

Review Article

A Valuation of Key Players Involved in Securing a Healthy National Staple Food Security Status: A Case Study of Zambia

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Received: February 22, 2024

Accepted: April 03, 2024

Published: April 10, 2024

Introduction

According to the 1996 World Food Summit, food security is defined when all individuals, always, have physical and economical access to sufficient safe and nutritious food that meets their dietary requirements and food preferences for an active and sound life [3]. The four principal aspects of food security are as follows:

Actual accessibility of food: Food availability addresses the supply side of food security and is determined by the level of food production, stock levels and net trade.

1. Economic and physical access to food: An adequate supply of food at the national or international level does not in itself guarantee household level food security. Concerns about insufficient food access have resulted in a greater policy focus on incomes, expenditure, markets, and prices in achieving food security objectives.

2. Food utilization: Utilization is commonly understood as the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals are the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food.

3. Stability of the other three dimensions over time: Even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status.

Abstract

This paper seeks to evaluate the key players involved in securing a healthy staple food security status in a country using Zambia as a case study, and what should be done to effectively, and collectively guarantee a healthy food security status. This was a qualitative study, and the desk research approach was used to collect data.

The principles of content analysis (NVivo) were applied to analyse secondary data, which was obtained through google scholar, materials from E-library of University of Zambia and various publications from Zambia's Ministry of Agriculture, Finance, Green Economy, and Lands respectively.

According to the findings, the players include Small-scale farmers, Large-scale farmers, and the Government of the Republic of Zambia. The study also revealed that, the country may have a staple food shortage due to the drought situation in most parts of the country.

Keywords: Food Security; Staple food; Maize crop; Mealie Meal; Small-scale farmers; Large-scale farmers; Indigenous

The next section discusses the background information of Zambia as a country, and the efforts the successive Zambian governments have made in ensuring food security in the country.

Background

Zambia is a landlocked country whose capital city is Lusaka and is situated in the southern part of Africa bordered by eight countries namely, Angola, Botswana, Democratic Republic of Congo, Malawi, Mozambique, Namibia, Tanzania, and Zimbabwe. The country has a total area of 752, 618 Square Kilometres with a lot of freshwater bodies such as the might Zambezi River, Lake Bangweulu, Luapula River and many other non-seasonal water bodies. The country boasts of vast arable land and good rainfall patterns in many parts of the country especially the Northern and Northwestern part of the country [10].

The current population of Zambia stands at Nineteen Million Six Hundred and Ten Thousand Seven Hundred and Sixty-Nine (19,610,769 as per Two Thousand and Twenty-Two (2022) National Census of Population and Housing [14]. The 2022 census also indicated that the 10,007,056 were women and 7,844,628 were men. The statistics further showed that, 11, 766,141 people were in the rural parts of Zambia while 7,844,628 were from the Urban areas of the country.

Zambia has enjoyed relatively a good supply of agricultur-

al food across the country for some time now except for the recent years where food security has been threatened due to poor rainfall patterns in the Southern and Eastern part of the country. The threat of food security has been growing exponentially in the recent past and calls for concerted efforts to reduce the chances of the country going into a food crisis mode.

Staple Food in Zambia

A food staple is any kind of food that is consumed regularly in large amounts, making up the majority of a person's or a demographic group's typical diet. These mainstays supply a substantial amount of energy and make a major contribution to the consumption of other vital nutrients [13]. The indigenous Zambian people have adopted maize flour (Mealie meal) as the mainstay food and is usually consumed at lunch and supper or evening meal. This staple food is usually eaten with fish, meat, chicken as well as vegetables, and this delicacy is highly respected by majority Zambia [1].

It must be mentioned that other substitutes for mealie meal exists such as the cassava flour, millet flour but these are perceived to inferior to the maize flour by the majority indigenous Zambians. The shortage or the high price of this commodity (Maize flour) in Zambia, usually leads to the general outcry by the indigenous Zambian populations calling the governments all sorts of names and if not managed well can easily lead to a food or hunger strikes.

Theoretical Literature Review

The issue of having food security in any given country across the globe is of great importance and many countries put in place measures that guarantees food security for their respective nations. Under this section, four theories will be looked at in depth to clearly discuss the concept of food security, and the theories includes, Neo-Malthusian Perspectives, Techno-ecology theory, Human ingenuity and technology, and Urbanization.

Neo-Malthusian Perspectives Theory

According to this thesis, population naturally increases in geometric ratio but the means of subsistence, or agricultural production increases only in an arithmetic ratio making it impossible for agricultural production to sustain growing populations indefinitely [8].

Techno-ecology theory

The techno-ecology theory sees food insecurity as being caused by the improper, inadequate, or non-harassment of technology and human ingenuity for the aim of solving food production problems [11].

