County

- 1) What channels do you use for disseminating agricultural information services?(Tick the channels used)

(a) Print Media () (b) Audio and Audio Visual () (c) Community Leaders () (d) Farmer groups and Cooperative societies () (e) Agricultural Extension Workers() (f) Workshops and Seminars() (g) Others ()
- 2) In your own opinion why do you prefer the channels chosen?

(a)They can reach many users () (b)They are cheap () (c) They are locally available ()
- 3) Apart from the ones mentioned above, what other channels would you prefer to be used in disseminating agricultural information.....
.....
.....

Section 3: extension officer’s contribution to dissemination of agricultural information

1. Do you think extension officers disseminate agricultural information effectively?

- (a) very effective () (b) somehow effective () (c) Not effective ()

2. Give reasons for the answer given in (1) above

How would you rate the performance of extension services?

- (a) Very poor () (b) Satisfactory () (c) good () (d) Excellent ()

2. In your opinion is there anything extension officers should do to enhance agricultural information dissemination? If yes what should they do?.....

Section 4: Challenges experienced when disseminating agricultural information

1. What are some of the challenges experienced when disseminating agricultural information to farmers?

- (a) Limited manpower in disseminating necessary information and teaching farmers on better use of current information () (b) poor/unreliable information infrastructure () (c) high illiteracy levels among the farmers() (d) Low income for extension officers () (e) Lack of electricity and high cost of ICTs ()

2. What do you think should be done to overcome these challenges?(a) Employing ICT tools to provide an information bridge between agricultural experts and farmers () (b) Capacity building for farmers to improve their literacy level() (c) Increasing the manpower who disseminate information() (d) Improving the infrastructure() (e) Increase payment of extension officers ()

Appendix II: Interview Schedule for the Farmers

Section 1: Background information of the interviewee

1. What is your education level? (a)Form four () (b)Certificate () (c)Diploma() (d)Undergraduate() (e) Masters () (f) PHD ()
2. For how long have you been farming? (a) 3-5years() (b)5-10 years() (c)10-15 years() (d)15-20 years () (e) Over 20 years()

Section 2: Channels of disseminating agricultural information to farmers in Siaya County

Do you have access to agricultural information?

If yes, from what source do you access them?

Which Channel would you prefer to be used for disseminating agricultural information?

Section 3: contribution of extension officers

Are you aware of the existence of extension officers?Yes () No ()

If yes

Do you receive their services? If yes

Which services do they give you as far as agricultural information is concerned?

Section 4: Challenges experienced when disseminating agricultural information

1. In your opinion, what challenges are experienced by libraries and extension workers in disseminating agricultural information?

Appendix III: Letter of Introduction to the Respondents

Grace Odinga

P.O BOX 7-40600,

Siaya

Dear Respondent,

RE: REQUEST FOR AN INTERVIEW FOR RESEARCH PURPOSES.

I am a graduate student at Kenyatta University, Department of library and information science. As a requirement for my Masters in Library and Information Science, I am carrying out research on topic: **“Assessing government modalities for disseminating agriculture information to farmers in Alego-Usonga, Siaya County, Kenya”**The aim of the study is to enhance agricultural information dissemination among farmers in Siaya county in order to get positive effects from the information disseminated. Thank you for accepting to take this interview.

The interview will take about 60 minutes and will include questions regarding the channels of information dissemination used, competencies and skills of staff involved in agriculture information dissemination, extension officers’ contribution to agricultural information dissemination, and the challenges experienced in the dissemination of agricultural information services. Your participation in this interview is completely voluntary. If at any time you need to stop, or take a break, please let me know. You may also withdraw your participation at any time without consequence.

Yours faithfully,

Grace A Odinga

Appendix 1V Budget

Item	Quantity	Cost Per Unit (Ksh.)	Total Cost (Ksh)
Laptop	1	50,000	50,000
Internet	10gb	1gb @ 1000	10,000
Airtime	-	-	3,000
Printing	210 pgs	10@ page	2,100
Photocopying	2100 pgs	3 @ page	6,300
Spiral binding for proposal	10	50	500
Hard binding for final project	5	300	1,500
Transport	-	-	5,000
Meals	-	-	1,000
Miscellaneous	-	-	3,000
Total cost			82,400

Appendix V: Work plan

No	Description	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November
1.	Concept paper writing	■														
2.	Concept paper defence		■													
3.	Proposal writing, presentation and defence			■	■	■	■	■	■	■						
4.	Proposal corrections									■						
5.	Piloting									■						
6.	Data collection										■					
7.	Data analysis											■				
8.	Report writing												■			
9.	Project submission and defence													■		
10.	Making corrections														■	
11.	Submitting final copy															■