THE IMPACT OF TRADE LIBERALIZATION ON FOOD SECURITY

IN

MOZAMBIQUE

by

LAWE LAWEKI

submitted in accordance with the requirements for
the degree of

MASTER OF ARTS

in the subject

DEVELOPMENT STUDIES

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF PDS STEWART

JANUARY 2016

DECLARATION

I, **LAWE LAWEKI**, pursuing a Master's Degree in Development Studies at UNISA, Student Number 35305010, hereby declare that this dissertation on **THE IMPACT OF TRADE LIBERALIZATION ON FOOD SECURITY IN MOZAMBIQUE** is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

Lawe Laweki *15th April 2016*

(Mr Lawe Laweki) DATE

DEDICATION

I dedicate this work to my wife, Monica, and to my three daughters, Kelia, Tchiva, and Chenice.

ACKNOWLEDGEMENTS

My thanks go to my supervisor, Professor PDS Stewart, for his professional and inspiring guidance throughout the writing of this dissertation.

My thanks also go to my research assistants who have been very helpful in gathering research material for this dissertation. I am indebted to all the households and individuals who gave me their time and stories in Kambulatsitsi area.

I am equally indebted to several friends who provided me encouragement and intellectual support. My thanks go to Afonso Macheca for his constructive criticisms and valuable comments on various aspects of the dissertation; to Abel Mabunda for his input, suggestions, and encouragement; and to Marcos Muledzera for his support and encouragement.

My special thanks go to my family, notably to my wife, Monica, and to my three daughters, Kelia, Tchiva, and Chenice, for their love, continuous support, and encouragement throughout this research study.

ABSTRACT

This study investigates the impact of trade liberalization on food security at both national and rural household levels in Mozambique.

Three periods are covered at national level: before trade reforms (1975-1986), after reforms under IMF/WB's (International Monetary Fund/World Bank's) period (1987-1994), and after reforms under IMF/WB/WTO's (World Trade Organization's) period (1995-2014).

The researcher adopted the conceptual framework developed by the FAO (2003:235) according to which a country's food security status can be influenced by diverse factors, including trade liberalization, through changes in relative prices, in quantities produced and consumed, and in trade volumes.

At national level, the evidence suggests that trade liberalization's impact on food security is both positive and negative. At rural household level, the empirical findings suggest that trade liberalization has no significant impact, either positive or negative, on households' food security due mainly to poor infrastructure, households' high dependence on subsistence farming and their lack of purchasing power.

KEY TERMS

Agricultural trade liberalization, food security, droughts, coping strategies, International Monetary Fund, World Bank, World Trade Organization, Multinational Corporations, Kambulatsitsi, Mozambique.

LIST OF CONTENTS

CHAPTER 1: INTRODUCTION TO THE STUDY

CHAPTER 2: CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

CHAPTER 3: AGRICULTURAL TRADE LIBERALIZATION REFORMS AND FOOD SECURITY IN MOZAMBIQUE

CHAPTER 4: RESEARCH DESIGN AND METHODOLODY

CHAPTER 5: FINDINGS AND DISCUSSIONS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF BOXES

LIST OF EXHIBITS

LIST OF ABBREVIATIONS

Abbreviations	Portuguese	English
AIDS		Acquired Immunodeficiency Syndrome
AoA		Agreement on Agriculture
CAADP		Comprehensive Africa Agriculture development Plan
CNPS	Comissão Nacional de Preços e Salários	National Commission of Prices and Wages
DES		Dietary Energy Supply
DPCCN	Departamento de Prevenção e Combate às Calamidades Naturais	Department for the Prevention and Combat of Natural Disasters
DUAT	Direito de Uso e Aproveitamento de Terra	The Right to Use of Land
EU		European Union
FAO		Food and Agriculture Organization of the United Nations
FANTA		Food and Nutrition Technical Assistance
FRELIMO	Frente de Libertação de Moçambique	Mozambique Liberation Front
Frelimo	Partido de Frente de Libertação de Moçambique	Mozambique Liberation Front Party
GATT		General Agreement on Tariffs and Trade
GDP		Gross Domestic Product
HDI		Human Development Index
HFIAS		Household Food Insecurity Access Scale
HIPC		Highly Indebted Poor Countries
HFSSM		Household Food Security Supplemental Module
IBRD		International Bank for Reconstruction and Development
IFIs		International Financial Institutions
IMF		International Monetary Fund
INGC		National Disaster Management Institute
LDC		Least Developed Country
MANU		Mozambique African National Union
MDGs		Millennium Development Goals

MDS		Millennium Development Summit
MFN		Most-Favored-Nation
MNCs		Multi National Corporations
MNR		Mozambique National Resistance Movement
MOZAL		Mozambique's Aluminium
NEPAD		New Partnership for Africa's Development
NGO		Nongovernmental Organization
ODI		Overseas Development Institute
OECD		Organization for Economic Co-operation and Development
OLAM		OLAM Cotton Company Mozambique
PAPA	Plano de Acção da Produção Agrícola	Plan of Action for the Production of Food
PARP	Plano de Acção para a Redução da Pobreza	Action Plan for the Reduction of Poverty
PARPA	Plano de Acção para Redução da Pobreza Absoluta	Plan of Action for the Reduction of Absolute Poverty
PEDSA	Plano Estratégico de Desenvolvimento do Sector Agrário	Strategic Plan for Development of the Agricultural Sector
PWC		Post-Washington Consensus
PRE	Program de Rehabilitação Económica	Economic Rehabilitation Program
PROAGRI	Programa Nacional de Desenvolvimento Agrário	National Agricultural Development Program
PRSP		Poverty Reduction Strategy Papers
PSI		Policy Support Instrument
ReSAKSS-SA		Regional Strategic Analysis and Knowledge Support System – Southern Africa
SADC		Southern African Development Community
SAP		Structural Adjustment Program
SEMOC	Sementes de Mocambique, Lda	Mozambique Seeds' Company, Ltd
SSA		Sub Saharan African Countries
UDENAMO	União Democrática Nacional de Moçambique	National Democratic Union of Mozambique
UNAMI	União Nacional de Moçambique Independente	National African Union of Independent Mozambique
UNDP		United Nations Development Program
USA		United States of America
USDA		United States Department of Agriculture

USAID		United States Agency for International Development
VAC		Vulnerability Assessment Committee
WHO		World Health Organization
WFP		World Food Program
WFS		World Food Summit
WHO		World Health Organization
WTO		World Trade Organization

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 INTRODUCTION

The current study investigates the impact of trade liberalization on food security in Mozambique. Given the understanding that trade liberalization is an economy-wide phenomenon and considering the fact that the majority of people in Mozambique, constituting about 70 percent, live in rural areas where they rely on agriculture and food production for their income and livelihood, the investigation is carried out at both national and rural household levels.

Three periods are covered at national level: the period before trade liberalization reforms under the Frelimo government's socialist ideology (1975-1986); the period after trade reforms under the International Monetary Fund (IMF) and the World Bank's (WB) Structural Adjustment Programs (SAPs) (1987-1994); and the period of increased trade liberalization under the IMF, the World Bank, and the World Trade Organization's (WTO's) (1995-2014) guidance. At rural level, two periods are covered: the period before trade reforms (1975-1986) and the period after trade reforms (1987-2010).

In analyzing the relationship between trade liberalization and food security, the researcher adopted the conceptual framework developed by the FAO (2003:235-256). According to this framework, a country's food security status can be affected by diverse factors (causal factors) which can be both internal and external to the country. These causal factors, which include trade liberalization, influence food security through changes in relative prices, in the quantities produced and consumed, and in the trade volumes (intermediate effects). The intermediate effects, in turn, will change the production and consumption decisions of farmers and consumers, thus impacting on the performance of the agricultural sector and eventually on the food security situation of the country as a whole (outcomes).

This introductory Chapter presents background information on the impact of trade liberalization on food security in Mozambique. It identifies and discusses the research problem, its objectives, importance, and limitations. It further discusses the methodology used to address the research problem and concludes with a summary of the remaining Chapters.

1.2 RESEARCH BACKGROUND AND PROBLEM

The discussion of the research background and problem below provides and justifies steps for investigating the impact of trade liberalization on food security.

1.2.1 Background to the Study

The 1970s and the early 80s were years of strong state interventionism and protectionism in developing countries. The interventionism aimed at protecting these countries' industrial and agricultural sectors from foreign competition. In the agricultural sector, measures to guarantee protectionism included the imposition of tariffs and non-tariff barriers, import and export taxes, anti-dumping measures, state trading enterprises, and the subsidization of seeds and fertilizers.

From the mid 1980s, however, under the influence of IMF/WB's SAPs, these measures were replaced by trade liberalization reforms. The arguments advanced for promoting trade reforms were that trade openness contributes to economic growth which reduces poverty thus improving food security (Bezuneh and Yiheyis 2014:1).

Thirty years have passed since trade liberalization reforms have been imposed on developing countries. Despite overall progress in efforts to eradicate food insecurity, about 795 million people, over one in every nine people, were still undernourished in the world in the period 2014-16. A total of 780 million of these people live in developing countries. The highest presence of undernourishment and underweight children aged less than five years is found in Sub-Saharan African (SSA) countries. In this region, the prevalence of undernourishment stood

at 23.2 percent and that of underweight children stood at 21.1 percent in the period 2014-16 (FAO, IFAD and WFP 2015:12-25).

Critics argue that the IMF/WB's trade liberalization reforms and the WTO's AoA commitments negatively affect food production in developing countries, particularly in SSA countries, thereby contributing to food insecurity. According to them, developed countries are still allowed to spend large sums of money on export subsidies while developing countries cannot. What is more, by opening up their economies to food imports from developed countries, developing countries are harmed by "imports whose prices are depressed because of export subsidies" (WTO 2016:2).

Being unable to compete with an influx of cheap food imports, small farmers in developing countries have been forced to abandon farming activity or to take up export crops' production at the expense of local food production and food security. A study by Gonzalez (2007:1) reveals how Mexican farmers have experienced a 70-percent decline in real corn prices since 1994 as a consequence of the influx of cheap subsidized corn from the United States. According to the above author, finding that the sale of the corn they produced could not compete with the price of the U.S. corn, many Mexican farmers who relied on food production for their income and livelihood have given up farming in Mexico.

Another study by Madeley (2000:1–2), covering 27 case studies, looked at trade liberalization under the IMF/WB's SAPs, the WTO's AoA, and under regional free trade agreements. A key conclusion this author reached is that the overall impact of agricultural trade liberalization reforms on food security is negative. According to him, under SAPs and the AoA, developing countries have been obliged to open up their economies to cheap subsidized food imports from developed countries, thus forcing local farmers to reduce production as they are unable to compete.

1.2.2 Statement of the Problem

Under the IMF/WB's guidance since 1987 and under the WTO since 1995, Mozambique has implemented a committed program of trade liberalization reforms with a view to improving its

food security situation. Although classified as one of the world's fastest growing economies, with GDP growth rate averaging 7 percent over the last two decades, Mozambique continues to experience food shortages in different areas. The prevalence of undernourishment stood at 25.3 percent in 2014-16, below the average level of 23.2 percent for SSA countries. In 2014, the UN's Human Development Index (HID) report ranked Mozambique 178th out of 187 countries and the 2015 report ranked the country 180th out of 188 countries. Mozambique's HDI is below the average for countries in the low human development group and for SSA countries (UNDP 2015:2).

The persistence of food crisis on a planet that produces more than enough food for everyone as well as the persistence of food crisis in Mozambique, a country with high economic growth and endowed with agriculturally productive land , indicates a problem that requires investigation.

This study aims at investigating the impact of trade liberalization on food security in Mozambique. A review of the existing scholarship indicates insufficient research on the subject. This study, using quantitative and qualitative data obtained at both national and rural household levels, is aimed at filling this lacuna.

1.3 DEFINITION OF KEY TERMS OF THE STUDY

This section clarifies key concepts used in this study.

1.3.1 Agricultural Trade Liberalization Reforms

Agricultural trade liberalization reforms are defined, for the purpose of this study, as IMF/WB/WTO's trade liberalization reforms requiring governments, notably in developing countries, to remove or to reduce restrictions or barriers on the free exchange of goods between nations. These trade liberalization measures include removing or reducing both tariff (duties and surcharges) and non-tariff barriers (licensing rules, quotas and other requirements) (Bezuneh and Yiheyis 2014:64).

1.3.2 Cash Crops

Cash crops in this study refer to crops grown for sale rather than for subsistence.

