THE SUBSIDY FERTILIZER SUPPLY CHAIN CHALLENGES IN MALAWI

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DEDICATION

This thesis is dedicated to my wife Lidia and my sons Drake and Emmanuel and my daughter Praise for encouraging me to take up the challenge. May I also dedicate this work to my lovely mum Joyce Tementcheni, and the entire family for your prayers and support. I wish brother Archibald was there to witness the completion of the dream. May his soul remain resting in peace.

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ABSTRACT

The high cost of fertilizer left many small holder farmers unable to access fertilizer which resulted in low agricultural production in Malawi. To solve this problem, the government introduced the Farm Input Subsidy Program (FISP) in 2004/2005 growing season. The subsidy program constituted about 60% of all fertilizer imports into the country. But besides huge investment into this program, food insecurity situation had not been eliminated leaving many smallholder farmers depending on food handouts to take them to the next harvesting season. Policy makers had been exploring options on how to exploit the benefits of FISP. It is for that reason that an investigation was conducted on transportation challenges in fertilizer supply chain, as late delivery was reported to be one of the problems in the distribution process. Because of that, three research objectives and research questions were formulated, and a pragmatic philosophy was adopted. Through this philosophy, both qualitative as well as quantitative research methods in data collection were employed. A snowball sampling method was used with the assistance of Road Transport Operators Association (RTOA) in Malawi. Three managers from both public as well as private fertilizer companies were interviewed while 38 questionnaires were administered to transporters that had previously been involved in subsidy fertilizer distribution. The findings of the research spotted logistical problems in the process of awarding contracts to fertilizer importers as well as transporters as not effective because of bribery, political interference and bias claims, as the main causes of the inefficiencies. Other findings included problems with beneficiary identification, high transportation costs, not utilizing ICT, ITS and lack of Research and Development as other challenges affecting productivity. This research came up with a Roadmap to Fertilizer Supply Chain as a reference material to future fertilizer supply chain studies, proposed "group fertilizer procurement" in future fertilizer procurement policies and provided empirical evidence of transportation challenges affecting fertilizer distribution in Malawi.

ABSTRAK

Harga baja yang tinggi menyukarkan peladang kecil untuk mendapatkan akses kepada komoditi itu, mengakibatkan produk pertanian yang rendah di Malawi. Untuk menyelesaikan masalah ini, kerajaan telah memperkenalkan "Farm Input Subsidy Program (FISP)" sejak musim penanaman tahun 2004/2005. Program subsidi ini merangkumi 60% aktiviti import baja di Malawi. Walaupun dengan pelaburan yang besar dalam program ini, malangnya masalah kekurangan makanan tetap tidak dapat diselesaikan, menyebabkan banyak peladang kecil terpaksa bergantung kepada bantuan makanan sehingga musim menuai yang seterusnya. Para penggubal polisi telah mencari pelbagai jalan untuk menggunakan FISP sebagai salah satu penyelesaian bagi masalah ini. Disebabkan perkara ini, kajian telah dijalankan untuk mengenalpasti cabaran dalam proses rantaian bekalan baja kerana penghantaran yang lewat telah dilaporkan sebagai masalah utama dalam proses pengedaran. Tiga objektif telah ditetapkan dan kajian kualitatif dan kuantitatif dijalankan bagi mengumpul data. Persampelan bola salji telah digunakan dengan bantuan "Road Transport Operators Association (RTOA)" di Malawi. Tiga pengurus daripada syarikat baja swasta dan kerajaan telah ditemuramah, dan 38 soal selidik telah diedarkan kepada syarikat pengangkutan yang pernah terlibat dalam program pengedaran baja sebelum ini. Kajian mendapati terdapat masalah dalam proses penganugerahan kontrak kepada pengimport baja dan juga syarikat pengangkutan, kerana ia tidak efektif disebabkan rasuah, penglibatan kuasa politik dan pembayaran yang tidak adil. Selain itu, terdapat masalah dalam pengenalpastian penerima faedah, kos pengangkutan yang tinggi, penggunaan ICT dan ITS yang tidak maksimum, dan kekurangan penyelidikan dan pembangunan. Kajian ini telah menghasilkan peta minda bagi rantaian bekalan baja sebagai rujukan untuk kajian akan datang dalam bidang perolehan baja, dan polisi yang berkenaan, serta memberikan bukti kukuh untuk cabaran dalam pengangkutan baja di Malawi.

