AN ESTABLISHMENT OF STRATEGIES THAT CAN MAKE THE AGRICULTURE EXTENSION EDUCATION PROGRAMME PROVIDED IN ZAMBIA EFFECTIVE WITH PARTICULAR. A CASE OF KAZUNGULA DISTRICT.

By

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A research paper submitted to the University of Zambia in collaboration with the Zimbabwe Open University in fulfillment of the requirements for the award of the Masters of Science degree in Peace, Leadership and Conflict Resolution.

The University of Zambia
Lusaka
2020

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CERTIFICATE OF APPROVAL

This dissertation by **Derick Livune** has been approved as partial fulfilment of the requirements for the award of the Master of Master of Science in Peace, Leadership and Conflict Resolution by the University of Zambia in collaboration with Zimbabwe Open University.

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ABSTRACT

The purpose of the study was to establish the effectiveness of work done by extension workers in the provision of Agriculture Extension education in Kazungula District. To study the extent to which small-scale farmers in Kazungula have been affected with the provision of agriculture, extension education and how the local farmers have impowered with the education provided. Also to assess how extension officers are equipped and facilitated to serve the farmers through the provision of agriculture extension services and to determine the measures that can be taken to improve agriculture in Kazungula District.

The background to the study gave a clear overview how the term extension education was coined. Agriculture extension is an essential investment in the human and social capital of the rural population. It creates development projects to help people adjust to change for example, change to new agricultural policies or market demands. Through the provision of its services and programs, many people around the world especially in rural communities have acquired knowledge and skills on the scientific or new farming methods. Due to the provision of agriculture extension education, grass-root groups and rural communities are directed to build change projects that are relevant to their own needs. Therefore, the literature review helped to look at the concepts in agriculture extension, its scope, the funding and providers of agriculture extension, its importance, views of different people on extension work, challenges and its contribution to national development.

The farmers are empowered by the education provided by agricultural extension positively and this is because they acquire knowledge and skills which are applicable in real life situations. It also helps create employment and independence in that there are commercial and subsistence farmers. They practice different farming methods which makes them provide for themselves and their families reducing poverty and crime. It also puts agriculture on the map by supporting farmers and empowering them consequently introducing them to the international market. Agriculture is a non-diminishing resource and a reliable food basket that needs to be invested into with full force; it is necessary to promote agricultural extension education because even retirees engage in it and it empowers them when they are out of formal employment.

The research was carried out in chiefdoms of Mukuni, Musokotwane,Sikute, Moomba and Nyawa villages which are located so many kilometers away from Kazungula town. The study comprised of agriculture extension officers and community farmers from whom the information was collected on the effectiveness and challenges faced by extension officers in the provision of agriculture extension education. White (2005) defines a population as a collection of objects, events or individuals having common characteristics that the researcher is interested in studying. On the other hand, Ngoma (2006) defined a population as the entire set of objects, events or groups of people which is the object of research and about which the researcher wants to determine some characteristics.

Challenges experienced by Agricultural extension can be reduced if more infrastructures can be built so the training programs are conducted in convenient venues. Introduction of new technology for irrigation in case of low rainfall and continuous provision of farming inputs can lessen on the low yields. There is need to ensure auditors and others responsible for evaluation make follow ups on what is been done frequently so that policies are followed correctly and there is less misappropriation or diversion of resources.

Key words: *Agriculture, Extension, Education, Effectiveness and Farmers*

DEDICATION

To my wife Zandile S. Livune and Children Memory, Mutinta, Chabota and Chipo Livune. Also to my parents Mr. Joseph and Jane Mutinta Livune and Mrs Gladys N. Sikendwa. Not forgetting Lastone Sibaluboi Livune, Joyce Simasiku and Mable Likanduko including my other extended family members who encouraged me even when times were hard during my study. Their unfailing love, immeasurable support and encouragement during my study period helped me to cope with work even in difficult times. May God bless you all.

ACKNOWLEDGEMENT

It is important to state that many people have contributed to this study in many different ways. Some of them I cannot thank by name without breaking the aspect of anonymity, which I have attempted to maintain in this dissertation. However, I would like to thank all for directly and indirectly helping me acquire relevant information which has made it possible for me to write this dissertation.

I would first of all wish to particularly thank my supervisor Dr. Dennis Banda for his continuous guidance in this study, encouragement, and time to go through the drafts painstakingly throughout the preparation of this dissertation without whom this dissertation could not have taken this form.

Many thanks are also due to all the lecturers who taught me during the study period. Their advice and comments in all the stages of this study programme are highly appreciated. These are Dr. P. H. Moyo, Ms. E.Simuyaba, Mr. Mwanabayeke and Mr. Malamba including the course co-odinator Dr. Gistered Muleya.

I wish to extend my sincere gratitude to my classmates for their advice, cooperation and moral support. I further wish to extend my sincere gratitude to my colleagues from our cohort.

I also wish to thank all the people who participated in the research as participants in Kazungula District especially the District Agriculture coordinator Dr. Jack Soko and the camp extension Officers, Headmen and Farmers in General because without their participation, the study would not have reached this far. Further special thanks also go to my group study mates with whom we worked as a team to achieve our academic aspirations.

Further, my appreciation and special thanks go to all those who contributed to the successful completion of this study in one way or the other.

Finally, I would like to thank God for granting me the skill and ability to finish this research work.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction to the chapter

The chapter presents the background information to the study, statement of the problem, purpose of the study, objectives, research questions, significance and limitation of the study. It ends with operational definitions of the phrasal terms used in the proposed title.

1.1 Background

Agriculture Extension education was first introduced in 1873 by the Cambridge University in England to describe a particular system dedicated to the dissemination of knowledge to rural people. After the Second World War, Agricultural Extension spread to most parts of the world including tropical African countries. For this the historical development of agriculture extension in Africa has been closely related to that of agriculture and rural development. It has been characterized by variability and inconsistencies since the colonial era to present. It has further been primarily influenced by the interests and focus of the government in power or by the primary funding agencies especially with respect to the external funded agriculture project interventions (Borg and Gall, 1979). So this study aims at establishing strategies.

However, the provision of Agricultural Extension in Zambia can be traced back to the year 1914 when formal structures were established and managed by the European settler farmers who were supplying produce to the newly opened copper mines (Swanson, and Claar 1984). Since then, agriculture in Zambia has undergone major changes and support such as establishment of agricultural learning institutions and centers whose role is to equip people with new knowledge on scientific or new methods of farming. In 1965, the Natural Resources Development College (NRDC), a tertiary training institution was established under the Ministry of Agriculture and Livestock (MAL), together with the University of Zambia School of Agricultural Sciences to train and supply human resource in agriculture and related disciplines with efficient, reliable and cost effective solutions to meet the emerging challenges in the agriculture sector (Mwanakatwe, 1968). After independence in 1969, the Zambian government formed the National Agricultural Marketing Board (NAMBOARD) which was concerned with facilitating and supporting the development of a sustainable and competitive agricultural sector that assures food security in Zambia. Policies were and have been put across pertaining to the provision of agriculture extension, in that in 2001, the General Policy

Framework adopted by the Movement for Multiparty Democracy [MMD] government was introduced and it necessitated the shifting from heavy government intervention to a liberalised system aimed at boosting private sector participation in various aspects of agricultural production including input supply, processing, marketing and extension service provision following the pattern explained Borg and Gall, (1979). Despite the establishing of such institutions and the widespread recognition of the strong connection between agricultural development and poverty reduction, there were a number of challenges faced in the provision of agriculture extension due to the continuing under-provision of public investments for over a decade this lead to small scale farmers to continue wallowing in poverty for a very long period of time.