Human Ingenuity and Technology Theory

This postulates that advances in human ingenuity, science and technology produced in the last decades contribute to solv-

ing of problem of water and food security [4]. These technological advances include, communication and transport technologies used in agricultural food production industries, and other technologies used in the desalting of seawater, which is now used in irrigation and phenomenon was previously unheard of until recent times.

Urbanization Theory

According to the World Bank and the International Monetary Funds (IMF), developing countries with a high level of urbanization stand a better chance of achieving Millenium Development Goals than countries with low level of urbanization (World Bank & IMF, 2013). City-dwellers usually enjoy higher incomes and as a result eat better, more nutritious food and diversified food, which rises their food security.

A flourishing agricultural industry can mitigate rural exodus and reduce population pressure on the cities. Investment in training, infrastructure, modern technologies and cultivation methods, marketing, banking, and legal systems as well as supporting women in agriculture are some examples of how agriculture can be strengthened and expanded [2].

Empirical Literature Review

There have been a lot of deliberate programmes by successive governments in Zambia in tackling issues of food security and this gives insights of who the major players are in ensuring food security in Zambia. Over the years, the successive governments in Zambia have worked hand in hand with small scales farmers in addressing shortages especially the staple food prepared from Maize flour.

The successive governments in Zambian have been subsidizing the peasant or the small-scale farmers by providing them with fertilisers and seeds at a low cost using the treasuring funds to make these inputs available. The commercial farmers have also benefitted through exemptions of duty on certain agricultural machinery. The collaborations between the government, small-scale and commercial farmers avowedly confirm that, these three, are the main players involved in securing food security in Zambia. It should be mentioned that other players also offer direct or indirect support to this noble course of food security.

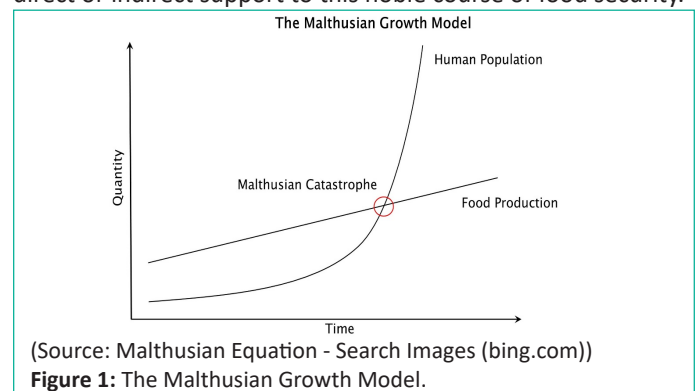
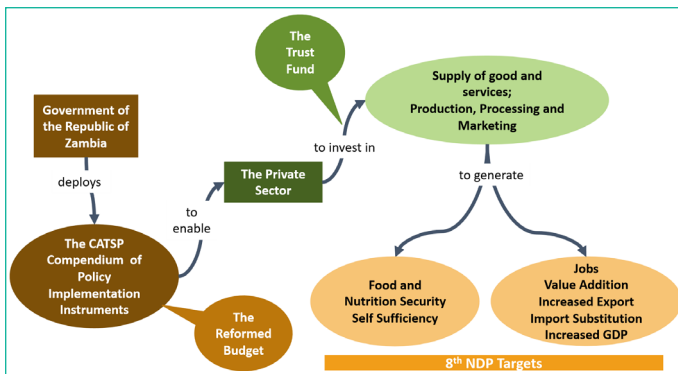


Table 1: Migration Path to Full E-Agricultural Input Support System 2023/2024 Farming.

	2023/2024 Farming Season	2024/2025 Farming Season	2024/2025 Farming Season
Direct Input Support System			
Districts	73	42	0
Beneficiaries	403,239	403,239	0
E-Voucher			
Districts	43	74	116
Beneficiaries	539,031	784,565	1,024,434
Total	1,024,434	1,024,434	1,024,434
Districts added to Electronic System	43	31	42

(Source: Ministry of Agriculture Website-Zambia, 2024)



(Source: Ministry of Agriculture Website-Zambia, 2024)

Figure 2: The CATSP Theory of Change .



(Source: ZAMSTATS)

Figure 3: Rain Starved Maize Field.

The banks and other financial lending institutions provide small-scale or large-scale loans to farmers as well as facilitating the purchasing of farming equipment such as ploughs and tractors through asset lease financing. The insurance institutions also play a huge role especially in commercial farming by providing insurance policies against certain damages or losses.

The civil society organizations and other non-governmental organizations equally lend a helping hand by providing farmer support programmes aimed at educating farmers on the good conventional farming techniques and practices such as imparting knowledge on farmers on how to handle the adverse effects of climate change.