1.3.3 Cheap subsidized food imports

Cheap subsidized food imports refer to the importation of subsidized food commodities which disrupt the prices of locally produced commodities.

1.3.4 Dietary Energy Supply (DES)

DES refers to food available for human consumption expressed in kilocalories per person per day (kcal/person/day) (FAO, IFAD and WFP 2015:53).

1.3.5 Food dumping

Food dumping refers to the selling of surplus agricultural products at low prices or below their cost of production, thus creating disincentive to small domestic producers who are unable to compete.

1.3.6 Food Security

Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutrious food that meets their dietary needs and food preferences for an active and healthy life (FAO, IFAD and WFP 2015:53)

1.3.7 Food Insecurity

Food insecurity exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life (FAO, IFAD and WFP 2015:53)

1.3.8 Headcount Ratio

Headcount ratio refers to the population living below $1.25 a day at 2005 international prices (World Bank 2015:1).

1.3.9 Poverty Reduction Strategy Papers (PRSPs)

PRSPs are defined as documents which describe a country's macroeconomic, structural, and social policies and programs with a view to promoting growth and reducing poverty (Stiglitz and Charlton 2005: xxiv).

1.3.10 Structural Adjustment Programmes (SAPs)

SAPs are defined as economic policies which were imposed on developing countries by the World Bank and the IMF since the early 1980s to enable these countries to qualify for loans. The adoption of such policies included the removal of excess government controls and the promotion of market competition as part of the neo-liberal agenda (Ng'ambi 2009:49).

1.3.11 Stunting

Stunting refers to low height for age as a result of episodes of sustained under-nutrition (FAO, IFAD and WFP 2015:53).

1.3.12 Undernourishment

Undernourishment is a state of inability to acquire enough food lasting for at least one year. FAO defines hunger as being synonymous with chronic undernourishment (FAO, IFAD and WFP 2015:53).

1.3.13 Underweight

Underweight refers to low weight for age in children (FAO, IFAD and WFP 2015:53).

1.3.14 Wasting

Wasting refers to low weight for height as a result of weight loss associated with a period of starvation or disease (FAO, IFAD and WFP 2015:53).

1.4 RESEARCH OBJECTIVES

The main objective of this study is to investigate the impact of trade liberalization on food security in Mozambique. The specific objectives of the research are:

- to provide an analysis of food security and IMF/WB/WTO's trade liberalization reforms from an international perspective;
- to provide an analysis of food security and IMF/WB/WTO's trade liberalization reforms from Mozambique's perspective;
- to identify and analyze food insecurity and its prevailing causes in Mozambique; and
- to evaluate the impact on food security of IMF/WB/WTO's trade liberalization reforms at rural household level in Mozambique's Kambulatsitsi area.

1.4.1 Motivation for Selecting Study Field

With the intensification of globalization, countries worldwide have become actively involved in reducing their trade barriers. Despite the shift towards closer economies, there has been preoccupation in certain circles over the impact of trade liberalization on food security in developing countries, particularly in SSA countries.

In order to understand how and to what extent trade liberalization impacts on food security in Mozambique, the study is carried out at both national and rural household levels in the country. The investigation at the rural household level is relevant given the fact that the majority of people in Mozambique, about 70 percent, live in rural areas where they mainly rely on agriculture (food production and consumption) for their income and livelihood.

At the rural household level, the researcher chose to conduct the study in Kambulatsitsi area, in Moatize District, Tete Province, in northwestern part of central Mozambique. The people in Kambulatsitsi area experience food crisis on constant basis. Very often, they use coping strategies to avoid dying of hunger. For this reason, the area was chosen for the study.

There were other reasons why the area was chosen: Its proximity to neighboring Malawi. As referred to in the conceptual framework developed by the FAO (2003:239) for analyzing the relationship between trade liberalization and food security, fully implemented reforms which liberalize the economy or increase its openness are expected to improve price transmission from "border to producer" thus inducing him or her (the producer) to respond. What is more, small-scale producers in Kambulatsitsi area are known to rely on production of cash crops for export. There is evidence that a reliance on the production of crops for sale can negatively or positively affect the food security and incomes of rural households. Finally, for being a native of the area, the researcher is familiar with the location, with the ethnic languages spoken there, and with the food security difficulties the people in the area face.

By investigating the impact of trade liberalization on food security at national and rural household levels in Mozambique, the researcher hopes to generate further knowledge that will contribute to the existing body of research, thus enabling policy makers and government authorities to formulate policies that will improve the food security and welfare situation of the people in the country.

1.5 SCOPE AND LIMITATIONS OF STUDY

As revealed at the beginning of this Chapter, given the understanding that trade liberalization is an economy-wide phenomenon and considering the fact that the majority of people in Mozambique live in rural areas where they rely on agriculture and food production for their income and livelihood, the scope of this study incorporates both national and rural household levels.

The methodological approach used to assess the impact of agricultural trade liberalization reforms on food security is based on *ex post* approach which deals with the impact of a certain reform implemented in the past. This approach has the disadvantage of diverse factors, other than trade liberalization reforms, impacting on food security, thus making it difficult to isolate the

effects associated with trade liberalization reforms from other influences (McCorriston, Hemming, Lamontagne-Godwin, Osborn, Parr, and Roberts 2013:2-4).

In studying the impact of trade liberalization on food security at the international and national levels, the researcher relied on the results obtained from macroeconomic indicators, agricultural sector, and food security indicators using the before and after (trade liberalization reforms) approach, without the use of econometric validation.

At the national level, the study omits interviews with top government and international organizations' officials. The study relies on FAO, FAOSTAT and World Bank data as a primary source of secondary data to provide robust statistical data that will demonstrate how and to what extent trade liberalization impacts on food security in Mozambique, leaving aside detailed analysis on IMF/WB's politics of trade liberalization and institutional intervention.

At the rural level, the timing of the fieldwork did not take into consideration the seasonal calendar. The field research study and the observations' study carried out by the researcher in Kambulatsitsi area from 12th to 17th December 2010 and from 3rd to 5th October 2013, respectively, were carried out during a lean (hunger) season when the area is food insecure. As demonstrated in the red block in exhibit 5.1, page 134, the lean season which extends from October to April is the period when households' food security is most vulnerable.

The lack of public transportation in Kambulatsitsi area and the rainy season, under which the field research study was conducted, did not facilitate interviewers' movements to distant localities of Kambulatsitsi area. Only one motorcycle and a few bicycles could be hired, thus hindering interviewers' movement to farther localities of Kambulatsitsi area.

As the field research study was carried out in one specific area of Mozambique, namely Kambulatsitsi area, the results obtained there, although they may relate to some parts of the country, may not necessarily relate to the whole of Mozambique.

Given the fact that the targetted interviewed population in Kambulatsitsi area involved people with mainly low levels of education and literacy, the researcher opted for posing simple and easy to understand questions which were first translated into Portuguese and then translated into Nyungwe and Sena vernacular languages by research assistants.

Notwithstanding these limitations and difficulties, the researcher believes the study, resulting from a combination of both national literature study and rural field research study, brings up useful information that constitutes a significant addition to existing knowledge on the impact of trade liberalization on food security in Mozambique.

1.6 BRIEF DESCRIPTION OF THE RESEARCH METHOD

The researcher used a literature review to understand the impact of trade liberalization on food security at national level and a field research study, involving a household survey, focus group discussions, and observations to understand the impact of trade liberalization reforms on food security at rural household level.

1.6.1 Research Methodology

In order to get a better understanding of the relationship between trade liberalization and food security in Mozambique, the researcher adopted the methodological framework developed by the FAO (2003:235-256) which identifies three channels through which trade affects food security: relative prices, the quantities produced and consumed, and trade volumes. At rural household level, the researcher formulated questionnaires to measure household food security adopting Madziakapita's questionnaires; household food insecurity based on FANTA's HFIAS (Household Food Insecurity Access Scale); and the impact of trade liberalization on food security adopting the conceptual framework developed by the FAO (2003:235-256).

1.6.2 Sample Design and Sampling methods

The field research study was conducted in different localities of Kambulatsitsi area using probability sampling to guarantee that every household member had an equal chance of being included in the sample.

1.6.3 Data Collection Techniques

Data for the study were obtained from secondary and primary sources. At national level, secondary data were mainly obtained from FAO, FAOSTAT, and World Bank statistical data supplemented with data generated through extensive literature reviews, including information obtained from published and unpublished sources, such as books, magazine articles, newspapers, media reports, and internet. At the rural household level, primary data for the study were obtained through a household survey, personal interviews, focus group discussions, and observations.

1.6.4 Data Analysis and Interpretation

The data obtained from the secondary and primary sources were analyzed and interpreted and, based on the obtained results, conclusions were drawn regarding the impact trade liberalization has on food security in Mozambique.

1.7 CHAPTER LAYOUT

This section presents a summary of the contents of each chapter of the dissertation. The dissertation begins with Chapter 1 as an Introductory Chapter on the "Impact of Trade Liberalization on Food Security in Mozambique". Chapter 1 is followed by Chapter 2 which presents an overview of the FAO's Conceptual Framework followed by a discussion of the

literature related to agricultural trade liberalization and food security. Chapter 3 concentrates on trade liberalization and food security at Mozambique's level. Chapter 4 discusses research design and methodology, notably the secondary and primary methods used to address the research problem and information on Kambulatsitsi area. Chapter 5 presents, analyzes, and discusses data gathered at the rural household level. Finally Chapter 6 presents concluding remarks and recommendations.

1.8 CONCLUSION

Chapter 1 presented the background to the study of trade liberalization reforms on food security in Mozambique. It identified and discussed the research problem, as well as the importance, objectives, limitations, and structure of the study. It identified and briefly explained the methodology to be used in the research problem. In conclusion, it provided a summary of the remaining Chapters. The following Chapter 2 will provide the conceptual framework and the literature related to this study.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

2.1 INTRODUCTION

Chapter two builds on from Chapter one above which sets the stage for the discussion of trade liberalization and the impact it may have on food security.

The first section of this Chapter discusses the conceptual framework developed by the FAO through which the relationship between trade liberalization and food security can be interpreted.

The second section discusses trade liberalization. It presents and examines theories on trade liberalization, the origins of the debt crisis, the IMF/WB's Influence on trade liberalization, and WTO's influence on trade liberalization. The section concludes by presenting the arguments for and against trade liberalization reforms.

The third section of this Chapter discusses food security. It analyzes the various dimensions of food security as well as food insecurity and its causes.

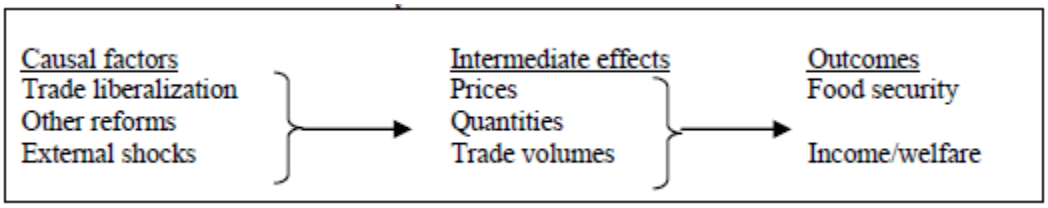
The fourth section assesses the impact of trade liberalization on food security in the world.

The chapter concludes with an overview of the main conclusions reached from reviewed literature.

2.2 CONCEPTUAL FRAMEWORK

FAO (2003:235-256) has developed a conceptual framework to help researchers interpret studies dealing with the relationship between trade liberalization and food security. The framework, as depicted in Fig 2.1, shows that the food security status of a country is affected by a set of factors (causal factors) which include trade liberalization reforms, other reforms, and external shocks. These causal factors will influence food security through changes in prices, changes in the quantities produced and consumed, and changes in trade volumes (intermediate effects). In turn, the intermediate effects will determine the final results (outcomes) in terms of changes in food security and income/welfare status.

Figure 2.1 depicts a simple analytical framework for linking trade reforms and food security



Source: FAO (2003:235) ftp://ftp.fao.org/docrep/fao.org [Accessed on 27 March 2015].

