

Implementation of Subsidized Fertilizer Programme in Tanzania and Its Effect on Maize Productivity in Mbeya Rural District, Tanzania

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ABSTRACT

This study was carried out to assess the implementation of subsidized fertilizer program in Tanzania and its effect on maize productivity in Mbeya rural district. The Weiss theory of implementation guided this research. The study used cross sectional research design and simple random and purposive sampling techniques were used to select 142 respondents from the target population of 220. On the other hand, questionnaire and interview were used to solicit data from the respondents. For the data that were collected through questionnaire, descriptive analysis was applied and thus figures were produced to represent findings. On the other hand, for the data that were collected through interview, content analysis was used. The study found that government's current fertilizer subsidy programme is well-designed to meet the needs of local farmers. The study further revealed that stakeholders' engagement, capacity building programme, clear and accessible information, sufficient financial resources, and monitoring and evaluation were aspects of effective implementation of subsidized fertilizer programme maize productivity in Mbeya rural district. The study concluded that subsidized fertilizer program actively involves all relevant stakeholders. However, adequate training programs are not provided to beneficiaries on the appropriate use of subsidized fertilizers. The study recommends that the government should provide adequate training programs to beneficiaries on the appropriate use of subsidized fertilizers so as to ensure that they continue increase maize productivity. The study recommends the government to ensure timely availability of fertilizers, especially during critical cropping seasons and extension officers to provide training to the beneficiaries.

Keywords: Maize Productivity, Mbeya Rural District, Programme, Subsidized Fertilizer

I. INTRODUCTION

In many nations around the world, the agriculture industry is regarded as one of the most important economic sectors. Food policies, such as agricultural subsidy granting, in which the government allots subsidy funding in the form of fertilizer subsidy, should support the sector's necessity for promoting the national food security program (Pascal, 2017). Globally, the industry employs more than 67 percent of the workforce and contributes 39.4% of the world's Gross Domestic Product (GDP). Agricultural exports make up 43% of all exports globally. In that case, GDP refers to the total monetary value of all goods and services produced globally within a specific time frame, usually measured annually. It is an important indicator of economic health and overall productivity across nations (Kahanna & Solanki, 2016). Additionally, over 75% of domestic trade in African countries is either directly or indirectly tied to agriculture (World Bank, 2019).

Low fertilizer use, however, is a factor in Africa's lagging agricultural productivity and the consequent drop in food output per capita. It is extremely difficult to solve the continent of Africa's decades-long fall in soil production levels without increasing the application of the right fertilizer nutrients. A major factor in Sub-Saharan Africa's low per capita food output is the depletion of soil fertility (Breman *et al.*, 2001). The commercial and irrigated farming systems have continually used fertilizers to offset nutrient loss. In 2017–18, there were 141.6 million tons of fertilizer nutrients consumed worldwide, of which less than 1% were consumed in SSA. The amount of fertilizer used per country is significantly lower (Gregory & Bumb, 2019).

As opposed to industrialized nations, developing nations like Tanzania have relied more on input subsidies, particularly those for fertilizer (Gregory *et al.*, 2017; Breman & Debrah, 2003). Importance of fertilizer subsidies included accelerating learning, making up for agricultural taxation, lowering credit requirements, increasing value cost ratios, protecting against the volatility of global prices, and boosting domestic fertilizer output (Gregory *et al.*, 2017; Segural *et al.*, 2016). Because of this, political and economic factors led to the popularity of fertilizer subsidies. Tanzania, like many other developing nations, began the process of phased-out fertilizer subsidies during the implementation of structural adjustment programs in the 1980s for two reasons: failure of the subsidy scheme to mature into efficient behaviour, unsustainable budgetary cost of subsidies, economic, political changes (Mng'olage, 2018).

1.1 Statement of the Problem

Since the Tanzanian government reinstated the fertilizer subsidy program, there have been reports of a number of issues with the program (Vedeld & Kengera, 2019). Farmers have been complaining about insufficient and irregular fertilizer supply at the farm level (Daldo, 2019). The agents that sell fertilizers to farmers through the scheme do so at unofficial government retail prices, which is an issue. In other regions, it has been alleged that traffickers have been using perforated borders to smuggle fertilizer into neighboring nations. This has caused a deficit in the provision of fertilizers to the designated areas. This demonstrated the laxity and inefficiency of the program's supervision. The previous state of knowledge did not provide a clear picture of the program's performance (Pascal, 2017). Tanzania's government has begun a scheme to provide subsidies for fertilizer. The government is obligated to pay TZS 54,130 as per the subsidy arrangement. It is anticipated that a bag of DAP, which sold for TZS 131,675, would cost TZS 70,000 only, and that a bag of urea, which sold for TZS 124,714, would cost TZS 70,000 only. In addition, a bag of CAN, which previously sold for TZS 108,156, now costs TZS 60,000, while a bag of NPKs, which formerly cost TZS 122,695, now costs TZS 70,000 (Vedeld, & Kengera, 2019). However, based on prior experience, it is unclear whether such a program would be successful. In this situation, the study was carried out to assess the implementation of subsidized fertilizer program in Tanzania and its effect on maize productivity in Mbeya rural district.