However, the strategies and policies pursued were not sustainable because of their heavy reliance on subsidies which lead to the failure in stimulating growth in the sector. Up to early 1990s, the sector was poorly developed and dominated by a single crop-maize. The government embarked on agricultural sector policy reforms, which were part of the overall economic reforms pursued under the Structural Adjustment Program (SAP) (Leeuwis, C and Van den Ban,2004). The main policy thrust of the reforms was liberalisation of the agricultural sector and promotion of private sector participation in production, marketing, input supply, processing and credit provision. The Government lacked recognition of the dual nature of the agricultural sector in which the vast majority of small-scale farmers were resource poor, had low production, productivity and was usually food insecure. The government of Zambia established National Agriculture Policy whose vision was to promote development of efficient, competitive and sustainable agricultural sector, which assured food security and increased income. It recognised the need to strengthen and expand the emerging opportunities and also to deal with the challenges which were facing the agricultural sector. This vision also strived to contribute to the overall goal of the Poverty Reduction Strategy Paper (PRSP), which was to achieve poverty reduction and economic growth. The main thrust of the National Agricultural Policy was increased production, sector liberalisation, commercialisation, and promotion of public and private sector partnerships and provision of effective services that ensured sustainable agricultural growth Ministry of Education, (2006).

1.2 Statement of the problem

It can be said that over the years, there have been perceived challenges in the provision of agriculture extension education because most agricultural institutions and officers responsible for the provision of agriculture extension education services have failed in carrying out such services. This reduces the effective and efficient extension service delivery. There is also lack of investment in the agriculture sector making it not attractive to the farmers. The nation would benefit to understand what really is happening in the provision of agriculture extension education sector so that appropriate measures are taken to arrest the same. How involved are the non-governmental organisations? Is there a clear extension policy that covers both the crop and livestock sector? Therefore, the aim of the research proposal is to look at the effectiveness of agriculture extension education provided in Zambia. A case study of Kazungula district.

1.3 Purpose of the study

The purpose of the study was to establish the effectiveness of work done by extension workers in the provision of Agriculture Extension education in Kazungula District.

1.4 Research objective

1.To study the extent to which small-scale farmers in Kazungula have been affected with the provision of agriculture extension services in Kazungula.

2.To find out how extension education empowers the local farmers with the provision of agriculture extension services in Kazungula.

3.To assess how extension officers are equipped and facilitated to serve the farmers through the provision of agriculture extension services in Kazungula.

4.To determine the measures that can be taken to achieve an effective provision of agriculture extension services in Kazungula District.

1.5 Research questions

1 To what extent have small-scale farmers been affected with the way extension

workers provide agriculture extension education in Kazungula District?

2 How extension education empowers the local farmers in Kazungula District?

3 How are extension officers equipped and facilitated to serve the farmers?

4 What measures can be taken to minimise or avert the outcomes so established?

1.6 Significance of the study

It is hoped that the results of this study may help the providers, recipient, funders as indeed other stake holders in knowing the effectiveness of the education provided to the farmers and some of the ways through which the outcomes can be managed. It may further on give a platform for government to formulate policies that may look at the provision of quality agriculture extension education in Kazungula District.

1.7 Limitation of the study

One of the factors that would limit the mission of the study is sickness. If i was to get sick while collecting the data, this would have resulted in disturbances in the process of collection of data.

Financial challenges could also be another factor that would have constrained the smooth carrying of the study. If it would happen that less money was to be realised than the total amount of money proposed in the budget, the research work would fail if there would be insufficient funds for transport, printing and photocopying of research instruments and so on. Lastly, the research is likely to encounter challenges if there would to be inability of the respondents to give the relevant information to the study.

1.8 Operational definitions

Education: The gradual process of acquiring knowledge and skills necessary to operate effectively and efficiently in one's environment (Snelson, 1974)

Extension: the primary means through which people learn about change, the reason for it and its value, the result it can achieve, the process by which it is achieved and also uncertainties inherent in it (Poulton ,2010).Extension Education: Educational activities such as short courses, evening classes, seminars and workshops provided by educational institutions for people outside the perimeters of the main institution(Savile,1965).

Agriculture extension: assistance to farmers to help them identify and analyze their production, problems and become aware of the opportunity for improvement. (Adams, 1982)

Extension worker: an individual who assists people engaged in farming and home-making to utilize their own resources more effectively and those that are available to them, in solving the

current problems and meeting the changing economic and social conditions. (Bless and Achola,1988).

1.9 Summary of the chapter

In summary, the background to the study gave a clear overview how the term extension education was coined; the importance of the study hoped that the results would help other researchers; the factors that might limit this study were sickness, financial crisis and inability of the respondents to give necessary information. The next chapter will be based on literature review to the problem and it will discuss the outcomes so established in the provision of extension Education work, the nature of the challenges faced by the workers and the stakeholders. It will further discuss the relationship extension education and the importance of agriculture.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter covers the literature from studies done by various scholars, which were reviewed by the researcher in relation to the topic of study. The chapter is very important because it has helped the researcher to better understand the depth of the topic under study through the review of previously related research work. It has also assisted the researcher by informing the study in various ways making it possible for the researcher to limit the research problem, define it better and come up with much more important specific goals and research questions to suit the current study. The literature reviewed further helped the researcher get exposed and familiar with a variety of research methodologies as used by other researchers.

In this way it was easy to learn the limitations so as to refine and adopt the most suitable scope of study. Further, the literature reviewed provided insight into already researched topics related to the current study thereby avoiding duplication but provide an opportunity to identify gaps in the existing knowledge that require further research.

Agriculture extension is an essential investment in the human and social capital of the rural population. It creates development projects to help people adjust to change for example, change to new agricultural policies or market demands. Through the provision of its services and programs, many people around the world especially in rural communities have acquired knowledge and skills on the scientific or new farming methods. Due to the provision of agriculture extension education, grass-root groups and rural communities are directed to build change projects that are relevant to their own needs. Therefore, the literature review helped to look at the concepts in agriculture extension, its scope, the funding and providers of agriculture extension, its importance, views of different people on agriculture extension and challenges and its contribution to national development.

2.1. Challenges Faced by Agricultural Extension Providers in Kazungula District.

Inadequate Understanding of Participatory Extension Methodologies among Field Extension Workers

In the year 2000 the Government of the Republic of Zambia introduced Participatory Extension Approach (PEA) as the main vehicle for delivery of public extension services. This

development did not however go hand in hand with the necessary adjustments in the syllabi of agricultural training institutions. This has brought about a knowledge gap in participatory extension service delivery methods among graduates resulting into ineffective dissemination of agricultural innovation. There are insufficient skills to implement PEA in the country.