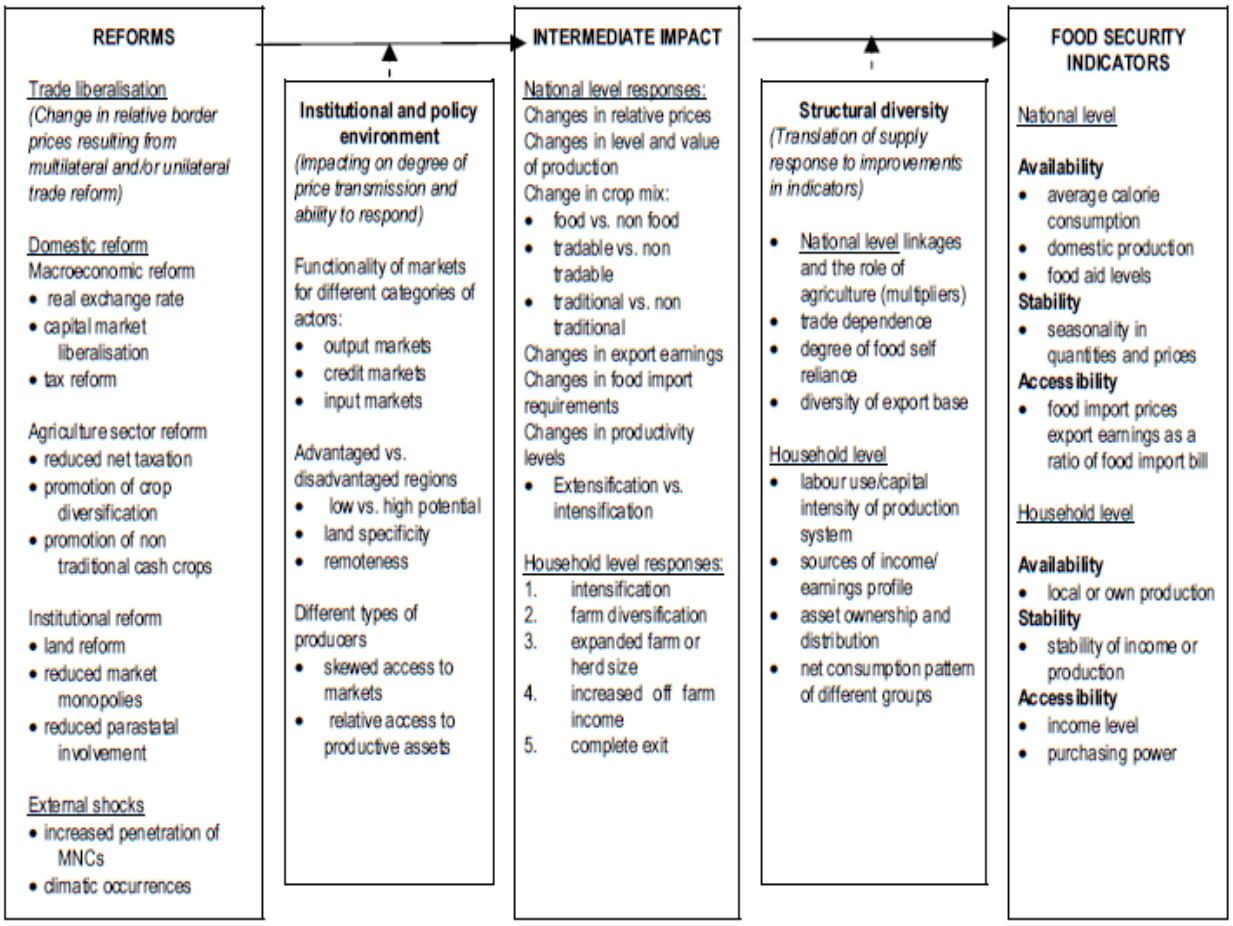
2.2.1 Causal Factors

A country's food security status can be affected by diverse factors other than trade liberalization reforms. These factors can be both internal and external to the country. Thus, in Column 1, fig. 2.2, while the focus is on the impact of trade liberalization reforms, examples of reforms in the agriculture sector as well as reforms external to the sector but which influence incentives within it, such as institutional reforms and external shocks, are equally listed.

According to the FAO (2003:239), any attempt to assess the impact of trade reforms on food security must take into account the existing policy and institutional environment, the agro-climatic constraints, as well as the level of physical and human capital as all the above will influence the extent to which reforms will cause a change in the intermediate indicators.

Column 2 reflects a set of parameters, such as institutional and policy environment, which can modify the transmission of prices to producers as well as the ability to respond to any price changes. Fully implemented reforms which liberalize the economy or increase its openness are expected to improve price transmission from border to producer as well as the ability of producers to respond (FAO 2003: 239).

Fig. 2.2 A conceptual framework for analyzing the impact of reform on food security



Source: FAO (2003:237) ftp://ftp.fao.org/docrep/fao.org [Accessed on 27 March 2015].

2.2.2 Intermediate Factors

According to McCorriston et al. (2013:15), the focus in the intermediate column is on how agricultural reforms and other policies can impact directly on the availability and consumption of food. Thus, in column 3, changes effected in the agricultural sector at the national level are: changes in relative prices, changes in level and value of production, change in crop mix, changes in export earnings, changes in food import requirements, and change in productivity levels.

At the household level, they can take the form of changes in intensification of existing production patterns, farm diversification (production and processing), expanded farm or herd size, increased off farm income, and complete exit from agriculture (FAO 2003: 243).

2.2.3 Outcomes

Column 5 provides examples of indicators of food security that will be affected by changes in agricultural sector performance as a result of the reforms. At national level, for "availability" dimension, these indicators relate to average calorie consumption, domestic production, and food aid levels; for "stability" dimension, they relate to seasonality in quantities and prices; and for "accessibility" dimension, they relate to food import prices and export earnings as a ratio of food import bill. At the household level, the indicators in availability dimension relate to local or own production; in stability dimension, they relate to stability of income or production; and in accessibility dimension, they relate to income level and purchasing power.

Section 2.2 presented an outline of the conceptual framework developed by the FAO (2003:235-256) for analyzing the impact of trade reforms on food security. According to the framework, the food security status of a country is affected by a set of factors (causal factors). These causal factors, including trade liberalization, will influence food security through changes in prices, in the quantities produced and consumed, and in trade volumes (intermediate effects). In turn, the intermediate effects will determine the final results (outcomes) in terms of changes in food security status.

2.3 TRADE LIBERALIZATION REFORMS

The question of how trade liberalization reforms were introduced by the key Bretton Woods' institutions, namely the IMF and the World Bank, cannot be adequately answered without first analyzing trade theories which back up these reforms and factors which motivated them.

2.3.1 Theories on Trade Liberalization

Adam Smith, often viewed as the "father" of modern economics, was the first to formulate a systematic and comprehensive case for free trade in the history of economic thought (Thirlwall 1999:82). In his book entitled "An Inquiry into the Nature and Causes of the Wealth of Nations" published in 1776, Smith developed the "Absolute Advantage" theory. By so doing, he countered "Mercantilism" which was the dominant economic philosophy at that period. Under "Mercantilism", it was believed that for a country to increase its wealth it needed to protect its markets by encouraging exports and discouraging imports.

Inspired by Adam Smith, David Ricardo developed the "Comparative Advantage" theory in his book entitled "Principles of Political Economy and Taxation" in 1817. In contrast to Adam Smith's Absolute Advantage theory, Ricardo viewed his Comparative Advantage theory as being determined by labor productivity ratios (Hart-Landsberg 2006:2). For Ricardo, Smith's Absolute Advantage theory fails to explain what happens if a country has no absolute advantage in producing anything. Ricardo's Comparative Advantage theory argues that, even if a country is better at producing all possible products when compared to another country, it is in that country's interest to specialize in producing the goods at which it is best, while the latter country should produce those products at which it is comparatively best (Wouters and De Meester 2007:2). Ricardo's theory further argues that there are differences in productivity and opportunity costs of production between countries. Such differences which may occur for various reasons, like climatic factors and natural resources, form the underlying reasons why it is advantageous for countries to trade (FAO 2003:32).

Ricardo's Comparative Advantage theory has, however, been criticized for its many unrealistic assumptions: the theory assumes full employment of resources, that is, that everyone is working and that natural resources are fully utilized. It equally assumes that all products are freely traded worldwide and all countries gain from free trade. Yet, it is a well known fact that in the real world that is unrealistic. According to Madeley (1996:6), protectionism is still in force and takes several forms. Other critics argue that the theory is based on two country-two commodity model, ignoring the fact that the world is made up of many countries, producing different kinds of commodities, and using different factors of production (Prasch 1996:3).

In the face of Ricardo theory's shortcomings, mainstream economists developed refinements to it. The most important refinement is the Heckscher-Ohlin-Samuelson (HOS) theory developed by Eli Heckscher and Bertil Ohlin, with contributions from Paul Samuelson. The HOS theory which explains the modern approach to international trade essentially argues that relative factor endowments of countries are different and these differences determine a country's comparative advantage. A country will export that commodity which uses intensively its abundant factor and import the commodity which uses intensively its scarce factor (Nordström 2007:6). For Colman and Nixson (1986:143), in this theory, the opportunity for mutually beneficial trade derives from inter-country differences in factor endowment, leading to the understanding that poor countries, notably those with abundant labor, should specialize in producing and trading labor-intensive goods, while richer countries, with relatively scarce labor and abundant capital, should specialize in capital intensive goods.

Section 2.3.1 examined trade theories which back up trade liberalization reforms. These theories include the Adam Smith's Absolute Advantage theory, David Ricardo's Comparative Advantage theory, and the HOS theory developed by Eli Heckscher and Bertil Ohlin, with contributions from Paul Samuelson.

2.3.2 Motivation for Trade Liberalization Reforms

The period from the 1950s to the 1970s witnessed an interventionist role for the state. The objective was to accelerate the development process through rapid industrialization. According to Haines (2003:4-11), this period until 1973 was dominated by the "Keynesian Economics" which advocated a mixed economy, requiring a large role for the government and the public sector, thus reinforcing the socialist view that *laissez-faire* capitalism was unstable and, as such, needed to be controlled. Developing countries established high tariff measures to protect their national industries; relied on cash crops' production for export; provided subsidies on agricultural inputs, such as fertilizers; and created state-owned marketing boards to buy, store and sell agricultural commodities as well as to control prices (Bertow and Schultheis 2007:6).

However, the end of 1970s saw the declining influence of Keynesian Economics and the resurgence of Neoclassical Economics (Neo-liberalism) which stressed the role of the market, at a period when the world economic system was characterized by unemployment, stagflation, fiscal crises, the devaluation of the American currency, the Middle East oil crisis, and the fall in prices of raw agricultural products supplied by developing countries at the world market, thus resulting in these countries' trade deficits and high levels of indebtedness (Haines 2003:11 and Ng'ambi 2009:49).

Conservatively-minded Ronald Reagan of the United States and Margaret Thatcher of Great Britain are known to have ushered in a period that rejected Keynesian Economics and espoused Neo-liberalism (Haines 2003:11). Margaret Thatcher became Prime Minister of Great Britain in the 1980s with a mandate to reverse Britain's economic decline while Ronald Reagan who was President of the United States, between 1981 and 1989, focused on a range of decisions aimed at liberalizing the American economy.

The resurgence of Neo-liberalism which is characterized by "strong private property rights, free markets, and free trade" (Harvey 2005:2-29), strongly influenced the policies of the IMF and the World Bank. The World Bank shifted from its Basic Needs approach "to one directly informed by a neoclassical agenda". It worked jointly with the IMF in providing loans to beleaguered

developing countries on condition that they prescribed to their neo-classic system. In response to the mounting debt crisis, the two institutions introduced SAPs which forced developing countries to slash subsidies, to lower tariffs, to eliminate non-tariff import barriers, to cut public spending, to raise interest rates, and to open up their economies to foreign business and trade (Haines 2000:48-49).

For Cornwell (2000:252-253), however, the developing countries' debt crisis of the 1980s which had its origins in the quadrupling of oil prices by OPEC (Organization of Petroleum Exporting Countries) was the main motivating factor for the introduction of IMF/WB's SAPs, enabling the two institutions to exert heavy influence over developing countries. The increases in price of crude oil enabled oil producing countries to deposit their profits in Western banks. To earn interest, these Western banks lent the "petrodollars" to developing countries which were desperate for loans to deal with increased oil costs.

However, to repay their debts, developing countries relied on their export commodities to earn foreign currency, such as the US dollar or the Japanese yen. With most developing countries relying on one or two primary commodities, such as cotton or coffee, for their exports to earn foreign exchange, the period of high prices' increases coincided with a sharp decline in world market prices for primary commodities. Zambia which relied on a single commodity, namely copper, to earn foreign exchange is a clear example of a developing country that incurred heavy debt at a period of high oil prices' increases and a sharp decline in export commodities (Cornwell 2000:253-254).