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LIST OF ABBREVIATIONS

AISP	-	Agriculture Input Subsidy Program
ADMARC	-	Agricultural Development and Marketing Corporation
ADP	-	Agricultural Development Plan
ATC	-	Agricultural Trading Company
ATCC	-	Agricultural Technology Clearing Committee
ETG	-	Export Trading Company
FFFRA	-	Fertilizer, Farm Feeds and Remedies Act
FISP	-	Farm Input Subsidy Program
FOB	-	Free On Board
ICT	-	Information Communication Technology
IMF	-	International Monetary Fund
ITS		Intelligent Transportation System
Lao PDR		Lao Peoples Democratic Republic
MBS		Malawi Bureau of Standards
MDA		Ministry, Department, and Agency
MFC		Malawi Fertilizer Company
MFRS		Malawi Fertilizer Regulatory Service
MFTS		Malawi fertilizer Trade Association
MVAC		Malawi Vulnerability Action Committee
NASFAM		National Smallholder Farmers Association of Malawi
PWC		Price Waterhouse Coopers
SAP		Structural Adjustment Program
SFFRFM		Smallholder Farmers Fertilizer Revolving Fund
VAT		Value Added Tax
WB		World Bank

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CHAPTER 1

INTRODUCTION

1.1 Background to the Study

Malawi is a South Central African nation bordered by Mozambique, to the east and south, Zambia to the west and Tanzania to the north (Refer Fig 1.1) below. It is a land locked country. Its economy is predominantly agricultural with 80% of export earnings generated from agriculture products (IFDC, 2007).

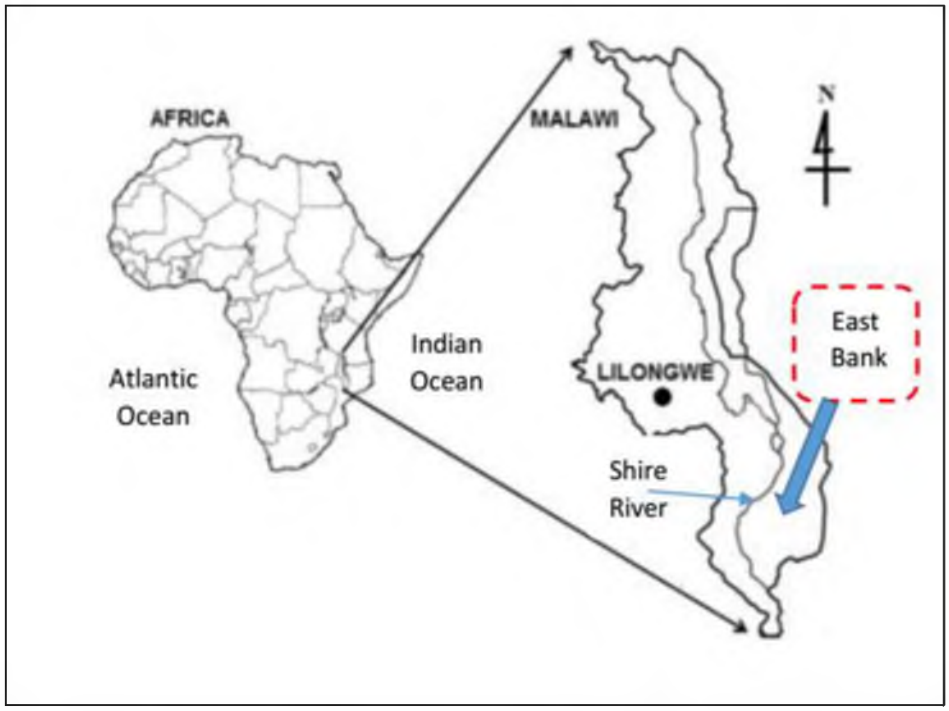

Figure 1.1 Location of Malawi in East Central Africa.