Non-Functional Value Chains as Focus in Planned Extension Programs

The Zambia agricultural extension system commonly delivers extension services that focus on the promotion of improved technologies and practices in order to increase agricultural production and productivity for consumption-based satisfaction. The extension service poorly addresses market oriented production systems (National Agricultural Extension and Advisory Services Strategy, 2016).

Inadequate and Underperforming Livestock Service Centers and Farmer Training centers

Livestock Service centers which are supposed to serve as one-stop-shops for all livestock extension services and Farmer Training Centers (FTCs) which are designed for farmer tailored training as well as commodity demonstrations in selected agriculturally strategic districts are currently inadequate to meet the increased demand for extension services. Moreover, the few available have been performing below expectation resulting in poor agricultural extension service delivery, low adoption and adaption rates as stated by Rogers (2003). In most districts, there are no stop-shops for famers and their livestock and only a few farmers actually trust the extension service workers enough to want to get assisted by them; seeing them as incompetent.

Poor Extension Planning, Reporting and Feedback Culture

According to study done by Bata (1999), execution of spontaneous extension activities is a common occurrence at field level thereby leading to inefficient use of scarce resources? This is further exacerbated by unavailability of functional information sharing platforms for harmonization and planning of field extension programs among stakeholders. In addition outcomes from most field extension activities are either not reported or inadequately covered for conveyance to facilitate management decision making. In cases where reports are conveyed, the culture of not giving feedback has been prevalent thereby defeating the whole notion of a management information system. Overall, the extension monitoring and evaluation system is inadequate.

Inadequate In-Service and Refresher Trainings for Front Line Extension Workers.

The current extension service delivery system does not adequately cater for extension service and refresher training. This could result in most field extension workers confronting farmers with obsolete extension messages leading to a possible loss of confidence in public extension services delivery and eventually to poor adoption and adaption of innovation hence low production and productivity. The Government introduced the establishment of Farm Institutes in every province of the country in recognition of the need to continually refresh and update field extension workers with the latest innovation in the agricultural sector. Over time the refresher information has diversified from the crop and livestock orientation to include fish. In addition to inadequate financial support for In-Service training, there have not been strong linkages between the Farm Institutes and main sources of innovation leading to underutilization and dilapidation of the institutions. Currently the original purpose of establishing Farm Institutes is not being realized also partly because staff assigned to manage them is arbitrarily posted without the necessary competencies (Cornell, 1999).

Lack of Clarity on Farmer Categories

Targeting of developmental interventions to farmer communities has been poor because of unclear farmer categorization which has often resulted into rich capture and benefit to unintended beneficiaries, this asserts to the fact that most people who benefit from interventions are those with nothing to lose and already resourceful while those who are less privileged languish lacking a helping hand in relation to farm inputs as well as knowledge on improvement of farming methods.

Conflicting Methodologies in Extension Service Delivery between Public and Private Sector Players

The Government recognises and encourages the participation of the Private sector and NGOs in the delivery of extension services to compliment public extension service. However, the coming on board by other players has brought about conflict in extension delivery strategies, with some providers going to the extent of enticing farmers with monetary payments to woe their participation in extension programs; this is because there are no policies to guide the extension education providers and thus each other does what they see fit and not what is necessary and good for the farmers themselves (Audit Report, 2009).

Inadequate Coordination and Communication among Extension Service Providers

Pluralistic extension service delivery entails the need for effective coordination and communication among the players at all levels (National, Provincial, District and Community) for effective resource utilization. Currently, the extension service delivery is characterized by duplication of efforts between and amongst service providers while other needy areas are not covered. Further, the lack of effective coordination and communication has often resulted in conflicting information given to the same target group.

Inadequate Support to Extension Service Delivery

Effective extension and advisory services delivery requires provision of adequate operational logistical support such as transport, appropriate accommodation (both staff houses and offices), and extension equipment and tools. Currently, it is not uncommon for extension officers to work with limited or without operational resources. In some cases extension staff may inhabit dilapidated houses, or are not placed in their designated areas and have to commute long distances at their own costs. Further challenging the extension workers is the fact that they have to play both extension and regulatory roles (Lewis, 2006).

Unpredictable Weather Pattern Due to Climate Change

Climate change, from a research carried out by Bell (1998) will impact a number of vital economic sectors including agriculture. The El Niño effect may delay the start of the rainy season or cause unstable rainfalls that directly affect the flowering and productive capacity for crops. Zambia has not been spared from increasingly prolonged drought periods, which especially affect perennial crops and livestock nutrition resulting in substantially lower outputs for small scale farmers. Zambians are not good at planning ahead especially for disaster and consequently not much is done in preparation of climate change effects on the agricultural industry and this is why harvesting much is only for the few who are knowledgeable enough to come up with back up strategies for when things do not go as planned. Constrained access to Agricultural Information and Technologies Due to Gender Inequality. Scientific research has shown that men typically receive more extension advice and have more contact with extension agents than women, yet women carry an important proportion of agricultural work. There is also a challenge of gender bias as female extension workers' advice is not often taken seriously in some societies that have high patriarchal norms and bias.

2.2 Some Possible Solutions to the Challenges

Strengthening Capacities in Understanding of Participatory Extension Approaches

The National Agricultural Extension and Advisory Services Strategy (2016) stated that the identified knowledge gap in PEAs among extension staff shall be resolved by regular and periodical reviewing of the agricultural extension syllabi in agricultural learning institutions with the Ministries of Agriculture and Fisheries and Livestock taking a leading role. The periodical syllabi reviews should further capture emerging PEA topics and other issues related to agricultural extension. In the interim there is need to embark on intensive short induction courses and refresher in-service training to mitigate the knowledge gaps among the extension staff (both public and private).

Focusing Functional Value Chains in Planned Extension Programs

Increasing production does not necessarily guarantee better incomes for farmers unless it is strategically linked to markets through effective value chain development. The Government shall encourage production and diversification into agricultural commodities of economic importance and have comparative advantage to the specific localities. Each District will have an extension strategy focusing on functional value chains that will be developed based on the local natural environment, recommendations from research and Subject Matter Specialists, Lead Farmers' practices as well as challenges experienced by farmers. The extension strategies shall be availed to all intervening agencies as a guide for targeting service delivery (Government of the Republic of Zambia Report, 2000).

Private Sector Partnerships and Transformation of Farmer Training and Livestock Service Centers into Farmer Driven enterprises

According to Food and Agriculture Organization report of (2013), farmer Training and Livestock Service Centers should be transformed into effective farmer driven enterprises through Public-Private Partnerships (PPPs). The Government of the Republic of Zambia, NGOs, CSOs, Research and Academia shall undertake necessary staff realignment and recruitment to ensure effective delivery of extension services through the Livestock Service centers and Farmer Training centers. Each of the institutions shall be required to have a functional management committee with visible farmer representation that will be responsible for the overall operations and management of the institution. The institutions shall further be

generating bankable business plans with concise cash flow diagrams for economic self-sustenance. New Livestock Service Centres and Farmer Training Centres shall be established at strategic locations. The participation of the private sector in establishment and running of these institutions shall be encouraged in line with the Public-Private-Partnerships guidelines. Other areas of extension such as advocacy and lobbying will also be broadened through these centers.

