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# Aspects Influencing Maize Farmers' Involvement in Agricultural Extension Training in Zambia

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**Abstract**

**Purpose:** The purpose of this study is to investigate the major Aspects influencing maize farmers‟ contribution in the agricultural extension training programmes in Zambia.

**Methodology:** The paper used a desk study review methodology where relevant empirical literature was reviewed to identify main themes and to extract knowledge gaps. This involved an in-depth review of studies related to the major aspects influencing maize farmers' contribution in the agricultural extension training programmes. Three sorting stages were implemented on the subject under study in order to determine the viability of the subject for research.

**Findings:** According to the study's findings, Zambian participation in the agricultural extension-training program was low. Institutional obstacles such a lack of accessibility to training facilities, subpar facilities, and coordinators with weak coordination abilities have an impact on farmers in Zambia.

**Unique Contribution to Theory Policy and Practice:** The government should establish training facilities close to farmers as a means of promoting more participation. Due to the quick development of agricultural technology, agricultural extension staff in Zambia should also urge farmers to take part in training programs. To enable them to find the time for the training programs, farmers should be made aware of the advantages of cultivating maize.

**Keywords:** *Agricultural Extension, Training Centers, Maize Farmers, Training Program.*

## INTRODUCTION

Many nations' efforts to improve their economies and reduce poverty rely heavily on the agricultural sector. It is impossible to overstate the significance of agriculture to the economic success of the world's industrialized nations. This industry is especially vital in Zambia and other developing countries because it drives national survival, employment, and food production (Muhammad, 2019). Many people in rural areas of Zambia rely on agriculture as their primary source of income. Agriculture in Zambia remains a significant contributor to the national economy and rural livelihoods, despite its diminishing role in the country's GDP (Ephrem 2019).

The agricultural sector is the backbone of the Zambian economy and plays a crucial role in the growth of other industries (Republic of Zambia, 2022). Its direct impact on GDP is 25%, with an additional 27% contribution from ancillary and agricultural sectors (KARI, 2022). About 75% of the workforce is employed in this sector, 60% of the country's export earnings are made here, 75% of the country's industrial raw materials come from this sector, and 45% of the country's tax revenue is collected from this sector (KARI, 2022). The majority of Zambians, around 80%, are farmers who specialize in growing maize in the country's rural areas. Smallholder farmers make up the bulk of the population and are responsible for 75 percent of the country's total agricultural output (KARI, 2022). The agricultural sector in Zambia is important not only to the national economy but also to the livelihoods of many people in terms of food security and nutritional equilibrium. Thus, suffice it to say that agriculture is still the driving force behind the national economy, and that its performance in any given year has far-reaching effects on virtually every other sector.

According to (Indabawa and Mpofu, 2016), adults in a society are considered to be adults if they are actively participating in any form of learning or training that takes place outside the framework of the formal training system. According to these experts, adult education exists to serve the academic interests and needs of working adults (Indabawa & Mpofu, 2016). Fordham (2022) defines non-formal training as any activity outside the formal training system that is intentionally designed to meet the unique educational requirements of a specific population segment. Extension is a type of non-formal education that focuses on educating and empowering adults in rural areas outside of the traditional educational system. Most extension education for farmers occurs outside of conventional classroom settings. The goal of agricultural extension is to improve the quality of life for farmers and other rural residents by providing them with non-formal training in agriculture with the goal of increasing farm production and, by extension, farmers' incomes. Training and education for adults can encompass a wide range of topics, from nutrition and agricultural extension to vocational skills education (Gboku & Lekoko, 2017). All of the adults in this study were farmers.

### Statement of the Problem

Government training programs across Zambia are currently empowering maize farmers. The participation of maize farmers in these programs is essential in bringing about voluntary behavior change. In most of the country and especially in the study region, maize farmers' participation in the programme planning, implementation, and evaluation process has remained very low (Rola, 2021). Only a small number of maize farmers in Zambia are participating in the training program,

as evidenced by the regional MoA annual report (MoA, 2020) and the researcher's own observations and experiences. While many factors may be preventing maize farmers in Zambia from actively engaging in training programs, none of the reviewed studies have attempted to show these factors. As (2022) notes, maize farmers don't have much of a hand in developing extension programs. He adds that the maize farmers and the frontline extension agents are not consulted during the policy-making process. The purpose of this study was to examine the factors that motivate Zambian maize farmers to participate in extension training programs.