Adapted from African Journal of Environmental Science and Technology Page 348.

The Integrated Household Survey (IHS), of 2017 assessed that about 83% of the population was engaged in agricultural activities and approximately 66% of the rural poor were food insecure (NSO, 2017). But this is beside the country having a very good supply of manpower for agriculture productivity, and the yields remaining low, even in good rainfall years (Government of Malawi, 2008). This had been so, due to the high cost of fertilizer due to high freight cost, among other reasons, leaving many smallholder farmers unable to access farm inputs (Government of Malawi, 2008). This has left the country to become food insecure.

One of the affected areas was the East Bank Region which is located to the eastern side of Shire river, in the southern region of Malawi (Refer Fig. 1.1). It is an area covering Chikwawa and Nsanje districts. This region and some other areas depend on government intervention during lean periods. Figure 1.2 below, shows the hunger situation in Malawi from 2008 to 2016 as reported by Malawi Vulnerability Action Committee (Government of Malawi, 2016).

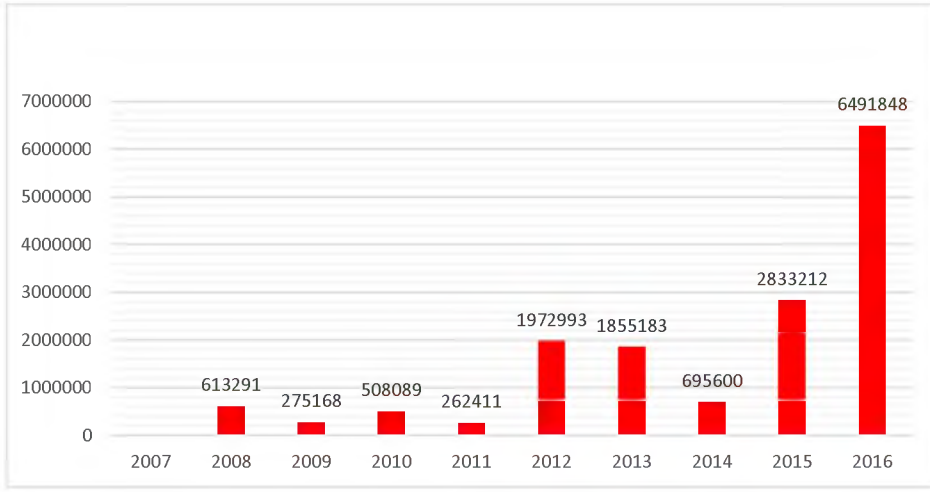

Figure 1.2: Number of people affected by food insecurity since 2008. Adapted from *MVAC* Report. (Government of Malawi, 2016).

Very few countries and regions had experienced sustained growth at a high level without growth in agricultural productivity because agriculture is a source of food security. Agriculture had been a major source of income for rural poor (Chakwizira, Nhemachena, & Mashiri, 2010) and a source of livelihood for an estimated 86% of people living in rural areas. It is also a source of growth for the national economy, generating on average, 29% of GDP and employing about 65% of the labour force (Chakwizira et al., 2010).

Agricultural production in Malawi depends on a hoe and rain as a source of water where 55% of households cannot generate any income through farming and therefore offer their labour to cultivate in other peoples fields in order to get a daily wage to buy food (Government of Malawi, 2008). In a quest of boosting agriculture productivity, Malawi Government introduced the Farm Input Subsidy Program (FISP) so as to empower the rural poor to access subsidized seed and fertilizer.