Robust Extension Planning, Monitoring, Reporting and Feedback

Planning of public extension activities shall be in line with the Agricultural Diary for Extension Officers (ADEOs) format which is designed to enhance focused planning and monitoring of daily activities. Progress in reporting of extension activities to supervisors shall be transparently displayed in the supervisors' offices in the "checklist format" already designed to ensure self-checking. Such format will clearly show the mode (mail, verbal, phone call, text message) and timeliness of feedback. When developed the plans will include specific targets to allow for better monitoring and evaluation. Performance based contracts and remunerations will be encouraged in all sub- sectors and at all levels (World Bank, 2008).

Revitalised In-Service and Refresher Trainings for Front Line Extension Staff

In efforts to resuscitate the operations of Farm Institutes and make them responsive to their diversified extension staff refresher and in-service training mandate, the Government of the Republic of Zambia shall undertake to strengthen linkages between Farm Institutes and major sources of refresher and In-Service innovation such as research and information centers. This will be achieved by; making known the availability of land space and infrastructure at Farm Institutes for on- farm trials and demonstrations of proven innovative technologies, Use of ICT to link Subject Matter Specialists to main research and information centers around the country; encouraging refresher training sessions by research with Subject Matter Specialists. Harmonization committee meetings will be particularly taken advantage of to advance the Farm Institutes/Research linkages agenda. While lack of in-service training results in gaps in knowledge, skills and practices contributing to delivery of ineffective extension and advisory services, provision of the same to cover multiple domains may not be sustainable with scarce resources. The Government will promote and encourage stakeholders to identify specific areas requiring capacity building among extension workers. The identified knowledge gaps shall be further resolved by regular and periodical reviewing of the agricultural extension syllabi in agricultural learning institutions with the Ministry of Agriculture and Ministry of Fisheries and

Livestock taking a leading role as main consumer of the institutions' products. The periodical syllabi reviews would further capture emerging topics and other issues related to agricultural extension (Gardner, 2000).

Farmer Registration and Categorisation for Effective Targeting of Development Interventions

The agricultural sector has a wide variation in the crop farmer, fisher and livestock keeper categories. The Government of the Republic of Zambia fully recognizes the need to distinguish between different users of agricultural advisory services. A comprehensive registration system is indispensable in the accurate categorization of crop farmers, fishers or livestock keepers and targeting of development interventions by all stakeholders.

Based on a number of social, cultural and economic criteria, the Government shall for extension purposes recognize and fully cater for the following crops farmer categories: i) Large Commercial, ii) Medium Commercial, iii) Emergent, iv) Small Scale and v) Unclassified Subsistent Farmers. The Government shall further work with key stakeholders to characterize and categorize fish and livestock farmers. The categorization of crop farmers, fishers and livestock keepers will also be aligned to income levels and agribusiness criteria in order to be more concise. With respect to crops production, Large Commercial and Medium Commercial farmers may be distinguished based on hectares cultivated (more than 20 hectares and up to 20 hectares respectively) and level of mechanization: emergent farmers are those who have total cultivated area of 5 to 10 hectares per season not for purposes of household food security but with view to sell and they commonly possess own Animal Draft power in some parts of the country, or have lighter tractors. They are also capable of hiring extra hands at peak times. Small Scale farmers generally depend on family labor, they use hand implements and their motive for cultivating (1 to 5 hectares) is often household food security and generally depend on extension workers or social gatherings for agricultural information. Unclassified Subsistent farmers don't depend on farming as their main source of livelihood. They could engage in charcoal burning, beer brewing and can hire their labor to other peoples' farms. They also generally cultivate less than one hectare at any time. Public extension services will target small scale farmers and strive to graduate them into Emergent Farmer categories while keeping the lower door open for progressive unclassified subsistent farmers to improve into small scale farmer ranks (National Adaptation Program of Action Report, 2007).

Incentivizing performance among Field Extension Workers

While it is not uncommon for field extension workers to implement extension programs with constrained operational support, some individual field extension workers have often stood out to show their commitment to work even under limited resources. The Government shall undertake to recognize and incentivise performers within the field extension worker ranks. This in centivisation shall take many forms, including nominations for both local and overseas short study tours and courses, recommendations for promotions or opportunities to work briefly at National or provincial offices. Any form of reward shall be required to be supported with documented proof outlining an individual's areas of excellence; this is in line with research done by Ministry of Agriculture and Livestock et al. (2011).

Professionalizing Agricultural Extension and Advisory Services through Development of a Science Based Extension System

According to National Agricultural and Extension and Advisory Services Strategy (2016), The Ministry should take center stage in enhancing professional growth of agricultural extension and advisory services by working with other stakeholders to establish standards and rules of engagement through appropriate regulatory mechanisms that will focus on the quality and competencies of both public and private sector extension providers.

Strengthening Fisher/Farmer-Research and Extension Linkages

Enhancement of linkages between research and extension is cardinal in effective innovation dissemination. The Government shall strive to strengthen Planned and institutionalised dialogue among farmers, research and extension. On-farm planning, implementation and assessment of research activities will be encouraged (Food and Agriculture Organization, 2013).

Information and Communication Technologies (ICT) within Agricultural Extension and Advisory Services

Given the increasing usage of ICT tools in agricultural extension and advisory services, the Government shall continue to encourage inclusion of appropriate use of ICT tools as a means of scaling up extension and advisory services. The Government recognizes the importance of knowing available and selection of the most effective combination of systems and devices for effective communications appropriate to a range of purposes, contexts and users. Appropriate

use of ICT in extension and advisory services has the added advantage of encouraging involvement of youths in agriculture

Use of broadcasting technologies to serve large groups of people shall be encouraged. This will include use of radios, televisions and videos. Broadcasting tools that are interactive and have "an active listening community" in discussion as well as transmission of knowledge shall be promoted along with participatory video production methods that allow farmers to be actively involved in telling their own stories and learning from one another sharing their best practices

Use of mobile devices to enhance agricultural extension and advisory services shall be encouraged. The Government recognises the higher penetration of mobile technology amongst all ICTs. Use of cell phones and other devices with internet capability will be promoted for providing certain types of information to farmers and allowing farmers and extension workers to extend their communications with each other.

The Government further recognises the use of internet and internet based tools for functions such as raising awareness and providing technical information and free training opportunities. To ensure high standard of service delivery agriculture extension staff will be equipped with appropriate ICT equipment and training (Rogers, 2003).