Now that the major players in ensuring food security have been identified, the study will zero in on the key player(s) that focus on the cultivation of crops which are predominantly a source of the Zambian staple food (Nshima) prepared from maize flour commonly known in Zambia as mealie meal. The next sections look at the initiatives that the government of Zambia has implemented in the past and recent times to help boost food security at household and national level.

Farmer Input Support Programmes

Since its inception, the farmer input support program, also known as FISP, has played a crucial role in increasing the productivity of small-scale farmers and ensuring Zambia's food security [7]. This programme was first introduced around 2002 as a Fertilizer Support Programme (FSP). It was subsequently amended and renamed in 2009 to Farmer Input Support Programme (FISP).

While the programme was intended to benefit the majority small-scale farmers, it encountered numerous challenges in

its implementations such as late distribution of inputs resulting into low crop yields. Other bottlenecks included the non-understanding of spatial soil variabilities of soil fertility and the climatic conditions.

In addition, the Zambian government spent more money because of the rising indirect costs associated with administering the Farmer Input Support Programme (FISP) such as tender procedures, transportation, and storage costs and this has been a drain to the national treasury. In trying to mitigate the high costs of managing the high costs of the Farmer Input Support Programme (FISP), the government of the Republic of Zambia launched an E-voucher system in 2015 and was piloted in 13 districts and with 234, 101 beneficiaries (Ministry of Agriculture Website-Zambia, 2024)

This E-voucher system was being run through the Zambia Integrated Agricultural Management Information System (ZIAMS) in collaboration with Smart Zambia.

This initiative was envisaged to give choice to farmers to select the inputs required so as to support crop diversification and promote livestock production. The implementation of the programme resulted into lower cost of implementing the FISP by leveraging private sector participation in input distribution.

It must be mentioned that the E-voucher system as introduced in 2015 has not been as rosy as what was thought of at its introduction but has had its own challenges. Following its full implementation, several challenges were experienced such as delayed payment by Government to Agro-dealers, technological challenges, limited stocking of inputs, insufficient controls, and limited access to financial services in remote areas, such as banks for farmers to make deposits. This led to Government reverting to the Direct Input Supply method.

Proposed E-Voucher Migration Path

As a way for ensuring farmer choice, the Ministry of Agriculture in Zambia has involved a wide range of private sector in input supply chain and cost reduction, the migration path will be done over a 3- year period commencing with the 2023/24 agricultural season. The migration will be done at district level depending on network coverage and availability of Agro dealership.

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Challenges facing Zambia in Securing Food Security

Climate Change

Climate change has affected Zambia to a greater extent in the recent past and crop production has equally gone down. This has greatly affected food security especially on the Maize grain which is a key component of Zambia's staple food (Nshima). The climate change has resulted into low rainfall patterns in most parts of Zambia, especially the Central, Eastern and Southern parts of the country.

As for the 2023/2024 farming season, most of the fields planted with Maize corns have become sorry sights due no rainfall and have turned into dry lands with no hope of harvesting even one cob of maize. Most of the Maize crop farming in Zambia is rain fed and any poor rainfall experienced will have an impact on the overall output of the Maize harvest.

Political Pressure

Most of the successive governments in Zambia ever since the introduction of FISP, have succumbed to political pressure

from the electorates who constantly threaten the political parties in power to send farming inputs through the Farmer Input Support Programmes even when it is evident that the region in question will have little or no rainfall as per forecast predictions by the Zambian Meteorology. Departments.

The threatens borders on the non-support for the party in power in any coming general or by-elections while others go to an extent of making tribal remarks against the party in government accusing them of having nepotistic tendencies in the distribution of farming inputs and these are all done in the spirit of arm-twisting the government to send these farming inputs. There is nothing wrong in distributing these subsidised inputs, but prudence must be applied so that areas which will seemingly going to have good rainfalls are considered, and this can enhance output for the Maize crop or indeed any other crops for a better national food security and in turn cut on wastage or even abuse of the seed or fertiliser resources.

It has come to the attention of the government that some beneficiaries of FISP have formed cartels by registering ghost beneficiaries and once these inputs are collected, the cartels will in turn resale these inputs to the unsuspecting public at exorbitant prices thereby making money of the government and destroying the basic principles on which FISP was created for.

Lack of Modern and Effective Meteorological Equipment

It has been observed that some predictions made by the meteorological department in Zambia are not accurate and therefore leading farmers to blind farming. This can be attributed to not having advanced meteorological equipment which can predict the weather patterns in a more accurate manner.

Misinformed Public

Some sections of the Zambian public attributes every misfortune to lack of prayer and worship among the citizens since Zambia is constitutionally a Christian nation and have less faith in science. This has the potential to threaten the food security even more due to disregarding evidence before our eyes and making decisions based on available evidence, but we instead go for mere imaginations of the mind that the poor rainfalls are a sign that God is not happy with the party in government or indeed any other reasons. All these notions are well calculated by some cleverly ill-intentioned Zambian to bring about political change that listens and succumbs to their personal greed.