1.2 Research Objectives

To assess the implementation of subsidized fertilizer program in Tanzania and its effect on maize productivity in Mbeya rural district

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Theory of Implementation

The Weiss theory of implementation, which Mulupi (2021) cites, applies to program activities. The theory reflects the essence of how program activities—that is, the implementation process—are presumptively assumed to affect the mechanisms of change outlined when initiating the program. In that regard, the theory of implementation proposed by Weiss is a framework that aims to explain the process of translating policy decisions into action. According to Weiss, implementation is not a straightforward process but rather a dynamic and complex interaction between various actors, including policymakers, implementers, and target populations. The theory emphasizes the importance of understanding the context in which policies are implemented and the role of power dynamics in shaping implementation outcomes. The steps that must be taken in accordance with implementation theory are as follows: -

Exporation: Identifying the need for change, learning about potential factors that could offer solutions, learning about the requirements for successfully implementing the program, building a team to support the work as it advances through the stages, increasing stakeholders and champions, evaluating and building readiness for change, developing communication processes to support the work, and making a decision to move forward are all examples of exploration (or not). As it has been observed that several programs have failed in the past, the implementation of the subsidized fertilizer program in our case needs to indicate the change. In that situation, exploration will allow us to identify the change we need to make in order to successfully implement the subsidized fertilizer program (Mulupi, 2021).

Installation: Here, it refers to the assistance required to guarantee the program's successful execution. In our situation, help may be required in the form of financial and human resources, support from stakeholders, and good communication between stakeholders and implementers (Mulupi, 2021).

Initial implementation: Currently, we are gathering information to assess how implementation is progressing and creating improvement initiatives in response to the information. Based on data, implementation supports are improved. For our situation, we follow up to determine whether the program for subsidized fertilizer is effectively executed and, if so, what kind of help is required. In order to assess whether we succeed or fail in that regard, all the information required is gathered (Mulupi, 2021).

Full implementation: This procedure involves completing the program/project in its entirety and working toward the desired goals that were established during the first process of implementation (Mulupi, 2021).

2.2 Empirical Review

Pascal (2017) also investigated the effects of subsidized fertilizer on household income and maize productivity. Data were gathered through questionnaires and interviews for the study utilizing survey research techniques. Both qualitative and quantitative methods were used in the investigation. The results show that there were an average of 77758 tons during the post-subsidy program period as opposed to 58453 tons during the pre-fertilizer subsidy period. Additionally, results showed that during the year 2012, there were disparities in production between fertilizer users and

non-users. Finally, as the logic of subsidy implies, it was discovered that the income for the three groups was considerably different using the year 2012 as an example, indicating that users of subsidized fertilizers are likely to generate more income than the other two groups of farmers due to low input costs. In order to support the agricultural industry as a component of national initiatives to combat income and food insecurity, certain policy recommendations are made. Reducing governmental spending on opulent, non-productive items like vehicles for bureaucrats and instead allocating that money to the agricultural sector, which can have a multiplier impact, will help the budget restrictions in the agricultural sector.

Arham (2018) evaluated the efficiency of the distribution of subsidized fertilizer in Gorontalo Utara. The descriptive analysis, IPA, and SWOT were used to analyze the research data. The findings showed that (1) Gorontalo Utara's supply of subsidized fertilizer is insufficient to meet farmers' needs. (2) The district's farmers still need 37.3% of the district's total demand for fertilizer, while the effectiveness of the district's subsidised fertilizer program distribution is only 62.7%. The local authority should even out the allocation with the assistance of other parties.

In Tanzania, Mng'olage (2018) assessed the distribution of subsidized fertilizer to smallholder farmers in Tanzania. Statistical Package for Social Science (SPSS) version (13.1) software was used for data processing and analysis in accordance with the study's specific goals. According to the research's findings, the study area's subsidised fertilizer program is not performing well enough to satisfy smallholder farmers' need for fertilizer. Lower fertilizer rates have been used as a result of the paucity of subsidized fertilizers and late deliveries. It is advised that the input delivery system to the smallholder sector be improved and sufficient funding be allocated to the program, I farmers should be protected against low and volatile output prices by investing in irrigation, drought-tolerant crops, and storage systems, (ii) a fertilizer factory should be built in the southern highland zone to address the issue, and (iii) the problem should be resolved.

On the other hand, Mulupi (2021) investigated the impact of small-scale farmers adopting a fertilizer subsidy scheme on maize productivity. In Kakamega County, cross-sectional data was gathered from 300 respondents who were chosen using a multistage sampling technique. Primary data were gathered through questionnaires from randomly chosen families. The probability of acceptance and the impact of participation in the fertilizer subsidy program on maize productivity were ascertained using a probit and a Tobit two stage model, respectively, both of which controlled for programme selection bias. The 5% level of participation in the subsidy program had a considerable impact on maize productivity. 2.21 t/ha of maize was produced on average. The average productivity of farmers who benefited from the initiative was 2.46 t/ha, which was much greater than the average of non-participants. The results of the Tobit model indicated that participation in the subsidy program had a chance of enhancing production by 0.323t/ha. However, there is now a yield gap between what farmers are currently achieving and what is feasible with the available technologies. The reason for this is that, in comparison to the national recommended application rates, relatively little fertilizer are often used to have an effect on productivity. In order to include more farmers in the scheme, the study suggests expanding the subsidy program by increasing the amount of fertilizer delivered.