Extension and Adaptation for Small Scale Farmers to Climate Change

According to the National Agricultural Extension and Advisory Services Strategy (NAESS) of 2016, small scale crop farmers, fishers and livestock keepers are the most vulnerable people to the expected impacts of climate change mainly due to their lack of information, adaptation capabilities and access to financial and technical support mechanisms. The Agricultural sector recognizes that effective adaptation strategies must reduce present and future vulnerability to climate change and these should include coping strategies, or changes in practices and processes, in response to or in anticipation of the perceived climatic change. Agricultural extension and advisory services shall focus on three specific adaptation measures in addressing the effects of climate change as follows: First and foremost, Short-term solutions for adapting crops fish and livestock production will include dissemination of messages that promote improved water irrigation systems, more efficient water use, soil management and soil protection, Pest management and fertilization and shade management, promotion of supplementary feeding of fish and livestock, improved pasture management and provision of vet services closer to the farming families. Secondly, Measures to reduce greenhouse gases will

be encouraged through promotion of forestation/ reforestation, mulching techniques, Organic production and utilization of waste materials/ bio-energy. Thirdly, Long-term strategies will include dissemination of extension messages for diversification of incomes, use of new and improved production techniques, use of improved varieties and species and preservation of genetic diversity. This shall be concurrent with deliberate efforts to improve access to climate data, linking of small scale farmers to carbon markets as well as linkage of organizations with external financing.

Mainstreaming Gender in Agricultural Extension and Advisory Services

Despite their great contributions to the agricultural production and productivity, Zambian women farmers don't get due attention to access different extension services. The Agricultural sector recognizes that access to extension services is one of the key drivers that shape women's opportunities. The Sector shall promote and encourage efforts to look at opportunities for engaging and enhancing the role of women crop farmers, fishers and livestock keepers in increasing family household production and income. Gender Mainstreaming shall be embarked upon to address the underlying causes of gender inequalities in all socio-economic sectors and at all levels. There shall be a 30 percent minimum participation for women at all levels of extension activities. Traditional and religious leaders shall be engaged as they play critical roles in culture, socialisation process and power relations between women and men.

Formation of women farmer groups and gender-led producer associations shall be encouraged as a means to bring extension and advisory services closer to women farmers. Further, attention shall be paid to identification of inherent gender bias in extension and advisory services programming and management structures with view to identify barriers that may exist for women extension and advisory services professionals. Identification and sharing of good practices in reaching women and addressing gender inequalities by extension/advisory service providers shall be encouraged; The overall intent shall be to ensure that gender rather that addressing the needs of rural women and women farmers is fully integrated into the programs and institutions from the start (Ministry of Agriculture and).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

Methodology is a process on how the research will be conducted with regard to data collection and analysis. It looks at sampling procedures, the population to be studied, sample size, instruments for data collection, data analysis, ethical considerations and summary of the chapter. (Creswell, 1994).

3.1 Research Design

The research design was used to obtain answers to the questions that were being studied and for handling some of the difficulties that were encountered during the research process. The survey research design was employed to find out the challenges faced by extension officers in the provision of Agriculture Extension Education in Kazungula District. A research design is a program that guides the researcher in the process of collecting data, analysing and interpreting observations, Moore and McCabe (1989). However, the study used both quantitative and Qualitative methods of collecting data through the use of questionnaires and interview guides. Chilisa and Preece (2005) define qualitative approach as the type of inquiry in which the researcher carries out research about people's experiences in natural settings, using a variety of techniques such as interviews and report findings mainly in words rather than statistics. On one hand, De vos (1998) refers to quantitative approach as a type of research inquiry which uses numerical methods of describing observations.

3.2 Study Population

The research was carried out in Mukuni, Katapazi, Musokotwane,Simango and Nyawa villages which are located so many kilometers away from Kazungula town. The study comprised of agriculture extension officers and community farmers from whom the information was collected on the effectiveness and challenges faced by extension officers in the provision of agriculture extension education. White (2005) defines a population as a collection of objects, events or individuals having common characteristics that the researcher is interested in studying. On the other hand, Ngoma (2006) defined a population as the entire set of objects, events or groups of people which is the object of research and about which the researcher wants to determine some characteristics.

3.3 Sample

A sample size of 50 was used which comprised 15 agriculture extension officers, 25 small-scale farmers and 10 community residents who gave reasons on the challenges faced in the provision of agriculture education. White (2005) defines a sample as a subject of measurement drawn from a population which is investigated. Normally a sample is at the inter-section of the entire population because it is supposed to have characteristics of that population.

3.4 Sampling Techniques

The study used the purposive sampling procedure to select the extension officers and farmers from within the community. Purposive sampling is the type of sampling that is based on the researcher's judgment. It is a sampling technique that is based on the researcher's judgment. (Mwanza, 2005). The judgment is made on which subjects should be selected to provide the best information to address the purpose of the research This sampling technique enables the researcher to collect the relevant data because the sample that is selected will give the information that is needed for the research,(Ngoma,2005).

3.5 Data Collection Methods and Instruments

In order to gather information on the challenges faced by agriculture extension officers on the provision of agriculture extension education, a questionnaire and an interview guide were used. A questionnaire is simply a self-set instrument where the respondents write the answers in response to printed questions, (Mwanza, 2005). A Questionnaire was used because of its advantage in upholding confidentiality and reduced biasness in interpreting research findings by the researcher. However, questionnaires were distributed to extension officers to answer and have their responses recorded while small scale farmers were asked questions through an interview guide. An interview guide was used so as it provided oral responses from farmers which contain much more needed information on the challenges faced in the provision of agriculture extension education, (Ngoma, 2005).

3.6 Data Analysis

The quantitative data analysis technique was used to process the data. Information obtained will be coded using excel whereby descriptive statistics (frequencies and descriptive) was used in the analysis to determine the extent by which extension system is delivering and adoption of farming practices by farmers. The main goal is to describe the sample in terms of gender distribution, academic qualifications anonymous and their right to privacy. All the participants

were treated fairly; there was no aggressiveness or biasness of any kind. The study will also ensure that the information collected or gathered will be precisely presented in order to add to the scope of knowledge in other disciplines and for use by other learning institutions. The information collected specifically for academic purposes only.

3.8 Summary of the Chapter

In summary, the chapter discussed the research methodology that was employed in the study, Sampling procedures, the study population, sample size, instruments for data collection, ethical considerations data analysis that were used in gathering information on the challenges faced by extension workers in the provision of agriculture education and. A survey research design will be used as it will collect information from the respondents through the use of a questionnaire and an interview guide as instruments. Both quantitative and qualitative approaches will be used to collect and analyze data. A sample of 50 respondents will be selected which will include 15 extension officers, 25 small scale farmers and 10 community members.

CHAPTER FOUR-

PRESENTATION OF FINDINGS

4.0 Introduction to the chapter

This chapter presents the findings of the study on challenges faced by agricultural extension workers in Kazungula district. Data was obtained from a sample of 50 participating in agricultural extension programs, 20 extension workers and 30 farmers. The first part of the presentation of data was obtained from using questionnaires and the second part of the presentation of data obtained from interview guides.