Section 2.3.2 described events which led to the declining influence of Keynesian Economics and the resurgence of Neoclassical Economics (Neo-liberalism). It views developing countries' huge debt and high oil prices' increases as the principal factors that forced developing countries to borrow more money from Western banks, thus becoming heavily indebted to them. Unable to service their loans, these countries resorted to the IMF and to the World Bank which, in turn, linked further concessional lending to SAPs' policies which included the removal of excess government controls and the promotion of market competition, thus exerting heavy influence over them.

2.3.3 IMF/WB's Influence on Agricultural Trade Liberalization

Under SAPs, developing countries' governments were forced to embark on trade liberalization reforms. According to Bertow and Schultheis (2007: 10), agricultural trade liberalization reforms included the dismantling of state-owned marketing boards, the reduction of import tariffs, the liberalization of output prices in line with world market prices, the reduction of government intervention in the market, including the removal of subsidies for all crops and commodities, the liberalization of exchange rate, and the promotion of export-led growth, in combination with the diversification of production to promote non-traditional exports.

The arguments advanced by the IMF and the World Bank for introducing SAPs were that the deteriorating conditions in developing countries were caused by widespread and excessive government interventionism and protectionism in the economy. By reducing overspending in the public sector, by removing direct controls and subsidies, and by letting the free market to take over economic relations, these institutions argued, the benefits of these austerity measures would enable the economy to cope with future external shocks, thus creating a more efficient mechanism to meet the people's basic needs (Cornwell's 2002:103).

With the introduction of SAPs, domestic agriculture in developing countries became more market oriented. By ending excessive interventionism, many developing governments reduced inflation, cut budget deficits, and improved their balance of payments. Despite these gains, critics argue, however, that, with SAPs, many developing countries experienced absence of growth as well as an absence of the promised "trickle-down" effects. Bertow and Schultheis (2007:16) reveal that in the case of Zambia, for instance, many farmers were left worse off as they had limited access to credit and could not afford to buy fertilizers following the elimination of subsidies. According to the above authors, the Zambian Government experienced a decline of over 50 percent in revenue after the reduction of tariffs on imports.

Khor (2006:9), in turn, who investigated the effects of import liberalization on rice, tomato and poultry sectors in Ghana, reveals that rice production in that country declined sharply leading to a growing import of cheaper subsidized American rice. The decline of the local rice industry

resulted in loss of employment and income. As for the tomato sector, with the collapse of two important tomato canning factories in that country, the demand for locally produced tomatoes reduced sharply thus increasing the importation of tomato paste into Ghana from 3,209 tonnes in 1998 to 24,077 tonnes in 2002. In the field of poultry, there has been a significant increase in imported frozen chicken parts, mainly from the EU and the United States. For Khor (2006:10), despite facing unfair competition from subsidized products of rich countries, Ghana cannot protect itself by raising its applied tariffs as it is disallowed from so doing by "international financial institutions on which the country depends on loans".

Thus, IMF/WB's SAPs faced increased protests worldwide. Prominent voices inside the IMF/WB's institutions themselves also began to question SAPs' effectiveness. Towards the end of the 1990s, the IMF and the World Bank reluctantly acknowledged that SAPs had failed. The Nobel Prize winning economist, Joseph Stiglitz, who was World Bank's chief economist during the Asian crisis, played an important role in the gradual shift from the Washington Consensus to the Post-Washington Consensus (PWC) (Ruckert 2007:7 and FAO 2010:4).

In September 1999, the IMF and the World Bank introduced the Highly Indebted Poor Countries (HIPC) Debt Relief Initiative. To ensure that debt relief under the HIPC Initiative had a significant poverty reduction impact, poor countries' governments were urged to produce PRSPs, viewed as documents describing a country's macroeconomic, structural, and social policies and programs with a view to promoting growth and reducing poverty. According to the IMF/WB's advocates, the PRSPs represented a progressive move towards domestic participation and home-grown development strategies. They were expected to be prepared by governments through a participatory process that involved the civil society and development partners, notably the IMF and the World Bank (Stiglitz and Charlton 2005: xxiv).

Section 2.3.3 explained how, by using developing countries' debt as leverage to maintain control, the IMF and the World Bank influenced the path of trade liberalization. Arguing that government interventionism hindered developing countries' development, the two institutions forced developing countries to dismantle marketing boards, to remove subsidies, and to promote export-led growth. Amid growing protests worldwide, SAPs were replaced by the PRSPs.

2.3.4 WTO's Influence on Agricultural Trade Liberalization

The WTO, an organization designed to supervise and liberalize international trade, was established on 1 January 1995, under the Marrakech Agreement, to replace GATT (WTO 2015:9). The WTO influences agricultural trade liberalization through its Agreement on Agriculture (AoA) provisions which also came into effect in 1995:

2.3.4.1 The Three AoA's Pillars

The AoA has three pillars which are domestic support, market access, and export subsidies. "Market access" envisages that WTO member countries should reduce fixed tariff measures and transform nontariff measures into fixed tariffs that can then be reduced so that more imported products can enter a member country, thus competing with domestic products (Posner 2001:6).

"Domestic support", according to Madeley (1996:135), aims at reducing trade-distorting support that governments provide to farmers for specific agricultural products, agricultural infrastructure and research. It means that governments paying, for example, subsidies to their farmers to produce food, should reduce or end that support. Domestic support measures are classified into three categories, known as the Amber, Blue, and Green Boxes, depending on their trade-distorting impact. The Amber Box contains subsidies, such as input subsidies and price support, which significantly distort trade and therefore must be reduced; the Blue Box measures allow countries unlimited spending for programs that limit the amount of production and are exempt from reduction discipline; and the Green Box measures, viewed as having no effect on production, such as support for research and marketing assistance, are not subject to reduction discipline.

The category of "export subsidies", in turn, establishes a commitment by governments to reduce support for exporters, most commonly agri-businesses or transnational commodity traders, who would displace local producers with artificially cheap products.

2.3.4.2 Different Provisions for Developed, Developing, and Least Developed Countries

The AoA contains different provisions for developed, developing, and Least Developed Countries (LDCs). Developed countries were required, in "market access", to reduce their import tariff levels by 36 percent over a six-year period, from 1995 to 2000, with a minimum 15% tariff reduction for individual products. In "domestic support", they were required to reduce subsidies under Amber Box by 20 percent over a six-year period beginning in 1995. Under "export subsidies" pillar, they were required to reduce the value and volume of export subsidies by 36 percent in the period of six years, with a minimum 15 percent reduction (Birovljev and Ćetković 2013:61-63).

Developing countries, in turn, were required, in "market access", to reduce import tariffs by 24 percent over a 10-year period from1995 to 2004, with a minimum 10 percent tariff reduction. In "domestic support", they were required to reduce tariffs by 13.3 percent within 10 years. And in "export subsidies", they were required to reduce them by 24 percent over a 10-year period, with a minimum 10 percent reduction (Birovljev and Ćetković 2013:61-63).

2.3.4.3 Special and Differential Treatment for Developing and Least Developed Countries

According to the WTO (2015:2), the AoA contains special and differential treatment (SDT) for developing countries and LDCs, granting them special rights. These special rights and provisions include the possibility by developed countries to treat developing countries more favorably than other WTO members; the concession of longer periods to developing countries to implement their agreements and commitments; the provision of measures to increase trading opportunities for developing countries; and the provision of support to developing countries to enable them to comply with WTO provisions, to handle disputes, and to impelement technical standards.

Receiving a very special attention in the WTO are the LDCs which are completely exempted from making commitments to reduce tariffs, domestic support or export subsidies. LDCs benefit from automatic eligibility for legal counseling and their exports benefit from lower import

barriers from better-off members. Several decisions favoring LDCs have been taken since the signing of the Uruguay Round agreements in 1994: during the 1996 Singapore meeting, developed countries pledged to improve market access for LDC's products; in October 1997, six international organizations, including the IMF, the World Bank, and the WTO, launched a joint technical assistance program exclusively for LDCs; and in 2002, the WTO adopted a work program aimed at improving LDCs' market access and providing them greater technical assistance (WTO 2015:3).

As an LDC country, Mozambique, the country of study, benefits from the special and differential treatment accorded to developing countries, including the exemption or delayed implementation of certain provisions as well as technical assistance from the WTO and other international organizations (WTO 2001:2)

Section 2.3.4 outlined the AoA's provisions aimed at improving market access, reducing trade-distorting domestic support, and curtailing export subsidies. The section equally highlighted the AoA's different provisions for developed and developing countries and LDCs. Receiving a very special attention in the WTO are the LDCs which are completely exempted from making commitments to reduce tariffs, domestic support or export subsidies.

2.3.5 AoA's Influence on Food Security and the Bali and the Nairobi Agreements

To discipline the world agricultural trade, the WTO introduced the three AoA pillars mentioned in section 2.3.4. The AoA influences food security positively in the following ways: by lowering tariffs in agricultural products, countries would increase imports and reduce prices of imported goods thereby improving food security. And by reducing domestic support and export subsidies, countries would enhance the competitiveness of the agricultural sector (Hailu 2010:2).

Critics note, however, that there are loopholes in the AoA provisions which allow developed countries to evade the subsidy and tariff reduction requirements and to maintain high levels of agricultural protectionism whilst hindering developing countries from promoting their food

production and food security. In the "market access" pillar, for instance, while the WTO requires developing countries to open up their markets to foreign competition, developed countries continue to subsidize and protect their domestic producers. In the "domestic subsidies", developing countries are prevented from adopting "Amber Box" support measures that exceed the *minimis* levels. And in "export subsidies", past users of export subsidies (mostly developed countries) are permitted to maintain these subsidies with certain reduction obligations, while developing countries are prohibited from introducing new subsidies (Birovljev and Ćetković 2013:64-65).

Faced with the above criticism, the situation has in recent years improved following the Bali and the Nairobi WTO's Ministerial Conferences. At the WTO's Ninth Ministerial Conference in Bali, Indonesia, in December 3-7, 2013, ministers adopted the "Bali Package" which contained a series of decisions. The Bali agreement, adopted by the WTO on 7th December 2013 and aimed mainly at streamlining trade, boosting LDCs' trade, and allowing developing countries more options to provide food security, was however struck after the United States gave in to India's demand to "shield the food subsidy programs of developing countries" from challenge under WTO rules. According to Mishra (2015:19), in the past, while developed countries focused on protecting their farmers, developing countries pushed for open markets. In recent years, however, developing countries, notably China, Brazil, and India have increased domestic protection for their farmers. Thus, India wanted a permanent solution in the exemption of programs in which governments buy commodities from farmers at above-market prices in order to distribute to the poor.

At the WTO's Tenth Ministerial Conference in Nairobi, Kenya, in December 15-19, 2015, ministers adopted the "Nairobi Package". This package contains a series of decisions on agriculture, cotton, and issues related to LDCs; including a commitment to abolish export subsidies for farm exports consistently demanded by developing countries. On cotton, the decision prohibits cotton export subsidies by developed countries with immediate effect. The Nairobi Package also contains decisions which are beneficial to LDCs, including enhanced preferential rules of origin for LDCs and preferential treatment for LDC services providers.

Under the preferential rules of origin for LDCs, the Conference adopted a decision that will facilitate LDCs' export of foods to both developed and developing countries (WTO 2015:1).

Section 2.3.5 explained how WTO's AoA provisions influence food security and how developed countries maintain high levels of agricultural protectionism whilst hindering developing countries from promoting their food production and food security. The section highlighted the WTO's Ninth and Tenth Ministerial Conferences in Bali, Indonesia and Nairobi, Kenya, in December 2013 and 2015, respectively. The two conferences contain a series of decisions on agriculture, cotton, and on issues related to LDCs; including a commitment to abolish export subsidies for farm exports as consistently demanded by developing countries.

2.3.6 The Arguments for and Against Trade Liberalization Reforms

According to the advocates of trade liberalization, by removing distortions caused by protectionism, trade liberalization stimulates domestic agricultural production and encourages competition, thus enabling countries to make welfare gains (Gonzalez 2004:430).

The arguments presented by the IMF and the World Bank for introducing SAPs were that the deteriorating conditions in developing countries were caused by widespread and excessive government interventionism and protectionism in the economy. To discipline the world agricultural trade, the WTO introduced the three AoA pillars: lowering tariffs, reducing domestic support, and curtailing export subsidies. By lowering tariffs in agricultural products, countries would increase imports and reduce prices of imported goods thereby improving food security. By reducing domestic support and export subsidies, countries would enhance the competitiveness of the agricultural sector (Hailu 2010:2).