Nyanda (2022) examined the driving factors behind fertiliser subsidy programs in Tanzania, evaluating their strengths and weaknesses and proposing future directions based on lessons learned. The analysis involved reviewing journal articles, conference papers, and national documents related to these programs. The identified programs included the universal fertiliser subsidy program, fertiliser transport subsidy, and the National Agricultural Input Voucher Scheme (NAIVS). The implementation of these programs was influenced by historical events such as independence, economic liberalisation, droughts, and food price crises. While the universal program aimed at bolstering national food security, the other two targeted specific farmers, regions, and crops. Weaknesses in the transport and NAIVS subsidy programs included issues like elite capture, malpractices by agro-dealers, and inadequate delivery capacity. The study concludes that despite subsidising fertilisers since economic liberalisation, Tanzania's efforts have had limited impact on agricultural transformation. It suggests expanding the focus of subsidisation beyond food security to include boosting household incomes, thereby aiding small-scale farmers' advancement and potentially reducing their reliance on the sector. Furthermore, it recommends the Ministry of Agriculture's TFRA to establish a robust monitoring system to prevent elite capture in any future subsidy programs targeting small-scale farmers.

III. METHODOLOGY

3.1 Research Design

This study used cross-sectional research design whereas it is a type of study used in social sciences, psychology, and other fields to collect data at a single point in time from a sample or population (Bergh, 2015). The choice of a cross-sectional research design for assessing the implementation of a subsidized fertilizer program in Tanzania could be due to several factors.



3.2 Study Location

The research was carried out in Mbeya rural district, situated between latitudes 8° 6' and 9° 2' South, and longitudes 33° 3' and 34° 0' East. Positioned within a high-potential zone, the district possesses fertile soils and experiences consistent rainfall, ranging from 650mm to 2700mm between October and May, followed by a cold and dry period from June to September. The planting season begins in November and extends until March. The district's elevation varies from 2300 to 2800 meters above sea level. This location was selected due to the ongoing implementation of the fertilizer subsidy program since its reintroduction in the 2003/2004 season. Additionally, the district holds significant promise for food crop production in Tanzania and plays a crucial role in enhancing national food security.

3.3 Target Population

The study population involved 15 government officials from the TFRA under Ministry of Agriculture who are engaged with subsidized fertilizer program (Ministry of Finance [MoF], 2023) and 205 small farmers who have been engaged in this program (Ministry of Finance, 2023).

3.4 Sample Size and Sampling Technique

The sample size of the study was determined by Slovene formula with a confidence level of 95% and margin of error of 5% (1-0.05), the formula is expressed as hereunder;

$$n = \frac{N}{1 + Ne^2}$$

Where: n= is number of sample (required)

N = Total population (220) and

e = Error tolerance (level) or margin of error (0.05)

$$\frac{220}{1 + 220(0.05)^2} = \frac{220}{1.55}$$

$$= 142$$

Therefore, the sample size for this study was 142 respondents.

Table 1

Sample Size Distribution

Respondents	Population	Sample	Percentage %
Government officials	15	10	7.0
Small farmers	205	132	93.0
Total	220	142	100.0

The study applied simple random and purposive sampling techniques. Simple random sampling technique was used to select 132 small farmers. In that regard, the researcher defined the entire population of small farmers who were eligible for the subsidized fertilizer program. This involved gathering a list of all such farmers within a specific geographical area. Each farmer in the population was assigned a unique number. These numbers were used to identify each farmer for the purpose of random selection. The researcher used a randomization technique to select the desired number of farmers from the assigned numbers. The study used closed ended questionnaire with the format of likert of 5 scale whereas 1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly agree. The study conducted interview to the 10 government officials. The task took place for 3 days and prior to that, the researcher made an appointment so as to get convenient time with the respondents. Interviews allow researcher to gather detailed and in-depth information about various aspects of the program, such as its design, implementation process, challenges faced, and outcomes achieved. In order to ensure data validity, the researcher consulted the supervisor that enabled to make some changes to the research instruments. The selection of appropriate data collection methods is crucial for ensuring data validity. On the other hand, reliable data ensured that the information derived from it is valid and can be used with confidence. In that regard, the researcher conducted pilot study to 20 respondents.

3.6 Data Collection Instrument and Analysis

For the data that were collected through questionnaire, descriptive analysis was applied and thus figures were produced to represent findings. On the other hand, for the data that were collected through interview, content analysis was used. To ensure ethical consideration, the researcher sought permission from the University of Mzumbe and the Ministry of Agriculture. Later the researcher obtained voluntary and informed consent from participants before their involvement in a study. This means that participants were provided with clear and comprehensive information about the purpose, procedures, potential risks and benefits, confidentiality measures, and their right to withdraw from the study at any time without penalty.

IV. FINDINGS & DISCUSSION

4.1 Introduction

This chapter presents findings related to the implementation of subsidized fertilizer program in Tanzania and its effect on maize productivity in Mbeya rural district. It includes response rate, demographic profile of respondents. The study distributed 132 questionnaires to the small farmers and 10 respondents who were government officials were designed for interview. However, on response rate, only 100 questionnaires were returned, and this accounts 75.7% of distributed questionnaire. On the other hand, the researcher only managed to interview 4 respondents out of 10 respondents.