4.1 Findings from extension workers

Table 1: Gender of respondents for the extension workers

	frequency	Percentage	Valid percent	Cumulative percent
Male	10	50	50	50
Female	10	50	50	100
Total	20	100	100	

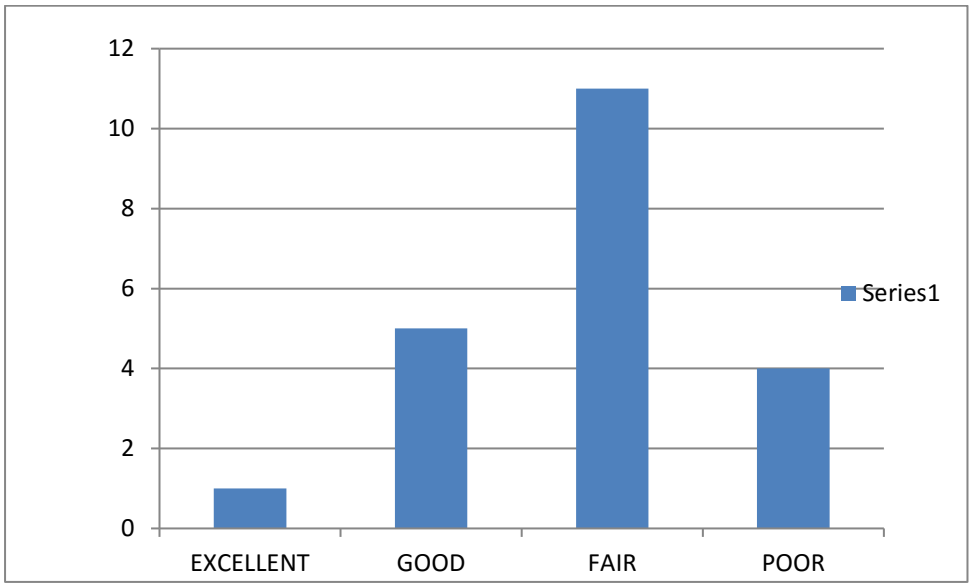
The table shows that 10 (50%) were males while 10 (50%) were females.

Table 2: Gender of respondents for farmers

	frequency	Percentage	Valid percent	Cumulative percent
Male	13	43	43	43
Female	17	57	57	100
Total	30	100	100	

The table shows that 13 (43%) were males while 17(57%) were females.

Figure 1: How the extension workers are equipped to serve the farmers



The histogram shows the response with regards to how the agriculture extension officers are equipped to save the famers. 1 of the respondents felt that the agriculture extension officer were excellently equipped, 5 thought there equipping was good well as 11 thought it was fair and lastly 4 responded that it was poor.

Table: 3 Extent to which farmers are affected by challenges faced in the provision of agriculture extension educating

RESPONSE	**FREQUENCY**	**PERCENTAGE**
Lack of access to service	10	33
Communication breakdown	8	26
Low product output	6	20
Animal disease and death	2	7
Lack of infrastructure	2	7
Absenteeism by facilitators	2	7
total	30	100

The table shows the effects of the challenges faced by extension workers on the farmers. 10 (33%) of the farmers cited lack of the service being delivered to them because of the challenges the extension officers face, 8 (26%) suggested communication breakdown, 6 (20%) said the challenges led to low output of yields on the part of the farmers, 2 (7%) submitted animal disease and death while another 2 (7%) realize lack of infrastructure and finally another 2 (7%) cited absenteeism by the facilitators.

Table 4: How agriculture extension education empowers farmers

RESPONSE	FREQUENCY	PERCENTAGE
Helps farmers acquire new skills and ideas	17	**57**
It helps jobs and independence	8	27
It helps improve agriculture sector	3	10
No response	2	6
total	30	100

The table above shows the benefits of agricultural extension to the local people as well as farmers by virtue of responses given by the local people. 17 (57%) farmers responded that agriculture extension education helped the farmers with skills, 8 (27%) suggested that it helped in job creation and self-reliance while 3 (10%) added that it improved the agriculture sector and lastly 2 (6%) did not respond.

Table 5: Measures that can be taken to minimise the challenges faced in the provision of agriculture extension

RESPONSE	FREQUENCY	PERCENTAGE (%)
Increasing the number of agriculture extension officers	14	33
Government to provide adequate funds for agriculture extension education services	16	36
Improve infrastructure (i.e roads)	5	12
Introducing new technologies (i.e. new farming methods)	2	5
Providing adequate learning facilities	4	9
Educating the local people on the importance of extension education	2	5
total	43	100

The table above shows the response of the farmers on what should be done to curb the challenges faced in the delivery of extension education. 14 (33%) of the responses suggested

that the number of agriculture extension officers be increased while as 16 (36%) said that government should increase the funding of agriculture extension education, 5 (12%) added that the road infrastructure in the area needed to be improved as 2 (5%) reviewed that there was need for the introduction of new technology in the delivery of the service, 4 (9%) suggested that more learning facilities be constructed and provided and lastly, 2 (5%) responses suggested that the local farmers be educated on the importance of extension education.

4.2 Responses from the agricultural extension workers and farmers

The challenges faced by agricultural extension workers.

The extension workers experience a lot of problems in providing extension workers; long distances from their offices to the residents of the local people especially because of poor road networks, other locals are alienated. Lack of adequate funding and delay of provision of farming inputs by stakeholders also is another challenge hence some programs are postponed and take longer than they were planned for. It is difficult to translate written reading and learning material into local language hence the need to print material in local languages if possible.

Some solutions to the challenges suggested by extension workers.

If the challenges are to be alleviated, there is need to increase on investment in agriculture, partnerships with other non-governmental stakeholders would reduce the full dependence on government. The building of infrastructure for training and learning as well as so to ensure easy access to services provided by agricultural extension. Introduction of new technology to ensure farmers are able to use computers and other technology such as machinery can make work easier on the extension workers and reduce on the bulkiness.

The extent to which farmers are affected by challenges faced by agricultural extension workers.

Due to the challenges the farmers often lack access to services especially in instances where the agricultural extension workers abscond because of long distances. Another consequence is that farmers are unable to communicate with the program planners because of lack of accessible channels of communication. Some farmers stated that because of the challenges faced by agricultural extension workers their animals and crops die from disease infestation when there is a delay in funding or provision of pesticides and other amenities. It is difficult to learn under

a tree as well as a building that is not in conducive for learning thus lack of infrastructure affects the farmers who are the beneficiaries of agricultural extension education.

How agricultural extension education empowers the farmers.

The farmers are empowered by the education provided by agricultural extension positively and this is because they acquire knowledge and skills which are applicable in real life situations. It also helps create employment and independence this is possible in that there are commercial and subsistence farmers and they practice different farming which assists them provide for themselves and their families reducing poverty and crime. It also puts agriculture on the map by supporting farmers and empowering them consequently introducing them to the international market. Agriculture is a non-diminishing resource and a reliable food basket that needs to be invested into with full force; it is necessary to promote agricultural extension education because even retirees engage in it and it empowers them when they are out of formal employment.

Solutions to the problems faced by extension workers suggested by farmers. The farmers suggested recruitment of more agricultural extension workers as well as more funding and provision of resources needed to successfully carry out the programs of training and educating farmers. Another solution was construction and maintenance of roads so as to ease movements to and from venues of learning and offices of extension workers. Sensitisation of the importance of agriculture is key element to ensure full participation as well as provision of learning material in the local languages.