1.1.1 Farm Input Subsidy Program (FISP)

Farm input subsidy program is a government initiative aimed at improving fertilizer and hybrid seed use in maize production as a result of food security problems particularly after poor 2004/5 production season and in line with election manifesto promises (Dorward, Chirwa, & Jayne, 2011). Since its inception, the main objective of the program was increased access to cheap fertilizer and hybrid seed by poor smallholder farmers. Improved profitability of fertilizer use in maize production could be achieved by either improving the efficiency in fertilizer supply or reduction in transport costs during importation and distribution of the commodity (Dorward et al., 2011).

Over the years, FISP program had been very popular (Dorward et al., 2011) which resulted in increased maize production from 1480kg/ha to 2100kg/ha in 2013 and decreased undernourishment from 27% to 20.8% (FAO, 2017). However, over the years, people had been debating at the national level on whether FISP had been fully exploited with the policy makers exploring options to improve the effectiveness of the program further (FAO, 2017).

1.2 Problem Statement

The high cost of fertilizer left many small holder farmers unable to access fertilizer which resulted in low agricultural production in Malawi. The government of Malawi introduced the Farm Input Subsidy Program (FISP) in 2004/2005 growing season with the aim of eradicating hunger by increasing access to fertilizer use amongst smallholder farmers. But besides huge investment into this program, food insecurity situation continued to haunt the country with many smallholder farmers surviving through food handouts to take them to the next harvesting season. This had left policy makers exploring options on how to exploit the benefits of FISP.

The Malawi Agricultural Input Subsidy Program 2005/6 to 2008/9 Report highlighted challenges within the fertilizer supply chain as one factor contributing to late delivery of fertilizer and seed (Dorward et al., 2011). The report also emphasised on improving the efficiency in fertilizer supply or the reduction in transportation costs during importation and distribution of fertilizer as some of the ways of achieving profitability in fertilizer use in maize production. However, studies to achieve such abjectives have not been forth coming. And it is from that background that this investigation was conducted in the fertilizer supply chain, in order to understand the transportation challenges and proposed solutions to late fertilizer distribution in Malawi.

1.3 Research Objectives

The main objective of this project was to investigate the supply chain of fertilizer in Malawi, from the source to the end user (the farmer), with an intention of identifying performance gaps that lead to delays in deliveries, resulting to low agricultural productivity.

The following were the specific objectives of the study:

a) To investigate the fertilizer supply chain challenges in Malawi.
b) To determine transportation challenges in the distribution of FISP fertilizer.
c) To recommend solutions for effective fertilizer distribution.

1.4 Research Questions

The following were the research questions to address the above objectives:

a) How does fertilizer flow from the source to the end user in Malawi?
b) What are the transportation challenges that affect fertilizer distribution?
c) How can effective distribution of fertilizer be achieved in Malawi?

1.5 Theoretical Framework

The theoretical framework is the background to support an investigation. This theoretical framework was based on the theory from Dorward et al., 2011 which stated that Improving the efficiency in fertilizer Supply or reduction in transportation cost during importation and distribution leads to improved profitability of fertilizer use by farmers in food production. The framework (Refer Figure 1.3), was based on the identification of key concepts and relationships among the concepts in fertilizer supply chain in Malawi.