4.2 Demographic Profile of Respondents

In this study, demographic profile of respondents involved level of education as well as number of years since they started doing farming activities. The demographic profile of respondents involved only 100 respondents who were small farmers. Hence Table 2 and 3 indicates summary of the study findings.

Level of education of respondents was considered so as to determine whether small farmers had basic knowledge to understand the implementation of subsidized fertilizer program in Tanzania. Hence Table 2 indicates summary of the study findings as obtained from the field:-

Table 2

Level of Education

S/n	Level of education	Frequency	Percentage %
1	Primary education	61	61.0
2	Secondary education	39	39.0
	Total	100	100.0

Table 2 indicates that 61% of respondents attained primary level of education while the rest with 39% of respondents attained secondary level of education. In that regard, respondents had basic knowledge that enabled them to understand various aspects related to the implementation of subsidized fertilizer program in Tanzania.

Number of years of respondents since they started doing farming activities was considered so as to determine whether their experience could enable them understanding implementation of subsidized fertilizer program in Tanzania. Hence Table 3 indicates summary of the study findings as obtained from the field:-

Table 3

Number of Years

S/n	Number of years	Frequency	Percentage %
1	1-5 years	21	21.0
2	6-10 years	49	49.0
3	11-15 years	30	30.0
	Total	100	100.0

Table 3 indicates that about 21% of respondents had experience of 1-5 years while 49% had experience of 6-10 years and 30% had experience of 11-15 years. It can be said that the small farmers who participated in this study had enough experience that enabled them understand various aspects related to the implementation of subsidized fertilizer program in Tanzania.

4.3 Implementation of Subsidized Fertiliser Programme and its Effect on Maize Productivity in Mbeya Rural District

The study sought to determine aspects of effective implementation of subsidized fertilizer programme and its effect on maize productivity in Mbeya rural district.

The researcher asked the respondents whether subsidized fertilizer programme actively involves all relevant stakeholders. The study indicated that 35% agreed that subsidized fertilizer programme actively involves all relevant stakeholders, 23% disagreed and 19% of respondents strongly disagreed and 17% were neutral and 6% strongly agreed with the statement. It can be said that majority of respondents agreed that subsidized fertilizer programme actively involves all relevant stakeholders and this could ensure maize productivity. This indicates that there is government commitment to enhance subsidized fertilizer program by allowing various stakeholders. Involving all relevant stakeholders ensures that diverse perspectives and expertise are considered during the design and implementation phases of the program. This includes representatives from government agencies responsible for agriculture, agricultural

extension services, farmer organizations, and private sector actors such as fertilizer suppliers. Their input can help identify the specific needs and challenges faced by farmers, tailor the program to address these needs effectively, and ensure that it aligns with existing agricultural policies and strategies for maize productivity.

According to Pascal (2017) stakeholder involvement facilitates better targeting of beneficiaries and reaching those who need support the most. Through engaging farmer organizations and local communities, valuable insights can be gained regarding the socio-economic conditions, farming practices, and specific challenges faced by small-scale farmers in different regions. This information can guide the development of criteria for beneficiary selection, ensuring that subsidies reach those with limited resources or marginalized groups such as women farmers or indigenous communities. The active involvement of stakeholders promotes transparency and accountability in the implementation of subsidized fertilizer programs. When various stakeholders participate in decision-making processes, it helps prevent corruption, favoritism, or mismanagement of resources. Regular consultations with farmer organizations and other stakeholders can also facilitate monitoring and evaluation efforts, ensuring that the program's objectives are being met effectively. This transparency builds trust among farmers and stakeholders, fostering a sense of ownership and commitment to the program's success.