Over Dependence on Rain Fed Agriculture

In the preamble of this paper, it was mentioned that despite Zambia being landlocked, the country boasts of having some of the largest freshwater bodies in the central and southern regions of Africa. Much of these water bodies are not utilized fully to support irrigation farming, an issue which must be investigated seriously by the government, and all the identified key players in staple food security campaigns.

Research Design and Methodology

This research was qualitative in its entirety and was conducted using the desk approach where secondary data was obtained from authentic academic records, published scholarly articles (Google scholar articles), government of Zambia publications under various ministries, Budget speeches (Zambia's Ministry of Finance Website), University of Zambia E-Library. The collected data was then qualitatively compared and contrasted and analysed vigorously using the content analysis prin-

ciples (NVivo) to come up with logical scientific conclusions that are to a greater extent devoid of personal opinions.

Findings

The research findings have indicated that the major stakeholders involved in securing a healthy staple food security balance sheet of a nation, Zambia in particular, includes the government, the small-scale farmers, and commercial farmers. It must be mentioned here that, Maize crop cultivation, which is the main ingredient for Zambia's staple food (Nshima) is usually grown by small-scale farmers, and these happens to be the indigenous people who have been brought up eating and appreciating this delicacy.

The cultivation of the Maize crop in Zambia is labour intensive and involves a lot of costs such as fertiliser dressings and weeding. Despite the Maize crop cultivation in Zambia being expensive, it faces a lot of price controls usually by the government thereby making the cultivation of this crop less attractive. The current situation in Zambia shows low crop production for Maize crop for 2023/2024 farming season due to droughts that are currently being experienced in most of the places in Zambia.

The country will in the year 2024/2025, based on real time statistics of low rainfall, face starvation problems in most of the households especially low-income earners who in most cases cannot afford to buy this sentimental commodity currently being sold between Zmw240.00 - Zmw340.00 per 25 Kilograms of Breakfast Mealie meal powder.

Though this position has already been challenged by some sections of the Zambian society such as the Millers Association of Zambia who through their President, Mr. Andrew Chintala recently made remarks on 20th February, 2024, in one of Zambia's news tabloids called News Diggers, indicating that Zambia has enough Maize stocks in its reserves ranging above 700,000.00 Metric tonnes, and this will help cushion the country until the next farming season.

The study has also revealed that, the government of the republic of Zambia is making frantic efforts in addressing the current high Mealie meal prices by selling slightly cheap Mealie meal through the Zambia National Service, one of the three defence forces in Zambia. This initiative to some extent is still not being appreciated by some sections of the Zambia community who would want to access this commodity at a much lower price probably at less than Zmw100.00 per 25 Kilograms of Breakfast Mealie meal powder. This in principle means that the government of Zambia is being expected go further in subsidizing this commodity apart from the already existing subsidy they are proving through the Farmer Input Support Programmes, and succumbing to this demand, would put immense pressure on the national treasury.

Limitations

The fact that this study used a desk approach to collect data, leaves more room for further research where people's views can be gathered, using primary sources of data collection. The approach of collecting data using primary has an upper hand in abetting opportunities of getting data that is very closer to what is currently obtaining on the ground. That being said, the usage of secondary data instead of primary data, has the potential to leave out certain key facts and views that could have made a difference had they been incorporated, and this then stands to be a key limitation for this particular paper.

Conclusion

This paper sought to establish who the key players are in securing a healthy national staple food security status. The gist of this paper was to provide information to the key players involved in a securing a healthy national staple food security status, and Zambia was used as a case study.

The paper also sought to amplify the need for the stakeholders to work together and face this looming problem of the staple food insecurity in Zambia due to the on-going droughts or low rainfall being experienced in many parts of the country.

Recommendations

- The government of the Republic of Zambia must invest more resources in acquiring modern meteorological equipment that can forecast accurate weather patterns as this will equip farmers with the right information to cultivate knowledgeably.

- The government of the Republic of Zambia must not succumb to political pressure when distributing farming inputs under FISP or indeed any other means but must help farmers in areas which are more likely going to have good rainfall and other climatic conditions based on the advice of experts in weather forecasts.

- The Zambian masses must be encouraged to work together with the government and reduce on religious speculations whenever the weather conditions are not favourable. They have a collective responsibility to avoid bad practices such as deforestations and any indiscriminate cutting down of vegetables as this has a negative impact on the weather conditions.

The government of the republic of Zambia must formulate ways of using the abundant water resources at the country's disposal in cultivating Maize corns and other substitute farm product as this is one sure way of reducing the looming food insecurity due to rainfall patterns.

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