According to critics, however, the results of trade liberalization reforms have not been forthcoming in developing countries where, according to Stewart (2003:1), despite the achievement of economic growth, "there seems to have been scarcely any alleviation of mass poverty".

In a study covering 27 countries, Madeley (2000:1–2) looked at trade liberalization under the IMF/WB's-imposed SAPs, the WTO's AoA, and under regional free trade agreements. A key conclusion he reached is that under SAPs and the AoA, developing countries are obliged to open up their economies to cheap subsidized food imports from developed countries, thus forcing their farmers to reduce production, being unable to compete.

For other critics, such as Hailu (2010:2-9), with the majority of their people relying on the agricultural sector for their livelihood, with abundant land, labor, and natural resources, many SSA countries have a comparative advantage in the agricultural sector. However, with the intensification of trade liberalization, these countries that were traditionally food exporters have become net food importers over the past 20 years.

While advocates of trade liberalization reforms believe that the reforms are a solution to economic growth and food security, critics contest, arguing that the reforms affect food production in developing countries, particularly in SSA countries, thereby contributing to food insecurity. This study supports trade liberalization policies that are accompanied by complementary policies and institutional reforms designed to modernize agriculture and involve the food-insecure in the distribution of earnings from economic growth and trade, as rightly stated by the FAO, WFP and IFAD (2015:30).

This study recognizes the need for developing countries endowed with comparative advantage in the agricultural sector to give priority to increased domestic food production. The riots which broke out in the capital city, Maputo, in 2008, 2010 and again in 2012 over hikes in urban transport costs and price of bread show that an increase in world commodity prices, particularly of fuel and of basic commodities, may impact negatively on food security of the poor who depend on their limited resources to buy food. This study is mainly aimed at supporting and promoting the food security and welfare interests of the vast majority of people, constituting about 70 percent, who live in rural areas of Mozambique where agriculture (food production and consumption) constitutes the source of their income and livelihood.

2.4 FOOD SECURITY

Food security is a very broad and complex concept. In the past, the thinking about food security focused on food availability as food insecurity was then perceived as a problem of insufficient food production. Since the 1980s, with Sen's "entitlement" approach, the food security concept has shifted away from the national level definition to the household level definition and from food production to food access.

2.4.1 The Definition of Food Security and its Four Dimensions

During the FAO World Food Summit in 2002, the reference to "social" was added to the 1996 food security definition, reading as follows: "food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO 2003:47-48). This is the definition that will be used for this study.

According to the FAO (2008:1), from the above definition of food security, four main dimensions of food security can be identified: physical availability of food, economic and physical access of food, food utilization, and stability of the above three dimensions overtime ("stability of supplies"). All the four dimensions must be fulfilled simultaneously to guarantee the realization of food security objectives.

"Physical availability" of food addresses the supply side of food security and is determined by the level of food production, stock levels, and net trade. As for economic and physical access to food, an individual may have access to food through a combination of home production, purchase, barter, gifts, borrowing, or food aid (FANTA 2006:1). The concept of access was initiated by the Nobel Prize winning economist, Amartya Sen. In his book "Poverty and Famines", he views food insecurity as a failure of livelihoods to guarantee access to sufficient food at the household level rather than simply a failure of agriculture to produce sufficient food at national level (Nayak 2000:1).

For FAO (2008:1), "food utilization" is the way the body utilizes various nutrients in the food. Sufficient energy and nutrient intake by individuals are achieved through good care and feeding practices, food preparation, diversity of diet, combined with good biological utilization of food consumed.

The fourth dimension of food security is "Stability of Supplies" which, according to the FAO (2006:1), signifies a population, household or individual having access to adequate food at all times, that is, on a permanent basis with sustainability, without risking to lose access to food as a consequence of sudden shocks, such as an economic or climatic crisis, or cyclical events, such as seasonal food insecurity.

Apart from the four dimensions of food security (availability, access, stability, and utilization) established by the WFS in 1996, a series of food security indicators were recently introduced to overcome "the drawbacks that arise from relying solely on the prevalence of undernourishment indicator" (FAO 2014a:13):

The "Availability" dimension now captures not only the quantity but also the quality and diversity of food. The "Access" dimension comprises indicators of both physical (such as railway and road density) and economic access (domestic food price index and the prevalence of undernourishment). The "Utilization" dimension comprises two groups, namely indicators of access to water and sanitation and outcomes of poor food utilization manifested through high levels of wasting and stunting. The "Stability" dimension is divided into two groups: factors that measure exposure to food security risk and the incidence of shocks, such as domestic food price volatility, fluctuations in domestic food supply, and political instability.

Section 2.4.1 dealt with food security dimensions summed up as follows: Availability which signifies adequate food supplies through domestic production or imports, including food aid; food access (people's entitlements to food); stability of access to adequate food at all times; and safety of the food utilization (adequate diet, clean water, sanitation and health care). It also discussed other food security indicators recently introduced, such as rail and road densities and access to water and sanitation.

2.4.2 Food Insecurity

The overall situation in the world, particularly in developing countries, continues to be characterized by food insecurity. For the FAO, IFAD and WFP (2015:53), food insecurity is a situation brought about "when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life". The food insecurity situation can arise due to problems in producing adequate food, distributing it to the people who need it, or because people cannot afford to buy it.

2.4.2.1 Causes of Food Insecurity

Several factors have been causing food insecurity in the World. This study divides the most common factors causing food insecurity as follows: factors contributing to food insecurity in rural areas, factors contributing to food insecurity in urban areas, trade-related factors contributing to food insecurity, and other factors contributing to food insecurity.

- **Factors Contributing to Food Insecurity in Rural Areas:** Factors contributing to food insecurity in rural areas of developing countries where most people live include the following: the lack of an open and transparent trading system that promotes agriculture and rural development in developing countries; continuing insecurity of land tenure and access to land, water and natural resources; insufficient access by producers to relevant technologies, inputs and institution; and high levels of food wastage. In the field of climate and environment, droughts, floods and other climatic natural disasters are major factors disrupting food production and causing food insecurity, particularly in SSA countries. Also causing food insecurity are inadequate disaster preparedness and response (The FAO Committee on World Food Security (CFS) 2013:9).

In rural areas, the migration of male adults and youths to urban areas, neighboring countries or to work on large plantation fields, results in an extra burden for women who remain to take care of food production. On the other hand, the inadequate infrastructure, that is, the poor state of development and maintenance of roads and transport, the poor energy sources and telecommunications, the lack of access to social and health services in rural areas, limit production, income diversification and access to markets and to potable water sources, thus keeping people in a continued situation of food insecurity (FAO 2015a:19).

- **Factors Contributing to Food Insecurity in Urban Areas:** Although most of the World's food insecure people live in rural areas and rural poverty remains deeper and more widespread than urban poverty, urban food insecurity cannot be ignored. Both the rural and urban people are affected by food insecurity. The ability of a household to food access depends on its ability to acquire it through production, purchase or by receiving it from others. Whereas rural people can acquire food through own production, urban people have to purchase their food and pay for other necessities, such as housing, transportation, healthcare, and education. Having no fields where they can produce their own food, urban dwellers rely on income and employment in order to obtain money to purchase food and other necessities. With increased rapid urbanization in many countries and with urban households' dependence on food purchases, food insecurity will increasingly affect urban dwellers in future (Cohen and Garret 2009: 1-2).

- **Trade-related Factors Causing Food Insecurity:** Hailu (2011:5-12) categorizes factors contributing to food insecurity as trade related and non-trade related. According to the above author, international trade rules, policies of trading partners and changes in international price of agricultural commodities can "highly affect the country's economy as well as the food security of its inhabitants". For Oxfam Canada (2015:1-2), trade rules have a profound impact on food security as they determine what countries can and cannot do when trading food and agricultural products. According to the above organization, loopholes in the WTO's AoA allow developed countries to sell food overseas below production costs, thus harming poor local farmers in developing countries. What is more, many countries in the world, particularly SSA countries, have made little progress in improving their food security due in part to trade-related factors,

such as international trade rules, policies of trading partners, and changes in international price of agricultural commodities.

- **Other Factors Contributing to Food Insecurity:** According to the FAO (2013:8) non trade-related factors causing food insecurity at the general global level can be categorized into four groups: governance, economic and production issues, demographic and social issues, climate and environment.

The lack of good governance to ensure accountability and rule of law, the lack of commitment to fight food insecurity, as well as the presence of inadequate state services, all contribute to food insecurity. Also known to contribute to food insecurity are wars and political instability. In the group of economic and production issues, poverty and inadequate access to food are major causes of food insecurity. Also contributing to food insecurity are demographic and social issues and the marginalization and discrimination of women. Other issues contributing to food insecurity are rapid population growth, inadequate social protection systems, marginalization and discrimination against vulnerable groups, the lack of prevention and treatment of diseases such as HIV/AIDS and malaria, low levels of education and literacy, and inadequate support dedicated to protecting best practices of infant and early childhood feeding.

2.4.2.2 Duration and Severity of Food Insecurity

For FAO (2008:1), there are two types of food insecurity: chronic food insecurity and transitory food insecurity. Chronic food insecurity is a long term or persistent inability by people to meet minimum food requirements because of their poverty, lack of assets, or inadequate access to productive or financial resources; and can be overcome with direct access to food to enable them to increase their productive capacity and/or long-term development measures.

Transitory food insecurity, in turn, signifies short-term and temporary food insecurity. It occurs when there is a sudden inability to produce or have access to enough food due to short term shocks and fluctuations in food availability and food access. It can be overcome through different interventions or solutions that address the root cause of the problem, such as early

warning systems, access to affordable credit, and adequate developmental infrastructure (FAO 2008:2).

When analyzing food insecurity, the severity of the problem is also taken into account to determine the nature, extent and urgency of the required assistance. One of the ways food insecurity severity can be determined is through measuring the severity of undernourishment which refers to the proportion of the population whose dietary energy consumption falls below a pre-determined threshold (FAO 2008:2).

Section 2.4.2 dealt with food insecurity and factors contributing to food insecurity. In rural areas of developing countries where most people live, factors contributing to food insecurity include climate factors, such as droughts and floods thus disrupting food production; inadequate infrastructure; and migration of male adults and youths to urban areas. In urban areas, urban dwellers rely on income and employment in order to obtain money to purchase food and other necessities. Also known to contribute to food insecurity are trade-related factors as well as the lack of good governance, wars, and political instability. The section also discussed the two types of food insecurity: chronic and transitory food insecurity.

2.5 THE IMPACT OF TRADE REFORMS ON FOOD SECURITY IN THE WORLD

Trade liberalization affects food security in different ways. This part of the study will discuss the relationship between trade reforms and food security; the impact of trade reforms on agricultural prices, production and trade; the impact of trade reforms on food security; and the paradox of rising undernourishment side by side with rising economic growth.

2.5.1 Trade Liberalization Reforms and Food Security – The Linkages

The strategy employed by individual countries to improve their food situation status is one of the key factors determining the relationship between trade liberalization and food security.

According to the FAO (2003:19), there are two strategies that countries use to achieve adequate levels of food security: the "food self-sufficiency" strategy and the "food self-reliance" strategy. The food self-sufficiency strategy is one where a country meets its food consumption requirements or substantial part of its food requirements from domestic supplies, thus minimizing dependence on trade. This strategy does not necessarily guarantee that all households in the country have access to all the foods they require. During the apartheid era, for instance, South Africa was known to be self-sufficient in food. However, a substantial number of its people still suffered from food insecurity.

The food self-reliance strategy is one where the sources of food are determined by international trade patterns and the benefits and risks associated with it. It argues that it is not necessarily important that a country grows its own food when it is able to acquire it from other countries. This strategy is viewed by the IMF, the World Bank, and the WTO as a solution to poverty reduction and food security.

The relationship between trade liberalization and food security poses several difficulties. For instance, if a country bans or restricts grain exports, it can boost domestic supplies and reduce prices in the short term. However, although this benefits consumers, it has negative implications for farmers producing for export. On the other hand, if a country lowers import duties, it reduces food prices paid by consumers. However, this can harm farmers who produce for export (FAO, IFAD and WFP 2015:33).

According to the FAO (2003:35), accepting the trade-based food self-reliance strategy as the means to achieve food security, one needs to ask how trade liberalization impacts on food security. In answering this question, there is a need to distinguish between importing and exporting country of the product. For the importing country, domestic prices become more correlated with international commodity prices, and any increase in international food and fuel prices can impact negatively on domestic prices and food security.