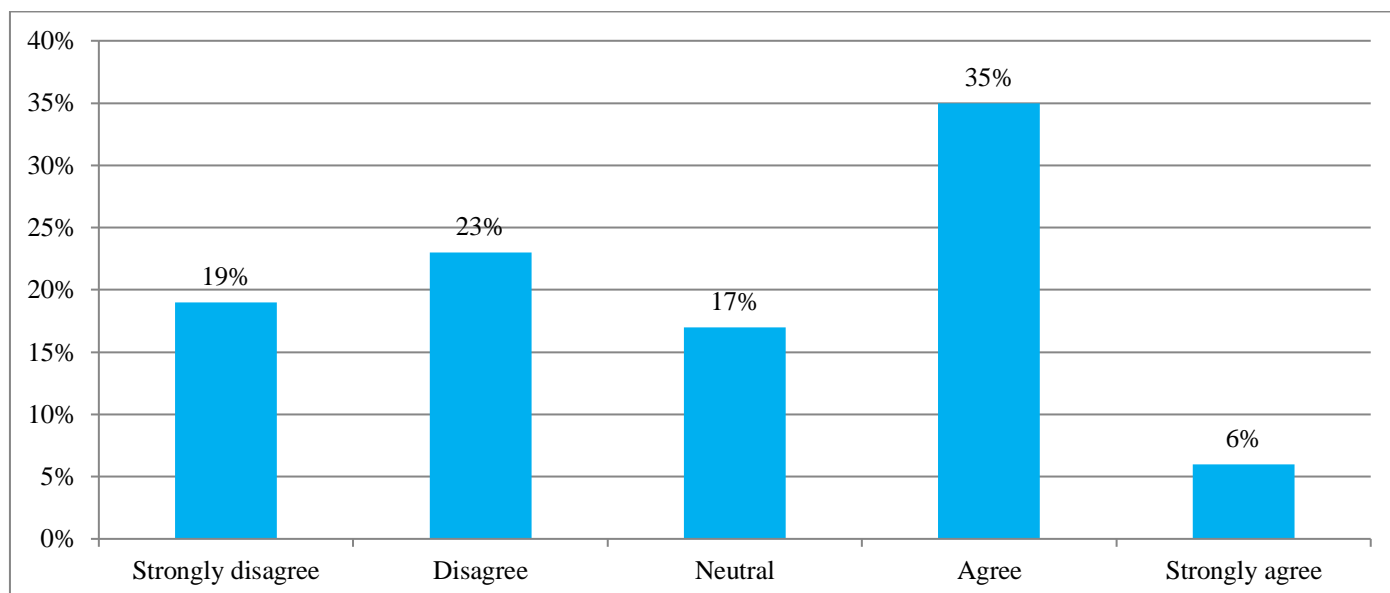


Figure 1
Stakeholders' Engagement

The researcher asked the respondents whether adequate capacity building programmes are provided to beneficiaries on the appropriate use of subsidized fertilizers. It was established that 38% of respondents strongly disagreed that adequate capacity building programmes are provided to beneficiaries on the appropriate use of subsidized fertilizers, 20% agreed, 15% strongly agreed with the statement, 15% of respondents strongly disagreed 12% were neutral. It can be said that majority of respondents disagreed that adequate capacity building programmes are provided to beneficiaries on the appropriate use of subsidized fertilizers and this could affect maize productivity.

The researcher considers that providing capacity building programmes ensure that beneficiaries have the necessary knowledge and skills to effectively and efficiently utilize subsidized fertilizers. Fertilizers are essential inputs in modern agriculture as they provide essential nutrients to crops, leading to increased yields and improved crop quality. However, if fertilizers are not used correctly, they can have negative environmental and economic impacts. Capacity building programmes can educate beneficiaries on the appropriate dosage, timing, and application methods of fertilizers, helping them maximize the benefits while minimizing potential risks. According to Nyanda (2022) training programs (capacity building programmes) enhance the understanding of beneficiaries regarding the specific characteristics and properties of different types of fertilizers. Subsidized fertilizers often come in various forms such as granular, liquid, or slow-release formulations. Each type has its own advantages and optimal application methods. Through providing training on these aspects, beneficiaries can make informed decisions on which type of fertilizer to use based on their specific crop requirements and soil conditions. Training programs can promote sustainable agricultural practices by educating beneficiaries about the importance of integrated nutrient management.