### Objectives of the Study

The general objective of the study was to investigate the Aspects influencing maize farmers' involvement in extension training programmes in Zambia.

### Significance of the Study

The purpose of this research was to shed light on the factors that cause maize farmers to participate in, or abstain from, agricultural extension programs in order to better serve farmers, the government of Zambia, the Ministry of Agriculture, NGOs, researchers, agricultural extension officers, and adult training facilitators. This is achieved by increasing awareness of the Factors that affect whether or not maize farmers participate in extension training programmes. With this data, policymakers could potentially reduce participation barriers, allowing more people to take advantage of the programs' benefits.

## LITERATURE REVIEW

### The Extent of Farmers' Involvement in Agricultural Extension Training

Zambia's economy relies heavily on agriculture. It accounts for roughly 25% of GDP and 60% of total foreign exchange earnings, and it provides the majority of jobs in the country. In addition, the country's food crop production sustains a rapidly expanding population of over 38 million Zambians.

The country has launched a number of rural development projects and programmes, including agricultural extension, to spur rapid agricultural growth. However, the agricultural sector has not shown significant improvement despite government investments and donor support for agricultural development programmes (Lele, 2021).

### Barriers to Maize Farmers' Involvement in Extension Training

According to Levinson and Sutton (2021) policies lend credibility to management strategies employed by a school of instruction and establish ground rules for regular workplace behavior. As a result, analysis of a company's programs and services for maize farmers must now include consideration of policy and related Aspects. There are numerous factors that influence the number of maize farmers who take advantage of extension education. Barriers to participation can be broken down into three categories: cultural, institutional, and physical, as described by Oakley (2021).

**Empirical Review**

Adeagbo, Ojo and Adetoro, (2021) conducted a study on understanding the determinants of climate adaptation strategies among smallholder maize farmers in South-west Nigeria. Climate is one of the most important factors in agricultural productivity, which could directly or indirectly influence productivity since the climate is linked to physiological processes. It is, therefore, essential to understanding the various strategies used by farmers to mitigate the adverse impact of climate change and the factors that influence maize farmers' adoption and intensity of climate change adaptation strategies among smallholder maize farmers in South-west Nigeria. In all, a sample of three hundred and thirty (311) smallholder maize farmers were interviewed. A double-hurdle count data model was employed to estimate the factors influencing farmers' adoption of adaptation strategies while accounting for selection bias with the plugging of inverse mill ratio (IMR) as a regressor. Significant variables such as household size, depreciation ratio, frequency of extension visits, access to extension, and non-farm income were factors influencing the adoption of climate change adaptation strategies among maize farmers. Age of the respondent, age square, household size, farm-based organization (FBO), non-farm income, climate information, access to credit, farmers residing in Osun State (location_Osun), distance to market significantly influenced the intensity of climate change adaptation strategies. This study, therefore, concluded that farm-level policy efforts that aim to improve rural development should focus on farmers' membership in FBO, increase the visits of extension agents, encourage non-farm income and access to climate change information, particularly during the off-cropping season. Policies and investment strategies of the government should be geared towards supporting improved extension service, providing on-farm demonstration training, and disseminating information about climate change adaptation strategies, particularly for smallholder farmers in Nigeria.

Girei, Saingbe, Ohen, and Umar (2018) conducted a study on the economics of small-scale maize production in Toto local government area. The study examined the economics of small-scale maize production in Toto Local Government Area of Nasarawa State, Nigeria. A two-stage sampling technique was adopted for the data collection. Descriptive statistics, regression and gross margin analyses were used to analyze the data collected. The study revealed that majority of the respondents were within the active working age and most of them (83%) were male. The majority of the respondents were married and had a household size of five persons and farm size of 1-2ha. Results of the regression analysis revealed that the output of small-scale maize farmers was influenced by farm size, marital status and annual income at 1% and 5% respectively. A gross margin of N170, 594.50 was earned from one hectare of maize farm with a return per naira invested of 2.40. The cost of labor constituted a greater proportion of the costs of production, accounting for about 58.38% and 39.52% of the total variable cost and the total cost respectively, the total cost. The problems militating against maize production in the study area were high cost of labor, pests and diseases, inadequate storage facilities, inadequate capital, marketing problems, transportation, poor access to credit facilities and high cost of inputs. The study, therefore, recommends that farmers should be properly educated by the extension agents on pest and disease control measures. Moreover, inputs should be made available to farmers at subsidized rates by relevant stakeholders.