4.3 Summary of the chapter

The findings of the study indicate that all of the respondents felt that the challenges faced by the extension workers have also affected clients or beneficiaries of agricultural extension education. Evidence that farmers are empowered by agricultural extension education was also collected as well as how poor, good, fair or excellent extension workers were equipped in service delivery. Furthermore, the extension workers and farmers provided what they felt would be plausible solutions to the challenges faced by the extension workers in the provision of agricultural extension education.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.0. Introduction

This chapter discusses the finding of the study. The purpose of the study was to investigate the effectiveness of the agriculture education provided by our extension workers in the provision of extension education in the district of Kazungula. The discussions of the findings were based on data collected and interpreted with the help of the objectives of the study in relation to the literature review presented in the findings.

5.1. Discussions of Findings

The findings of the study have been discussed in line with the findings from the extension workers and farmers in Kazungula district.

5.2 The Extent to which small Scale Farmers are affected by challenges faced by extension workers in provision of service

According to Rogers (2003), farmers are affected to a great extent in that livestock service centers which are supposed to serve as one-stop shops for all livestock extension services and farmers training centers which are designed for farmer tailored training as well as commodity demonstrations in selected agriculturally strategic districts are currently inadequate to meet the demand for extension services. Moreover, the few available have been performing below expectation resulting in poor agricultural extension service delivery, low adoption and adaptation rates. This is because in most districts like Kazungula there are not enough one-stop shops for farmers and their livestock and worse is when they do not trust the extension service providers thus not getting assistance from them.

5.3 How Extension Education Empowers the Farmers

Extension education in community empowerment promotes self-help and enhances volunteerism spirit to increase the mutual cohesion among members. Self-help is a mutual conscious effort initiated by community members to provide for themselves what they feel is important and is inadequate or lacking (Abu-Mus'ab, 2009). Volunteerism simply means sacrificing resources by individual community members for others to benefit without expecting a reward (Sani, Turiman, Ismi & Zoharah, 2015). The two concepts share so many things in

common in terms of origin, practice, and evaluation; though differ operationally because self-help is more of a group activity while volunteerism is individualistic. However, in whatever form they manifest, as a result of extension activity, the communities record more positivists and become more dependent in terms of developmental issues.

Extension education utilizes all the aforementioned community or social work activities to enhance members' capacity and ability to make good decisions about themselves, family and the community at large. The community is said to be empowered when the occupants can be able to initiate, decide, implement, monitor and evaluate such ideals they feel can improve their living standard and facilitate sustainable development of their communities. Approximately, 50% of the world's undernourished population is made up of low-income farm households (Shaw, p395), so a priority in addressing hunger problems is to decrease poverty levels among the farmers, and increase their productivity so they can feed themselves and their families. Farmers are the price setters; any lowering of prices due to increased productivity should not affect them negatively.

5.4 Assessing how extension officers are equipped to Serve Farmers

Information Communication and Technology (ICT) have shown potential to improve extension and advisory services. Recent research advances in information technology, biotechnology, and nanotechnology have put agriculture at the threshold of an exciting frontier of opportunities to advance economic growth, sustainability, and the building of human capabilities. This has been acknowledged by Chamala (1991) that extension practitioners in the Cooperative extension system will need to develop new educational curricula, programs, and delivery systems to facilitate adoption of these technologies. Specialists need to possess a wide range of specialized knowledge in addition to the traditional knowledge and skills in applying farm management methods, tools and techniques. This specialized knowledge includes finance, accounting, project appraisal, law and contracts. They also need to be able to organize farmers into groups, associations and cooperatives. Knowledge of contracting is also needed to facilitate market linkages.

The farm management specialist or extension worker has five major roles to play in supporting farmers to adapt to market-oriented farming and to take advantage of opportunities to improve profitability. He or she is a source of knowledge and information, a facilitator of market-linkages, an extension worker, a facilitator of innovation and a farmer organiser. In order to fulfill their roles appropriately, the specialist requires a variety of those specific qualities

relevant to the dissemination of knowledge and skills. In addition to dealing with farmers, extension workers and other stakeholders, specialists in farm management should work in partnership with other subject matter specialists. These may be specialists dealing in crops or livestock or other areas of interest in farm management. Farm management specialists should also have the ability to motivate and guide front-line extension workers in the public, private and NGO sectors. Given the universal nature of the work, the management specialist should act as a leader among those working with farmers (Kahan, 2013).

5.5 Measures that can be taken to Minimize Challenges Faced in The Provision of Agricultural Extension

To promote growth with equity, extension and training policies and implementation methods should be reconsidered and reoriented to narrow the agricultural development benefits gap between small and large farmers. To effectively reach the least advantaged, renewed efforts will be required in providing extension services and training activities to those most in need. Segmentation of priority target groups, into subsistence farmers, women farmers and rural youth, for example, could be a starting point for developing specific and relevant extension training packages. FAO provides gender-sensitive extension and training programs and trains project designers to be aware of social and gender issues. Women participants in FAO's training programs worldwide increased from 16% in 1983 to 29% in 1989. Rural youth also receive high priority in FAO's extension and training (Kahan, 2013).

Promoting human resource development through education, training and extension so as to increase the awareness of the need for systems approaches to production and sustainable agricultural development will necessitate the inclusion of population, environmental and nutritional issues into the training and extension programs. The role and contribution of agricultural education and training in preparing qualified multidisciplinary scientists, teachers and technicians will thus be vital to the success of a balanced and harmonious agricultural development. The successful implementation of agricultural extension and training programs requires a planned and institutionalized approach. Policy commitment and support are pre-requisites for the institutionalization of an agricultural extension service with a sound, legal framework, clear scope of responsibility and adequate operational resources (personnel, funding, facilities, etc.). A clear mandate and directives for the establishment and operation of extension and training are crucial to the success of agricultural development programs (Food Agriculture Organization, 1997).

Specific policy directives are also essential for safeguarding the aims and ensuring the smooth implementation of agricultural extension programs. In the field of agricultural education, policy guidance is also necessary, especially in determining agricultural manpower training needs, placement and utilization. The role and responsibilities of agricultural universities in research, teaching and extension, as well as the contribution of intermediate-level and vocational agricultural education to rural development also requires policy directives. Climate change present challenges of uncertainties because the environment of farming keeps on changing. It is important that extension staff should be equipped to assist farmers to cope with this situation, as result they need more training in participatory extension approaches and in human resource development and communication technologies (Sulaiman & Van den Ban, 2000). It is argued that problem solving is an important role, and it will assist the extension staff to adjust from prescription style into empowerment styles. According to (Chamala, 1991) farmers will be empowered to identify, and solve their own problems by seeking the right solutions, at times they combine their indigenous knowledge with improved knowledge as well as utilizing their resources appropriately. 6.0 Chapter six

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter is aimed at drawing conclusions based on the research findings and makes some recommendations for future research. It ends with a summary which is a brief account of the major points.

6.1 Conclusion

Agricultural extension is an important center for literacy and skills and there is need to improve it as well as ensure proper functioning, despite efforts by the local people of Kazungula district and the extension workers to bring about development in the area of agriculture; it is evident that more funding and support from other stakeholders needs to be available and most importantly because agriculture is the food basket of every country. The appreciation of agricultural extension education and adult education the major constituent is vital to ensure people are well informed and to lessen on ignorance after all ignorance can be a big cancer and worse off when the people who are supposed to be major players of bringing about change are illiterate. Agricultural extension education improves lives of people by creating employment and reducing poverty hence the conclusion that there is more to be done by the government of Zambia under the ministry of agriculture and livestock especially with regards to investments in the agricultural sector.