Countries that are net exporters can expect to benefit from trade liberalization while countries that are inherently food insecure will need some assistance and will face increased import costs if

trade liberalization leads to higher food prices. Other countries that are borderline self-sufficient are likely to be adversely affected by subsidized imports (FAO 2003:52).

If a country bans or restricts grain exports, it can boost domestic supplies and reduce prices in the short term. However, although this benefits consumers, it has negative implications for farmers producing for export. On the other hand, if a country lowers import duties, it reduces food prices paid by consumers. However, this can exercise pressure on the incomes of farmers who produce for export (FAO, IFAD and WFP 2015:33).

Section 2.4.1 dealt with the two strategies used to achieve adequate levels of food security: the food self-sufficiency strategy is one where a country meets its food consumption requirements or substantial part of its food requirements from domestic supplies, thus minimizing dependence on trade. The food self-reliance strategy is one where the sources of food are determined by international trade patterns and the benefits and risks associated with it. In food self-reliance strategy, domestic prices become more correlated with international commodity prices for the importing country and any increase in international food and fuel prices can impact negatively on domestic prices and food security. The food self-reliance strategy is viewed by the IMF, the World Bank, and the WTO as a solution to poverty reduction and food security.

2.5.2 The Impact of Trade Reforms on agricultural Prices, Production, and Trade

As stated earlier in Section 2.2, the food security status of a country is affected by a set of factors (causal factors) which include trade liberalization reforms, other reforms, and external shocks. These causal factors will influence food security through changes in prices, changes in the quantities produced and consumed, and changes in the trade volumes (intermediate effects).

2.5.2.1 The Impact of Trade Reforms on World Prices

According to section 2.2.1, fully implemented reforms which liberalize the economy or increase its openness are expected to improve price transmission from border to producer making the producer to respond. FAO (2011:22) reveals that the prices of food commodities on world markets have been fluctuating over the years. From early1960s to early 2001, the prices declined substantially. From 2003 to 2006, the prices increased slightly. And from 2006 to 2008, the prices increased sharply before they again declined in the second half of 2008. In recent years, the global food prices are down again, having hit a four-year low in August 2014. The price of wheat went down by 19 percent, while that of maize decreased by 21 percent between April and August 2014. Domestic maize prices also decreased in certain markets across Africa. In contrast, rice prices increased by 13 percent during this same period (World Bank 2014:1).

2.5.2.2 The Impact of Trade Reforms on Production

Price changes have a strong influence on production. The change in relative prices will cause changes in the allocation of resources to different activities thus inducing changes in aggregate levels of production. In turn, changes in income levels have the potential to increase people's access to food thus improving their food security (FAO 2003:19). However, it is not always that increases in prices of food commodities result in production increases. There are other factors influencing production responses, including market operations, credit availability, and agricultural technology. According to Thomas and Morrison (2006:38), in Kenya and Tanzania, for instance, sectoral output dropped despite real price increases. In Malawi, various products showed increased output despite declining prices.

2.5.2.3 The Impact of Trade Reforms on Trade Volumes

Regarding food access, trade boosts imports, thus increasing the access to a variety of food available. According to the FAO, IFAD and WFP (2015:34), for net food-importing countries, the reduction of border protection increases trade, thus reducing food prices. Many countries have obtained greater food security through increases in import levels, although, according to critics, increases in import levels may harm domestic producers if associated with a decline in prices of commodities they produce.

Currency depreciation has had the effect of making exports more competitive and food imports more expensive in terms of local currency. According to Thomas and Morrison (2006:49), in most developing countries, imports exceed exports, thus creating trade deficit. Some developing countries rely on a few agricultural exports, thus becoming vulnerable to sharp international price fluctuations. In Malawi, for instance, about 70 percent of export earnings come from tobacco production alone.

Section 2.5.2 dealt with how increased trade liberalization improves price transmission from border to producer. The change in relative prices will cause changes in the allocation of resources to different activities thus inducing changes in aggregate levels of production. Changes in aggregate levels of production, in turn, have the potential to increase people's access to food thus improving their food security.

2.5.3 The Impact of Trade Reforms on Food Security in the World

This study investigates the impact of trade liberalization on food security. To know whether trade liberalization has helped to improve or worsen food security at international level, the researcher measured food availability represented by DES kcal per capita per day which, according to the FAO (2002:1), is "a key variable used for measuring and evaluating the evolution of the global and regional food situation".

Table 2.1 Changes in global and regional per capita food consumption (kcal per capita per day)

Region	Before Trade Liberalization		During Trade Liberalization Episodes	After Trade Liberalization	
	1964-66	1974-76	1984-86	1997-99	2015
World	2358	2435	2655	2803	2940
Industrialized Count.	2947	3065	3206	3380	3440
Developing Countries	2054	2152	2450	2681	2850
SSA Countries	2058	2079	2057	2195	2360

Source: FAO (http://www.fao.org/docrep/005/ac911e/ac911e05.htm) Table 1.Global and regional per capita food consumption (kcal per capita per day) accessed on 16/12/15

Analysis of FAO data in Table 2.1 shows the DES in kcals per capita per day has steadily increased at both the global and regional levels (including in developing and SSA countries) during trade liberalization episodes and after trade liberalization. According to the IMF (2003:20), the period of trade liberalization episodes is one during which different countries in the World began to implement trade liberalization reforms.

With the year 2015 marking the end of WFS and MDG hunger targets, progress has been made to eradicate extreme poverty and hunger. At the World level, the prevalence of undernourished people has reduced from 18.6 percent in 1990-92 to 10.8 percent in 2014-16 (FAO 2015b:48). In developing countries, the percentage dropped by 44.4 percent from 23.3 percent in 1990-92 to 12.9 percent in 2014-16. In SSA countries, the percentage also dropped from 33.2 percent in 1990-92 to 23.2 percent in 2014-16.

As for the figure of underweight children, the percentage dropped from 28.5 percent to 21.1 percent during this same period. Remarkable progress in reducing hunger in the World was made in the following regions: The Caucasus and Central Asia, Eastern Asia, Latin America, and Northern Africa. The Caribbean, Oceania, and Western Asia also made progress in reducing hunger, though at a slower pace (FAO, IFAD and WFP 2015:8-17).

As relates to the utilization dimension, the percentage of population benefitting from improved water source increased from 78.5 percent in 1990 to 88.7 percent in 2014 (FAO 2015c:48).

Despite overall progress in efforts to eradicate food insecurity, there are still many undernourished people in the World. There are currently 795 million undernourished people in the World. About 780 million of these people live in developing countries. According to the FAO, IFAD and WFP (2015:12-25), two regions in developing countries, Southern Asia and SSA countries, are known to have made slow progress in reducing hunger.

In Southern Asia, about 281 million people have been undernourished in the period 2014-16. Southern Asia is also the region with the highest prevalence of underweight children among developing regions. In SSA countries, there has been little progress in reducing both undernourishment and child underweight. The percentage of undernourished people in SSA countries stood at 23 percent in 2014-16. However, with 220 million hungry people in SSA countries in 2014-16 against 175.7 million hungry people in this region in 1990-92, the figures reveal the number of hungry people increased by 44 million people between1990-92 and 2014-16 due mainly to the region's high population growth rate of 2.7 percent per year.

While the prevalence of underweight children aged less than five years stood at 16.6 percent in developing countries in the period 2014-16, in SSA countries it stood at 20 percent. However, given the region's growing population rate, the figures show the number of underweight children has risen. As for the number of stunted children, while their percentage fell in almost all regions, it increased by about one-third in SSA countries between 1990 and 2013 (FAO 2015a:1-2).

Overall progress has been made to eradicate food insecurity in different countries of the World. However, countries, such as SSA and Southern Asia countries, still lag behind. In these countries, greater poverty is felt in rural areas where the majority of people live. Rising food insecurity in rural areas where people rely on agriculture and food production for their income and livelihood implies that greater investment in agriculture and infrastructural development, side by side with good governance, are essential to reduce food insecurity.

2.5.4 The Paradox of High Economic Growth Rate and Rising Undernourishment

High economic growth rates are known to reduce food insecurity and malnutrition in the World. According to the FAO (2015b:2-3), poverty rates have reduced in countries that have experienced economic growth. For example, South Africa reduced its poverty rates from 26 percent in 2000 to 9 percent in 2011. Other countries that have reduced their poverty rates are Niger, Ethiopia, Rwanda, and Mali.

However, while many SSA countries currently enjoy rising economic growth rates, some of them have been experiencing the paradox of high economic growth rates and rising undernourishment side by side. In some SSA countries, notably Swaziland, Tanzania, and Zambia, the percentages of the prevalence of undernourishment and food inadequacy rose over the years instead of declining, as shown in Table 2.2. These countries' DES has also declined over the years instead of rising.

Table 2.2 Trends of Hunger Dimensions in Selected SSA Countries

	1990				2000				2014			
Countries	Dietary Energy supply (kcal/pc /day)	**Prevalence of undernourishment %**	Cereal Import dependence ratio	Underweight children	Dietary Energy supply (kcal/pc /day)	**Prevalence of undernourishment %**	Cereal Import dependence ratio	Underweight children	Dietary Energy supply (kcal/pc/ day)	**Prevalence of undernourishment %**	Cereal Import dependence ratio	Underweight children
Swaziland	2 328	15.9	55.2	-	2 312	21.7	54.9	9.1	2 235	26.8	72.9	5.8
Tanzania	2 187	24.2	7.1	25.1	2 032	36.8	9.6	25.3	2 207	32.1	13.2	53.2
Zambia	2 022	33.8	24.3	21.2	1 893	42.9	7.1	23.3	1 954	47.8	8.2	14.9
Mozambique	1 737	56.1	57.3	-	1991	42	23.1	21.2	2328	25.3	27.3	15.6

Source: FAO (http://www.fao.org/3/a-i4691e.pdf) [pages 196-221] accessed on 08/11/ 2015]

In Swaziland, as shown in Table 2.2 above, despite a rising GDP per capita, its DES dropped from 2328 kcal/cap./day in 1990 to 2312 kcal/cap./day in 2000 and to 2235 kcal/cap./day in 2014. In this country, the percentage of undernourishment increased from 15.9 percent in 1990 to 21.7

percent in 2000 and to 26.8 percent in 2014. Its cereal import dependence ratio rose from 55.2 in 1990 to 54.9 in 2000 and to 72.9 in 2014 (FAO 2015b:196).

In Tanzania, despite a rising GDP per capita, its DES dropped, instead of rising, from 2187 kcal/cap./day in 1990 to 2 032 kcal/cap./day in 2000. Also in Tanzania, the percentage of undernourishment increased from 24.2 percent in 1990 to 36.8 percent in 2000 while its cereal import dependence ratio rose from 7.1 in 1990 to 9.6 in 2000 and to 13.2 percent in 2014. In this country, the percentage of underweight children increased from 25.1 percent in 1990 to 25.3 percent in 2000 (FAO 2015b:201).

In Zambia, despite a rising GDP per capita, its DES dropped from 2022 kcal/cap./day in 1990 to 1893 kcal/cap./day in 2000. The percentage of undernourishment increased from 33.8 percent in 1990 to 42.9 percent in 2000 and to 47.8 percent in 2014. Though its cereal import dependence ratio dropped from 24.3 in 1990 to 7.1 percent in 2000, it again rose to 8.2 in 2014 (FAO 2015b:221).

Unlike in the above three countries, namely Swaziland, Tanzania, and Zambia, trends of hunger dimension fared well in the country of study, Mozambique, from 1990 to 2014. Mozambique's DES rose from 1737 kcal/cap./day in 1990 to 1991 kcal/cap./day in 2000 and to 2328 kcal/cap./day in 2014. Although it lagged behind all the above three countries in 1990, it surpassed Tanzania and Zambia in 2014. As for the prevalence of undernourishment, Mozambique which had the worst trends in 1990 showed better trends in 2014, when compared to Swaziland, Tanzania, and Zambia. Its cereal import dependence ratio which was the highest in 1990 became better than Swaziland's in 2014. As for underweight children, Mozambique's trends are better than those of Tanzania. In brief, whereas food security dimensions of Swaziland, Tanzania, and Zambia have a tendency to deteriorate despite their rising GDP per capita, the food security dimensions of Mozambique steadily improved over the years from 1990 to 2014.

It should be noted, however, that several southern African countries, including Swaziland and Zambia, were adversely affected by severe drought in 2000/2001. This, in part, could explain Zambia's sudden dip in trends in 2000 and then recovery towards 2014.