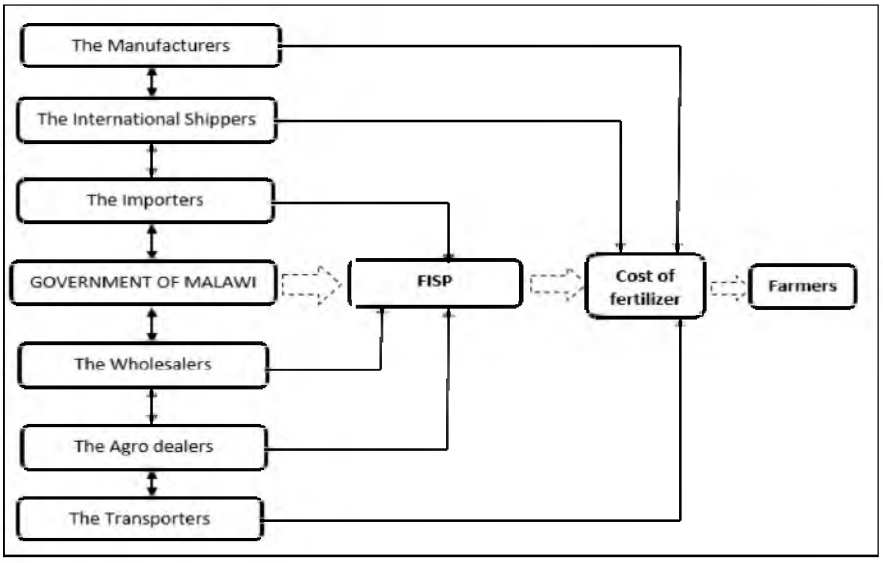

Figure 1.3 The Theoretical Framework of Fertilizer Supply chain in Malawi.

The theoretical framework above had specified manufacturers, international shippers, and transporters as having direct influence on the cost of fertilizer while Importers wholesalers and agro dealers being influenced by governments Farm Input Subsidy Program. There are also interrelationships among the variables.

1.6 Assumptions

In carrying out this research, the respondents for the study consist of:

1. Competent and knowledgeable personnel from managerial level and above in fertilizer supply chain and transportation.

2. Knowledgeable and honest traditional leaders as beneficiaries.

1.7 Scope of the study

This research focused only on the supply chain of fertilizer in Malawi with particular interest in subsidy fertilizer importation and distribution. Other related topics like raw material extraction, manufacturing and others were not covered. The interviews targeted specific managers of fertilizer importing companies while questionnaire respondents were transporters that had previous experience in the distribution of subsidy fertilizer. The farmers were represented by the traditional leader of Semba village in Traditional Authority Mbenje in Sorjin, East Bank. The interviews and questionnaire administration took place between July and August 2018.

1.8 Significance of the Study

The subsidy program is aimed at increasing agricultural productivity in Malawi. This research was significant because:

1. Problem areas had been identified requiring government intervention. This provides the government with recommendations that would improve the subsidy program further.

2. Road Freight transportation is operated by the private sector. By engaging the transporters in this research, the private sector had an opportunity to understand their role as complimenting governments initiatives through efficient transportation services.

3. The farmers being at the receiving end were provided with a platform to voice out their problems encountered through this program. This research has therefore acted as a medium of communicating their concerns to the government for redress.

1.9 Research Outline

This project had been organized into five chapters as follows:

Chapter One (Introduction): This chapter gives an overview of an introduction to the study background, the problems emanating from the fertilizer supply chain that had necessitated carrying out this project. Then the research objectives, research questions, and scope of the study were discussed. This chapter also explained the scope and why the study was significant to be undertaken.

Chapter Two (Literature review): This chapter is a premise on review of various past researchers' and scholars' postulations stated in articles, journals and textbooks, and in other print media, in order to explore the fertilizer supply chain. The institutional framework in the fertilizer industry, the farm input subsidy program and the transportation challenges are also discussed in this chapter.

Chapter three (Research Methodology): This chapter outlines the research methodology adopted in carrying out this research work. The chapter also elaborates the research design, the sampling method used, data collection instruments, and how the data was analyzed.

Chapter four (Data analysis and findings): The discussion in this chapter is based on the analysis and interpretation of data collected from interviews and questionnaires.

Chapter five (Conclusion and Recommendations): This is the concluding aspect of the study where conclusions, recommendations and suggestions had been outlined.

1.10 Conclusion

This chapter being an introductory aspect of the project, highlighted the background information and the rationale for investigating the fertilizer supply chain in Malawi. The objectives and the significance of this study had also been presented in this chapter. The chapter to follow discusses the viewpoint of various authors regarding the fertilizer supply chain and some transportation challenges as fertilizer, is an imported product into Malawi. In short, the chapter discusses the fertilizer supply chain.

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