6.2 Recommendations

Challenges experienced by Agricultural extension can be reduced if more infrastructures can be built so the training programs are conducted in convenient venues.

Introduction of new technology for irrigation in case of low rainfall and continuous provision of farming inputs can lessen on the low yields.

There is need to ensure auditors and others responsible for evaluation make follow ups on what is been done often so that policies are followed correctly and there is less misappropriation of resources or diversion of resources.

Preparations for farming seasons should be done in advance and back up or contingency plans put in place for those unplanned events so that at least half of what is planned is carried out without any hiccups.

Government of the republic of Zambia and other partners should come together and find better ways to reach out to people and listen to their needs and suggestions on how to work to better improve the agricultural sector.

Learning material should be translated to local languages so that it is easy to understand. Adults require a specific treatment hence it is easy to relate if vernacular is used instead of English.

Venues where these programs are conducted must be accessible to people thereby eliminating the barrier of distance not forgetting the need to build better roads so as to reduce on how long travelling takes to reach kazungula district especially on the part of the extension workers.

Most of the facilitators of these programs tend to be volunteers hence the need to employ more staff by the government and other providers of agricultural extension education and also creating a formal mode of payment to encourage them. It is evident that they too have bills to pay thus working for free will cause them to quit or abscond from work.

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APPENDICES

Appendix A: Introductory Letter

UNIVERSITY OF ZAMBIA – ZIMBABWE OPEN UNIVERSITY
(UNZA-ZOU)

Telephone: 26021-1-291777-78 Ext. 3500/ 0978/772249
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P.O. Box 32379
LUSAKA, ZAMBIA

DATE: **30th April 2019**

Cell No. 0977 803 905

www. dlivune@gmail.com

Computer No: 717820383

Dear Sir/Madam

RE: CONFIRMATION OF STUDY

Reference is made to the above subject.

This serves to confirm that **Derick Livune** of NRC Number **173209/71/1** and computer number **717820383** is a bonafide student of the University of Zambia in collaboration with the Zimbabwe Open University (UN ZA-ZOU).

The student is pursuing a Master of Science in Peace, Leadership and Conflict Resolution (MSPL) Programme and that he/she will be carrying out a research on: **An Establishment of Strategies that Can Make the Agriculture Extension Education Programme Provided in Zambia Effective with Particular. A Case of Kazungula District.**

Any assistance rendered to him/her will be greatly appreciated.

Prof. Boniface Namangala (PhD)
DIRECTOR
INSTITUTE OF DISTANCE EDUCATION

Appendix B: Questionnaire for participants

RESEACHER: DERICK LIVUNE (STUDENT)

TOPIC: EFFECTIVENESS OF AGRICULTURE EXTENSION EDUCATION PROVIDED IN ZAMBIA. A CASE STUDY KAZUNGULA DISTRICT IN SOUTHERN PROVINCE.

Dear Respondent,

I'm a postgraduate student pursuing a master of science Degree in Peace, Leadership and Conflict Resolution at the University of Zambia. I'm carrying out a research on the effectiveness of Agriculture extension education provided in Zambia. A case study of Kazungula District in the southern province of Zambia. I'm pleased to inform you that you have been selected as one of the respondents to answer the questionnaire in this study. Your openness and sincerity will be highly appreciated. The information collected is for academic purposes only and confidentiality will be guaranteed.

Instructions

1. Please do not write your name on the questionnaire.

2. Kindly answer all the questions by ticking (x) and/or writing in the

Spaces provided.

SECTION A

1.) What is your Sex?

a) Male [ ]

b) Female [ ]

2.) What is your occupation.....?

3.) What is your Professional Qualification?

a) Certificate [ ]

b) Diploma [ ]

c) Degree [ ]

d) Any other, specify [ ]

SECTION B.

(EFFECTIVENESS OF AGRICULTURE EXTENSION EDUCATION PROVIDED IN ZAMBIA. A CASE STUDY OF KAZUNGULA DISTRICT IN SOUTHERN PROVINCE.

4.) What position do you hold in office?

……..

5.) How long have you worked as an agriculture extension officer?

……
…

6.) What is your target population?

……

7.) Do you conduct other outreach activities?

……

8.) What problems do you encounter in carrying out agriculture Extension Education?

…….

……

…….

…….

……

9.) Indicate by ticking which problem you think is your number one (1) on the list of problems

a) Lack of resource materials and extension facilities [ ]

c) Unqualified personnel [ ]

d) Shortage of funds [ ]

e) Poor local management [ ]

10) Does the government provide resources needed in the facilitation of agriculture extension services?

a) YES [ ]

b) NO [ ]

11.) State the ways in which you get affected by the challenges you face in the provision of agriculture extension services?

……

……

12.) To what extent do you involve local people in identifying and initiating programs?

……..

13.) How is the response from the community in terms of participation in agriculture education provided to them?

.....

……

14.) What do you think are the motives that make farmers participate in agriculture extension education provided?

…….

15.) How do you rate the participation of local farmers in agriculture education?

a) Excellent [ ]

b) Good [ ]

c) Fair [ ]

d) Poor [ ]

16.) Do you think the challenges that you face in the provision of agriculture extension education affect the local people or farmers?

a.) YES [ ] or

b.) NO [ ]

17.) Give a reason for your answer above……

END OF QUESTIONNAIRE

Thank you for your cooperation

Appendix C: Interview Guide for the Farmers

Instructions

You are required to provide verbal responses to this interview guide.

1.) What is your sex?

2.) For how long have you lived in this area?

3.) What do you do for a living?

4.) What do you understand by the term agriculture extension education?

5.) Is agriculture education beneficial to you? Give a reason for your answer

6.) What do you think are some of the challenges faced by extension officers in the provision of agriculture education in your community?

7.) In what ways do you get affected by the challenges faced by extension Officers?

8.) What do you think should be done to curb these challenges faced?

Thank you for your cooperation

6. BUDGET PLAN

The table below shows the budget plan

CATEGORY	**AMONUNT IN KWACHA**	**TOTAL**
Transport	3,000	,3000
Printing/photocopying	300	300
Ream of paper	50	50
Editing and proof reading	250	250
Binding	400	400
Ball pens	14	14
Refreshments / Snacks	1,300	1,300

NET TOTAL=5314

7. **TIME FRAME**

The blow below shows the time frame

TIME ALLOCATION	**ACTIVITY**	**EXPECTED OUTCOME**
1-4 May 2019	Formulation of research topic	Topic formulated
9th May-15thJune 2019	Literature review	Literature reviewed
16th -24thJune, 2019	Designing/finalizing proposal	Research proposed
6thJuly, 2019	Research Proposal finalized	Research proposal submitted
10th-18 July, 2019.	Development of research instruments	Instruments developed
1st Jan -17th February, 2020	Data collection	Data collected
19th -28th February, 2020 19th March, 2020	Data analysis Submission of report	Data analyzed Report submitted