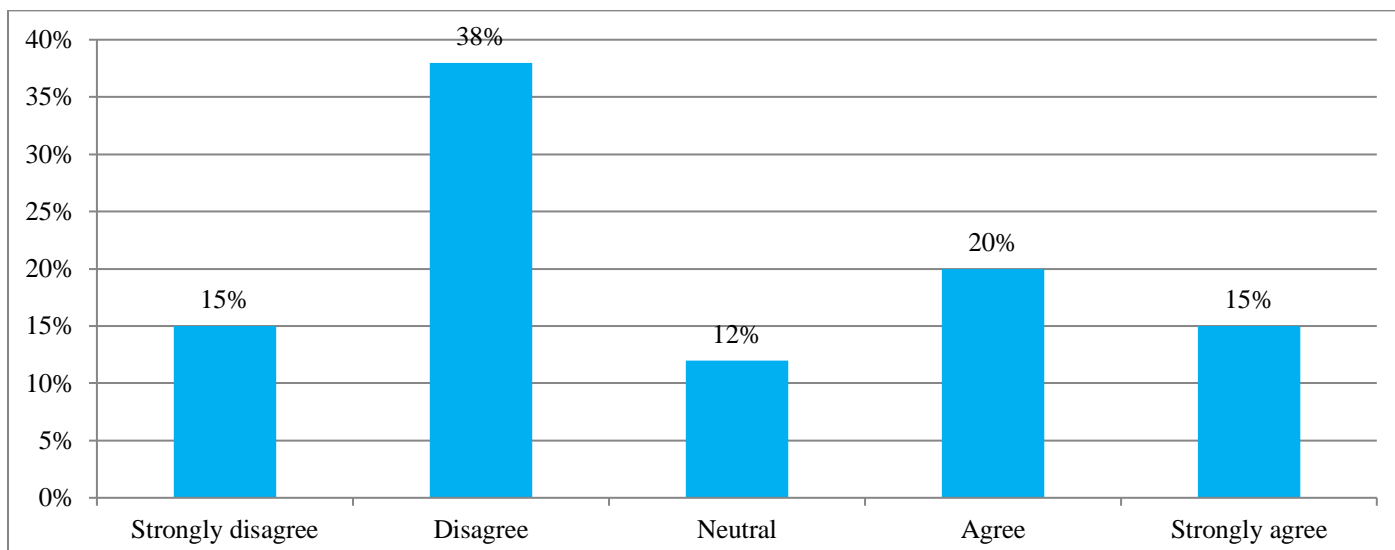


Figure 2
Capacity Building Programme

The respondents were further asked as whether beneficiaries receive clear and accessible information about the subsidized fertilizer programme. The study found that 34% strongly agreed with the statement that beneficiaries receive clear and accessible information about the subsidized fertilizer program, 25% agreed, 15% of respondents strongly disagreed while 14% disagreed and 8% were neutral. It can be said that majority of respondents strongly agreed that beneficiaries receive clear and accessible information about the subsidized fertilizer program and this could ensure maize productivity. Through understanding the details of the subsidized fertilizer program, beneficiaries can have a better understanding of their rights, entitlements, and responsibilities. This knowledge empowers them to hold the relevant authorities accountable for any discrepancies or issues that may arise during the implementation process. In addition to that, clear information also helps to prevent corruption and misuse of resources by promoting a culture of transparency and accountability to achieve better results for maize productivity. The study findings are supported by Pascal (2017) that clear and accessible information about the subsidized fertilizer program enables beneficiaries to make informed decisions. When beneficiaries are well-informed about the program's objectives, eligibility criteria, application procedures, and benefits, they can make informed choices regarding their participation. This includes deciding whether to apply for the program, understanding the terms and conditions associated with it, and evaluating its potential impact on their agricultural practices. Accessible information allows beneficiaries to weigh the costs and benefits of participating in the program and make decisions that align with their individual needs and circumstances.

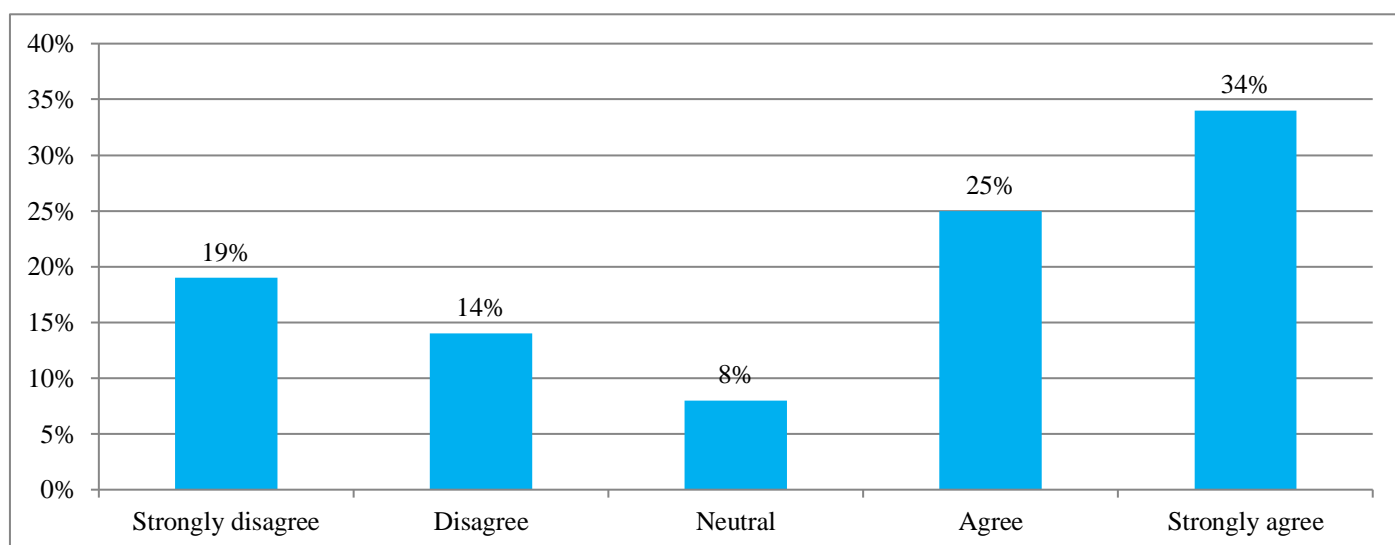


Figure 3
Clear and Accessible Information

Moreover, the researcher asked the respondents whether sufficient financial resources are allocated for the implementation of the subsidized fertilizer program. The study found that 31% agreed that sufficient financial resources

are allocated for the implementation of the subsidized fertilizer program, 29% agreed, 16% of respondents strongly disagreed and 16% were neutral. On the other hand, about 29% agreed and 8% strongly agreed with the statement. It can be said that majority of respondents disagreed that sufficient financial resources are allocated for the implementation of the subsidized fertilizer program and this could affect maize productivity. The subsidized fertilizer program aims to provide affordable fertilizers to farmers, which can significantly enhance agricultural productivity and food security. Through allocating adequate financial resources, governments can ensure the successful implementation of this program and reap its numerous benefits.