The paradox of rising undernourishment and high economic growth rate can, according to the FAO, WFP and IFAD (2015:30), largely be attributed to "trade liberalization policies and privatization efforts" that are not accompanied by effective policies designed to modernize agriculture and involve the food-insecure in the distribution of earnings from growth. According to the above organizations, the poor may not sufficiently benefit from economic growth if this growth originated in sectors which do not generate sufficient employment for them. They may also lag behind if they lack access to productive assets, such as land, water and credit; or if they cannot immediately take advantage of the opportunities provided by growth.

2.5.5 The Impact on Food Security of Factors other than Trade Liberalization

As stated in section 2.4.2, apart from trade reforms, the food security status of a country can be affected by many other factors. According to Thomas and Morrison (2006:40), deficiencies in transport infrastructure are a major constraint to agriculture, limiting access to domestic and international markets. What is more, lack of good governance as well as conflict and political instability have undermined food security and disrupted livelihoods in different corners of the World.

In the field of climate and environment, droughts, floods, cyclones, and other climatic natural disasters are major factors disrupting food production and causing food insecurity. The problem is particularly serious in SSA countries which often experience erratic rainfall (droughts or floods) while their agricultural production is almost entirely rainfed. According to the FAO, IFAD and WFP (2015:40), natural disasters in developing countries affected over 1.9 billion people and resulted in damage estimated at half a trillion US dollars between 2003 and 2013.

2.6 CONCLUSION

The first part of this Chapter discussed the conceptual framework through which the relationship between trade liberalization and food security can be interpreted. This was followed by a discussion of trade liberalization, focusing on trade theories, IMF/WB/WTO's influence on trade liberalization, factors motivating trade reforms, and the arguments for and against trade liberalization. The Chapter then discussed food security and its various dimensions, as well as food insecurity and its different causes.

In conclusion, the Chapter discussed the relationship between trade reforms and food security; the impact of trade reforms on food prices, production, and trade; the impact of trade reforms on food security; the paradox of rising undernourishment and rising economic growth; and the impact of other factors on food security in the World.

On the impact of trade liberalization on food security, it is concluded that significant gains have been made towards improving the food security situation in the World. Regions like the Caucasus, Central, Eastern and Western Asia, Latin America, Northern Africa, the Caribbean, Oceania, have made progress in reducing hunger. At the World level, the prevalence of undernourished people has reduced from 18.6 percent in 1990-92 to 10.8 percent in 2014-16. In developing countries, the percentage dropped from 23.3 percent in 1990-92 to 12.9 percent in 2014-16. In SSA countries, the percentage of the prevalence of undernourishment also dropped from 33.2 percent in 1990-92 to 23.2 percent in 2014-16 (FAO, IFAD and WFP 2015:8-17).

Despite overall progress in efforts to eradicate food insecurity, there are currently 795 million undernourished people in the World with 780 million of them living in developing countries. Southern Asia and SSA countries in particular are known to have made slow progress in reducing hunger: about 281 million people suffer from hunger in Southern Asia, while in SSA countries the figure stands at 220 million. In SSA countries, the number of undernourished people increased by 44 million people between 1990-92 and 2014-16, mainly due to the region's high population growth rate of 2.7 percent per year (FAO, IFAD and WFP 2015:12-25).

Based on the above presented results, it can be concluded that trade liberalization has had both positive and negative impacts on food security at the international level. Overall, the results worldwide suggest that the positive impacts exceed the negative impacts. Trade liberalization has generated positive impacts in most parts of the World, particularly in industrialized and developed countries. The same cannot be said, however, about Southern Asia and SSA countries where, despite some significant improvements, 500 million people (281 million in Southern Asia and 220 million in SSA countries) still suffer from hunger.

With 780 million people still experiencing hunger in developing countries, the situation calls for greater political will and concrete measures at international level in order to improve their living conditions. In developing countries, particularly in SSA countries, the majority of people live in rural areas with agriculture constituting the source of their income and livelihood. However, these people in rural areas are insulated from the benefits of trade liberalization and economic growth mainly due to deficiencies in transport infrastructure and a limited access to domestic and international markets. As they rely on agriculture for their survival, efforts should be made to develop this sector, particularly in countries endowed with agriculturally productive land.

The next Chapter focuses on trade liberalization reforms and food security in Mozambique.

CHAPTER 3

AGRICULTURAL TRADE LIBERALIZATION REFORMS AND FOOD SECURITY IN MOZAMBIQUE

3.1 INTRODUCTION

Chapter three is linked to Chapter two in that it continues to discuss trade liberalization reforms and food security. The key difference is that the above two concepts are discussed at Mozambique's level.

The Chapter unfolds through four major sections of discussions: Section one provides background information on Mozambique, notably an overview on Mozambique's political history, macroeconomic performance, agricultural sector, and educational and health sectors. This section is followed by a discussion of trade liberalization and food security in Mozambique. The third section presents changes effected before and after the introduction of trade liberalization reforms in Mozambique. The last section evaluates the impact of trade liberalization on food security in Mozambique.

The Chapter ends with conclusions reached from reviewed literature on Mozambique.

3.2 BACKGROUND INFORMATION ON MOZAMBIQUE

Mozambique is situated on the southeast coast of Africa, bordering the Indian Ocean in the eastern part of the country; South Africa and Swaziland in the southern area; Zimbabwe, Zambia and Malawi in the western area; and Tanzania in the northern area. The country has a long coastline and three major ports (Nacala, Beira, and Maputo), providing shipping services to Mozambique and to neighbouring land-locked countries, namely Malawi, Zambia, Zimbabwe, and Swaziland. With a total area of 799 380km^2, Mozambique is characterized by subtropical to

tropical climate and is richly endowed with natural resources, including arable land, grasslands and forests, inland water resources, marine fisheries, and minerals. According to the World Bank (2016:1), the country had a population of 27.22 million people in 2014.

3.2.1 Overview on Mozambique's Political History

The history of Portuguese colonial rule in Mozambique begins with the famous Portuguese maritime explorer, Vasco da Gama, who reached the Mozambican coast in 1498 while sailing *en route* to India. The Portuguese were attracted to the country to secure gold and ivory to finance their Indian spice trade. Thus, by 1525, they took control of Mozambique's coastal centers and established trading settlements in the interior, along the Zambezi River (Napier 2004:166-167).

The relationship between Mozambique and Portugal became closer and most pronounced when António de Oliveira Salazar who viewed Portuguese colonies as part of Portugal became Prime Minister of Portugal in 1932. To provide manpower for colonial projects, the Portuguese colonial regime introduced slave labor which eventually gave way to legalized forced labor. The exploitation of natural resources was followed by the exploitation of human resources, notably the recruitment of forced labor to work in plantations and the exportation of cheap male labor to South Africa and Rhodesia (Waterhouse and Lauriciano 2010:18).

Under the above repressive conditions and following the "Mueda massacre" in Cabo Delgado in June 1960, the struggle for liberation from the Portuguese colonial regime gained momentum, both inside the country and in neighbouring countries. In 1962, three liberation movements, namely UDENAMO (National Democratic Union of Mozambique), MANU (Mozambique African National Union), and UNAMI (National African Union of Independent Mozambique) came together in Tanganyika (now Tanzania) to form FRELIMO (Mozambique Liberation Front), under the leadership of Dr. Eduardo Mondlane. With little hope that Portugal would negotiate a settlement, FRELIMO (Mozambique Liberation Front) began guerrilla warfare operations against the Portuguese armed forces in Northern Mozambique in September 1964.

After the coup d'état that toppled the Caetano (Salazar's successor) government in Portugal in 1974, the new Portuguese government began talks in Lusaka, Zambia, with FRELIMO, which culminated in a cease-fire agreement, terms of independence accord, and the transfer of power to FRELIMO. On gaining independence from Portugal in 1975, under Samora Machel's leadership, FRELIMO introduced a socialist ideology that was characterized by a centrally controlled economy, a widespread program of nationalizations, and heavy investment in state farms.

Within a year of independence, the country was plagued by a long and violent civil war between Frelimo (Mozambique Liberation Front Party) government and the Mozambique National Resistance Movement (MNR/Renamo) which lasted 16 years, killing over one million people and displacing 4.5 million others, out of an estimated total population of 16 million people. According to Napier (2004:174-177), the Renamo Movement which initially enjoyed the support of the Rhodesian Government and, eventually, of the South African apartheid regime, had acquired its own dynamic in the country in the face of worsening situation in rural areas and the Frelimo government's excesses.

Following President Machel's death in unexplained plane crash in Mbuzini, South Africa, in October 1986, Joaquim Chissano assumed power, consolidated relations with the West and negotiated peace with the rebel movement, Renamo. The war ended with the signing of a cease-fire and a General Peace Agreement between President Joaquim Chissano and Renamo leader Afonso Dhlakama on 4th October 1992, under the mediation of the Catholic Community of Saint Egídio, thus paving the way for the holding of the first multiparty elections in 1994 which were won by the ruling Frelimo Party and President Joaquim Chissano.

A two-year small-scale armed conflict between Renamo and the government, during the regime of President Armando Guebuza who succeded President Joaquim Chissano in 2004 general elections, ended in a peace agreement in August 2014, thus paving the way for the holding of the latest and fourth multiparty elections in October 2014 which were again won by the Frelimo Party and its presidential candidate, Filipe Jacinto Nyusi. Although its Parliamentarians have taken their seats, Renamo does not recognize the election results and still insists that it wants to

govern the six central and northern provinces where it claims to have won a majority of votes, namely Niassa, Nampula, Zambezia, Tete, Manica, and Sofala.

Following attacks on his motorcade in Manica Province on 12th and 25th September 2015 and a raid on his house in Beira city on 9th October 2015, Renamo leader Afonso Dhlakama believes the government wants to kill him and he has again retreated to his bush headquarters, Satungira, in Gorongoza. Meanwhile, Government armed forces continue to clash sporadically with Renamo armed men.

3.2.2 Overview on Mozambique's Macroeconomic Performance

Faced with a civil war, a massive destruction of the country's infrastructure, and a huge debt, the Mozambican economy reached a situation of unprecedented crisis in the early 1980s. To bring this economy back on track and to ensure macroeconomic stability, the ruling Frelimo government turned to the West and joined the Bretton Woods' institutions, namely the IMF and the World Bank, in September 1984 (Ng'ambi 2009:49 and Hodges and Tibana 2005:41). Since then, Mozambique's economic policy remains closely in line with the IMF's policies under the Policy Support Instrument (PSI).

After President Samora Machel's visit to the United States where he was warmly received by U.S. President Ronald Reagan in 1985, a USAID mission was established in Mozambique. In 1987, the country's Parliament, the National Assembly, formally approved an IMF/WB-backed Economic Rehabilitation Program (PRE). Since becoming a member of the WTO in 1995, Mozambique undertook important trade liberalization reforms which have created an environment that is conducive to private investment. Over the period 1989-99, the country implemented a privatization program that has resulted in the privatization of the vast majority of state-owned companies.

After the introduction of trade reforms, significant improvements were registered in Mozambique's GDP growth rate, inflation rate, and exchange rate. The GDP annual growth rate which was negative during most of the period before trade reforms rose sharply. The government reduced inflation rates from 70% in 1994 to less than 5% in 1998-1999. Economic disruptions resulting from the devastating floods in 2000 caused inflation to jump to 12.7%. However, this rate dropped to 9.1% in 2004, climbed again to 11.2% in 2005. From 2006 to 2013, the yearly GDP growth rate averaged 7.2 percent. In 2014, the GDP growth rate stood at 7.6 percent (Hodges and Tibana 2005:42 and Santos et al. 2015:2).

Although classified as one of the world's fastest growing economies, Mozambique headcount ratio at national poverty line stood at 54.70 percent in 2008. The prevalence of undernourishment stood at 25.3 percent in 2014-16, below the average level for SSA countries. In 2014, the UN's HDI report ranked Mozambique 178th out of 187 countries and the 2015 report ranked the country 180th out of 188 countries. Mozambique's HDI is below the average for countries in the low human development group and for SSA countries (UNDP 2015:2).

Mozambique's public debt level escalated during the last two years, having increased from 40 percent in 2011 to 56.8 percent in 2014 (Santos et al. 2015:8) . The country's currency, the Metical, has sharply depreciated against the US dollar and the South African Rand, standing presently (January 2016) at 47.940 MZN against 1.00 USD and 3.149 MZN against 1.00 ZAR. This worsening situation has forced the country to turn to the IMF for an emergency aid of US$286 million in October 2015 to help cushion the economy.