Mmbando and Baiyegunhi, (2016) conducted a study on the socio-economic and institutional factors influencing adoption of improved maize varieties in Hai district, Tanzania. The aim of this study was to explore households' socio-economic characteristics as well as institutional factors influencing the adoption of improved maize varieties (IMVs), using a cross-sectional data collected from a survey of 160 maize growing households in Hai District, Tanzania, using logistic regression model. Empirical result from the study show that off-farm income, access to extension services, access to credit, farmers membership of groups/association and participation in on-farm trials/demonstrations are statistically significant factors influencing the adoption of IMVs. The results suggest that improving smallholder farmers' basic education, access to extension service and credit facilities, and the promotion of farmers' groups/association could increase adoption of improved agricultural technologies. There is need for research institutes and extension services to increase on-farm trials/demonstrations on improved agricultural technologies, in-order to enhance farmers' awareness and adoption of technologies.

Gido, Sibiko, Ayuya and Mwangi (2015) conducted a study on the demand for agricultural extension services among small-scale maize farmers. The objective of the study was to determine the level and determinants of demand for extension services among small-scale maize farmers in Kenya. Bases on an exploratory research design, primary data were collected from a sample of 352 households through face-to-face interviews. Focus group discussions were used to collect contextual data. The sample comprised of organic and conventional small-scale maize farmers in Bungoma County, Kenya. In data analyses, descriptive statistics and a zero inflated negative binomial regression were employed. Results indicate that organic farmers had a mean of three contacts with extension providers compared to conventional farmers who had a mean of one contact during the year. Further, age of the household head, education level, farming experience, amount of off-farm income and credit received, group membership, land tenure and distance to the nearest extension service provider significantly influence the demand for extension services. The major policy implication from the findings is that; whether farmers are organic or conventional, extension agents should customize their services according to their clients' socio-economic characteristics in order to improve demand for agricultural extension services. The study contributes to knowledge by applying the count data models in modeling the determinants of demand for extension services at a micro-level.

## METHODOLOGY

The study adopted a desktop methodology. Desk research refers to secondary data or that which can be collected without fieldwork. Desk research is basically involved in collecting data from existing resources hence it is often considered a low-cost technique as compared to field research, as the main cost is involved in executive's time, telephone charges and directories. Thus, the study relied on already published studies, reports and statistics. This secondary data was easily accessed through the online journals and library.

## FINDINGS

The results were grouped into various research gap categories namely as conceptual, contextual, and geographical.

There is more talk than action when it comes to agricultural extension training. The purpose of this research was to determine the factors that motivate maize farmers to take part in a training program for agricultural workers. The capacity of local people to positively contribute to programmed development is often overlooked in a centralized political system. The motivation and barriers of the intended audience, both in terms of attitude and circumstance, are rarely taken into account during the planning stages of agricultural extension training programmes. The vast majority of the articles we analyzed focused on agricultural extension initiatives in industrialized nations. To date, little study has been conducted on Zambia, like many other developing nations. This research aimed to determine the factors that encourage or discourage Zambian maize farmers from taking part in agricultural extension training programmes.

Gido, Sibiko, Ayuya and Mwangi (2015) conducted a study on the demand for agricultural extension services among small-scale maize farmers. The objective of the study was to determine the level and determinants of demand for extension services among small-scale maize farmers in Kenya.The study presented a geographical gap as it was conducted in Kenya while our study will be conducted in Zambia.

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

This study concludes that only a small fraction of Zambian farmers are involved in the training program design process. Farmers in Zambia are being influenced by institutional barriers such as the lack of proximity to training centers, inadequate facilities, and facilitators with poor coordination skills. Finally, the study concluded that socio-cultural barriers affecting farmers included: the farmers having socio-responsibilities, which meant they lacked the time to participate; and there being a significant age-gap among the farmers, which made it difficult for them to work together.

### Recommendations

The study's findings suggest that the government, through the Ministry of agriculture, should encourage farmers to participate in extension training programs by constructing agricultural training centers in convenient locations.

To better prepare its citizens who will be future farmers, the Ministry of Training should think about reintroducing agriculture as a subject to be taught immediately from primary schools. One way to get farmers to attend training programs is for the government, through the Ministry of agriculture, to increase funding for agricultural training programmes, allowing Country agricultural officers to equip the training centres with the physical training facilities.

Farmers in Zambia should be encouraged by agricultural extension officers to participate in training programs due to the rapid evolution of agricultural technology. Farmers should be made aware of the benefits of growing maize so they can make the time for the training programs.

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