Arham (2018) revealed that the subsidized fertilizer program plays a crucial role in increasing agricultural productivity. Fertilizers are essential for replenishing soil nutrients and improving crop yields. However, the high cost of fertilizers often acts as a barrier for small-scale farmers who cannot afford them. Through subsidizing fertilizers, governments can make them more accessible and affordable for farmers, enabling them to use optimal amounts of fertilizers and improve their crop production. This increased productivity not only benefits individual farmers but also contributes to overall food security by increasing the availability of food in the market. The subsidized fertilizer program promotes sustainable agriculture practices. Many modern fertilizers contain essential nutrients that help replenish soil fertility, which is crucial for long-term agricultural sustainability. However, due to their high cost, farmers may resort to using inadequate amounts or low-quality fertilizers, leading to soil degradation and reduced crop yields over time. Through the process of subsidizing fertilizers, governments encourage farmers to use appropriate quantities of quality fertilizers, thereby promoting sustainable farming practices and preserving soil health. This helps maintain long-term agricultural productivity and reduces the need for expanding agricultural land into ecologically sensitive areas.

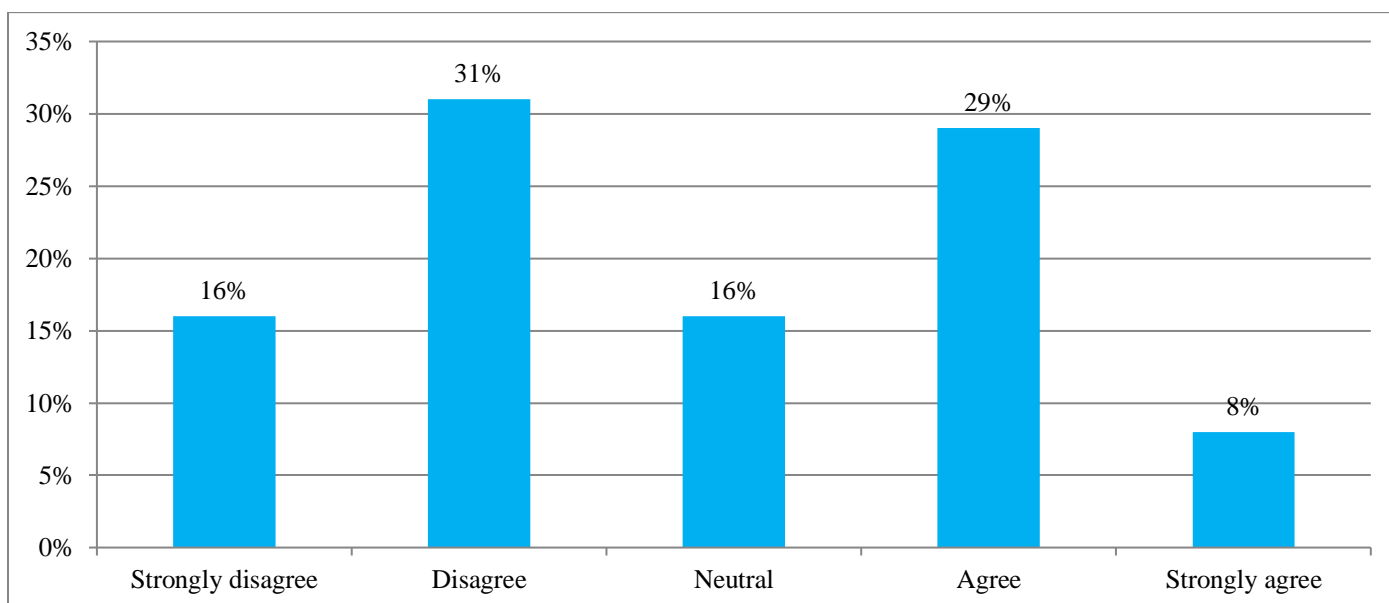


Figure 4
Sufficient Financial Resources

However, during an interview, one of the key informants said that:-

“The government is obligated to pay TZS 52,000 as per the subsidy arrangement. It is anticipated that a bag of DAP, which sold for TZS 131,675, will cost TZS 70,000 only, and that a bag of urea, which sold for TZS 124,714, will cost TZS 70,000 only. In addition, a bag of CAN, which previously sold for TZS 108,156, now costs TZS 60,000, while a bag of NPKs, which formerly cost TZS 122,695, now costs TZS 70,000” (Interview Guide, 2023).

In the similar case, the researcher asked the respondents whether regular monitoring and evaluation is conducted to track the program’s progress and identify challenges. The study found that 39% disagreed that regular monitoring and evaluation is conducted to track the programme’s progress and identify challenges, 20% agreed, 17% strongly agreed with the statement, 14% of respondents strongly and 10% were neutral. It can be said that majority of respondents disagreed that regular monitoring and evaluation is conducted to track the program’s progress and identify challenges. It is considerable argument to state that regular monitoring is essential in tracking the progress of a program and identifying any challenges that may arise. It allows for the evaluation of the program's effectiveness, efficiency, and impact, ensuring that it stays on track towards its intended goals and objectives. Monitoring provides valuable insights into the program's performance, enabling stakeholders to make informed decisions and take necessary actions to address any issues or obstacles that may hinder its success.

According to Feta (2014), regular monitoring allows for the systematic collection and analysis of data related to the program's activities, outputs, and outcomes. Through the process of comparing actual progress against planned targets and milestones, it becomes possible to determine whether the program is on track or if adjustments are needed. This assessment helps identify areas where improvements can be made, ensuring that resources are allocated effectively and efficiently. Monitoring provides an opportunity to identify challenges or bottlenecks that may impede the program's progress. Through closely tracking key performance indicators (KPIs) and other relevant metrics, stakeholders can detect early warning signs of potential issues. These challenges could include resource constraints, logistical difficulties, stakeholder resistance, or unforeseen external factors. Identifying these challenges promptly allows for timely intervention and mitigation strategies to be implemented.

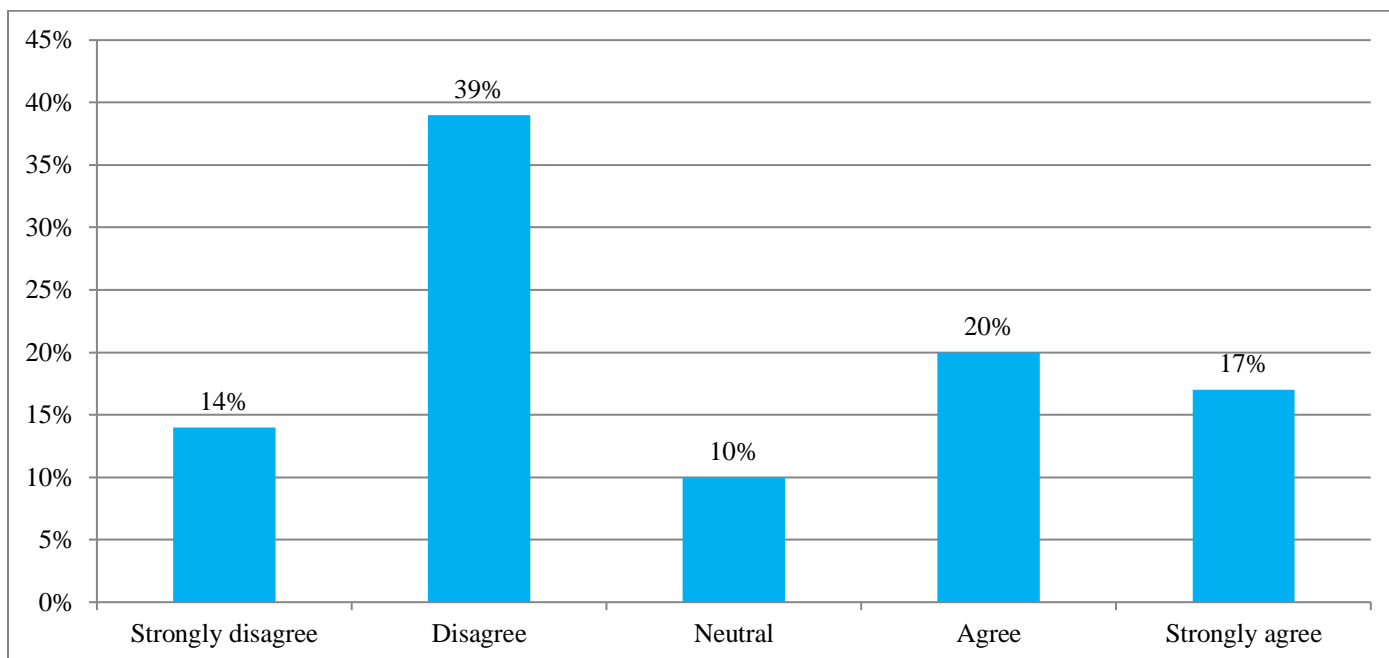


Figure 5
Regular Monitoring

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusions

The study concluded that the subsidised fertiliser programme effectively engages all relevant stakeholders, including farmers, government agencies, agricultural extension services, and local communities. This collaborative approach ensures that the voices and needs of various parties are considered, fostering a sense of ownership and commitment to the programme. However, it was noted that despite this active involvement, there is a significant gap in the provision of adequate training programmes for beneficiaries. Many farmers lack essential knowledge and skills regarding the appropriate use of subsidised fertilisers. This deficiency can lead to improper application techniques, suboptimal crop yields, and potential harm to the environment. Effective training initiatives are crucial to empower beneficiaries with the necessary understanding of fertiliser application methods, timing, and dosage. By equipping farmers with this knowledge, the programme could maximise the benefits of subsidised fertilisers, enhance agricultural productivity, and promote sustainable farming practices. Addressing this training gap is essential for the long-term success and effectiveness of the subsidised fertiliser programme.

5.2 Recommendations

The study recommends that the government should provide adequate training programs to beneficiaries on the appropriate use of subsidized fertilizers so as to ensure that they continue increase maize productivity. The study recommends the government to ensure timely availability of fertilizers, especially during critical cropping seasons and extension officers to provide training to the beneficiaries. Additionally, it is crucial for the government to guarantee the timely availability of fertilisers, particularly during critical cropping seasons when the demand is highest. Delays in access to these inputs can significantly impact agricultural output, leading to missed opportunities for increased yields. Moreover, the study emphasises the importance of deploying extension officers who can provide on-the-ground training and support to farmers. These officers can offer valuable guidance on the best practices for fertiliser application, helping

beneficiaries to understand not only how to use these products effectively but also the importance of integrating them into sustainable farming practices.

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