3.2.3 Overview on Mozambique's Agricultural Sector

About 70 percent of Mozambique's population lives in rural areas where it obtains its livelihood from agriculture. Agriculture in the country is dominated by smallholder farmer sector cultivating small plots of land for their own consumption. There is also a large-scale commercial subsector cultivating large tracts of land to produce sugar, cotton, tea, tobacco, and other export

crops. From 2001 to 2010, agriculture contributed between 24.2 and 25.6 percent annually to the national GDP (ReSAKSS 2014:37).

Forty-five percent of Mozambique's total land area is suitable for agriculture although only 11 percent is estimated to be cultivated. Farming is conducted by some 3 million smallholder farmers while commercial farmers cultivate less than 60 000 hectares (FAO/WFP 2010:2-20).

According to Sebei (2007:10-11), although most of the population engages in small-scale agriculture, a majority of Mozambique's arable land is still uncultivated and the sector suffers from inadequate infrastructure, commercial networks, and investment. For Hertel (USAID 2005:14-35), due to poor infrastructure, Mozambican rural households are disconnected from the markets.

The country has ample water resources from rainfall and rivers, particularly in central and northern regions. Major rivers include the Zambezi, Save, and Limpopo. Despite the presence of these rivers, of 3.3 million hectares of land suitable for irrigation, only 14 percent is irrigated (USAID 2007:13).

3.2.4 Overview on Mozambique's Coal Mining Industry

As revealed in section 3.2, Mozambique is richly endowed with natural resources. Moatize District, in Tete Province, where the area under study (Kambulatsitsi) is located, is richly endowed with coal resources. Significant reserves of coking coal have been discovered in the district.

According to the Human Rights Watch (2013:28), two mining companies, namely the Brazilian "Vale" and the Anglo- Australian "Rio Tinto" multinationals, have secured concessions to vast coal reserves in Moatize. The Indian "Jindal Steel and Power Limited" and the British "Beacon Hill Resources" coal companies began coal mining operations in 2012 while several other companies and partnerships are still in prospecting or development phases.

The Vale and Rio Tinto coal mining companies have begun coal mining exploration and are developing railroad infrastructure to facilitate coal mining export. Local communities were relocated from their lands and received their compensation packages before the two companies began coal exploration in allocated areas in 2011. In recent years, however, coal mining in Moatize has slowed down mainly due to low coal prices.

3.2.5 Overview on Mozambique's Educational and Health Sectors

Since the end of the civil war, Mozambique has improved its ability to provide health care to its citizens. The percentage of the population with access to a health unit within 45 minutes' walk rose from 55 percent to 65 percent between 2002-3 and 2008-9, with greater gains being registered in rural areas, particularly in Northern Mozambique. The infant/child mortality rate dropped from 245.3 deaths per 1000 live births in 1997 to 138 in 2008, while the maternal mortality rate declined from 692 to 500 deaths per 100,000 live births between 1997 and 2007 (IMF 2011:6). The HIV/AIDS pandemic is the biggest challenge for Mozambique. The country's HIV rate remains high with almost 12.5 percent of the Mozambican population being infected with the virus in 2014 (UNAIDS 2016:1).

As for educational situation, the primary education is free and compulsory. The number of children attending primary school more than tripled from approximately 1.3 million in 1992 to 4.2 million in 2008, while net enrolment rates at primary education doubled from 45 percent in 1988 to 98 percent in 2008. Nevertheless, the percentage of the population with access to schooling is still low with a wide gender gap in basic education enrolment. The proportion rose from 30.8 percent in 2002-3 to 37.3 percent in 2008-9. Meanwhile, the percentage of illiterate women fell significantly from 54 percent in 2004 to 40.8 percent in 2008 (IMF 2011:5).

According to Santos, Roffarello, and Filipe (2015:12), in terms of education and infant health, Mozambique has made steady progress in achieving the MDGs. The country completed six new technical secondary schools and two post-secondary technical education institutions in 2014.

Also in 2014, it had a primary school net enrolment rate of over 77 percent. In the field of health, although the maternal mortality rate remains a cause for concern as it stands at 408 per 100 000 live births, the country has met the infant and under-five mortality targets.

Section 3.2 provided an overview of Mozambique's political, economic, agricultural, health, and educational fields. On political field, the section provided an overview of the history of Portuguese colonial rule in Mozambique and how, on gaining independence from Portugal in 1975, FRELIMO introduced a socialist ideology characterized by a centrally controlled economy, a widespread program of nationalizations, and heavy investment in state farms. On economic field, in 1987, Mozambique's Parliament formally approved an IMF/WB-backed Economic Rehabilitation Program. Following the introduction of IMF/WB's SAPs, significant improvements were registered in Mozambique's GDP growth rate, inflation rate, and exchange rate. An overview on agricultural field shows about 70 percent of Mozambique's population lives in rural areas where it obtains its livelihood from agriculture. In the fields of education and health, significant improvements have also been registered since the end of the civil war, with the country making steady progress in achieving the MDGs in the fields of education and infant health.

3.3 TRADE LIBERALIZATION AND FOOD SECURITY IN MOZAMBIQUE

This section examines trade liberalization in Mozambique with a focus on IMF/WB/WTO's agricultural trade liberalization reforms. To place the impact of trade reforms on food security in proper perspective, Mozambique's food security situation is also discussed here.

3.3.1 Trade Liberalization Reforms in Mozambique

With a deteriorating economic and military situation in Mozambique, the country's Parliament, under Joaquim Chissano's regime, formally approved an IMF/WB-backed Economic Rehabilitation Program, known as PRE in 1987, with a view to moving the country towards a market economy.

3.3.1.1 Under IMF/WB's SAPs

Under PRE/SAPs, the Mozambican Government introduced several measures to deregulate the food sector. The conditions imposed on Mozambique included trade liberalization, notably the opening of borders to the free market system and foreign investment; the privatization of the country's cashew nut industry; the abolition of state-owned agricultural marketing board, AGRICOM; and the removal of agricultural subsidies and of price controls on food crops, thus resulting in a significantly liberalized trade regime. According to Hanlon and Smart (2008:40), in 1995, more than 500 enterprises had been privatized, including the cashew industry. The above two authors reveal the IMF imposed severe credit restrictions with a view to reducing inflation.

3.3.1.2 Under IMF/WB's PRSPs I and II

From 1999, the IMF and the World Bank required low-income countries soliciting for debt relief and financial support to prepare PRSPs I and II. Mozambique developed its interim PRSPs in broad consultation with stakeholders and development partners, including staffs of the IMF and the World Bank.

The PRSP I, Plan of Action for the Reduction of Absolute Poverty I (known in Mozambique as *Plano de Acção para a Redução da Pobreza Absoluta –PARPA I-*) was elaborated for the period 2001-2005. Its specific objective was to reduce the incidence of poverty from 70 percent in 1997 to less than 60 percent in 2005. It established six priority areas of action: agriculture and rural development, health, education, basic infrastructure, good governance, and macro-economic and financial policies. Under the PRSP II, in contrast to the phase of SAPs, the Frelimo government placed emphasis "on the role of the state in rendering basic social services" (Waterhouse and Lauriciano 2010:21).

3.3.1.3 Under WTO's AoA Provisions

The pace of reforms accelerated after Mozambique became a member of the WTO on 26 August 1995. The country simplified the structure of its import tariffs and reduced the average rate substantially, producing a relatively open international trade regime. Beginning 1997, the agriculture sector was substantially liberalized: the government withdrew from direct involvement in production, processing, and marketing activities, and retained only its role in setting policies. Protectionist import tariffs continued, however, in the fields of cashew and sugar As an LDC, Mozambique benefits from transitional periods to implement a number of its commitments under all the three pillars of the WTO's AoA provisions, namely market access, export subsidies, and domestic support (WTO Trade Policy Review 2001:4-6 and 2008:15).

Under the "Market Access", the Mozambican market became easily accessible to its trading partners, particularly the SADC countries. Its SADC membership entailed a reduction and

eventual elimination in 2015 of tariffs on intra-regional imports. The country has simplified the structure of its customs' duties by reducing the maximum tariff from 30 percent to 25 percent in 2002 and from 25 percent to 20 percent in 2007. Its 2008 "Most-Favored-Nation" (MFN) treatment applied tariff comprised rates of zero, 2.5 percent, 5 percent, 7.5 percent and 20 percent (WTO Trade Policy Review 2008:ix).

In the field of "Domestic Support", although as an LDC Mozambique is not required to reduce or eliminate subsidies or institutions set up to assist farmers, subsidies were however reduced or eliminated under the influence of World Bank loan conditions. In the field of "Subsidized Exports", Mozambique, as an LDC, does not have to reduce its subsidy, but it is committed not to raise it, thus having to abide by the program of liberalization (Khor 2010:2-11).

Section 3.3.1 examined IMF/WB/WTO's agricultural trade liberalization reforms in Mozambique. Under PRE/SAPs, the Government opened borders to the free market system, abolished the state-owned marketing board, and removed agricultural subsidies and price controls. Under the PRSP, in contrast to the SAPs' phase, emphasis was placed on the role of the state in rendering basic social services. Under the WTO's AoA provisions, the country's agricultural sector became substantially liberalized with the government withdrawing from direct involvement in production, processing, and marketing activities.

3.3.2 Food Security in Mozambique

The country made a notable recovery in food security since the end of the civil war in 1992. USAID (2007:1) reveals that, at the national level, food supplies increased from 1,730 calories per person per day in 1990-1992 to 2,080 in 2002-2004. The overall 2008/09 prospects for crop harvests was less favorable in northern Maputo Province, southern Gaza Province, southern Sofala Province, and southern Tete Province, mainly due to poorly distributed rainfall and pest infestations (FEWSNET 2009:3).

According to VAC (2002:10-12), the Northern Provinces of Mozambique (Niassa, Cabo Delgado, and Nampula) are basically self-reliant in terms of food. However, they face a common absence of markets in which local produce and outside goods can be traded. They equally face poor road infrastructure, unavailability of vehicles, as well as isolation and distances between villages and towns, thus hindering access.

The Central Provinces (Zambezia, Tete, Manica, and Sofala) have mixed production levels, with the northern Tete and the highlands of Zambezia exhibiting favorable crop production levels. The Southern Provinces (Inhambane, Gaza, and Maputo, as well as Maputo City), in turn, reveal they are often affected by long dry spells and abnormally high temperatures. As a coping strategy, the poorer households in the provinces engage in different kinds of activities, like hunting, fishing, producing cash crops, charcoal, alcoholic beverages, while men migrate to urban areas and neighboring countries.

3.3.2.1 Dimensions of Food Security in Mozambique

The Forum for Food Security in Southern Africa (2004:7-49) classifies the following as the main dimensions of food security in Mozambique: food availability, food access, and food utilization. "Food Availability" in Mozambique is derived from household and national production, stocks, and net imports, as well as food aid. "Food Access", for many rural Mozambicans, is the amount people can produce, purchase, or can obtain through transfers from kin, community or state. For many rural Mozambicans, access to staple foods is largely from home production. "Food Utilization" signifies proper biological use of food. In Mozambique, there is a very high level of child mortality. Micro-nutrient malnutrition, anemia, as well as Vitamin A and Iodine deficiencies are common throughout the country. According to EC-Mozambique (2007:7), levels of chronic malnutrition in children under the age of 5 years rose from 36% in 1997 to 41% in 2003 and to 46% in 2007.

3.3.2.2 Food Insecurity in Mozambique

Natural disasters and human calamities, such as floods, droughts and poor rainfalls, and wars; the lack of basic infrastructure, such as inadequate roads and lack of transport systems; governance failure; gender inequality; lack of education; male migration to cities and neighboring countries; and acute diseases, such as HIV/AIDS, malaria, and tuberculosis, have all created food insecurity in Mozambique (Mucavele 2000:20). As Mozambique's agriculture is mainly rain-fed, it is highly vulnerable to weather risks, such as floods and droughts.

Section 3.3.2 discussed food security. Although the country has made a notable recovery in food security since the end of the civil war in 1992, the situation continues to be characterized by food insecurity in different corners of the country. Unlike the Northern provinces, the Southern provinces of Mozambique are food insecure mainly due to poorly distributed rainfall and pest infestations.

3.4 PRE-REFORM PERIOD BEFORE AND AFTER INDEPENDENCE (1940-1986)

To better understand the performance of the agricultural sector after independence, particularly as relates to the subsidization of agriculture, the production of cash crops for export, and the effectiveness of state-owned marketing boards in Mozambique, this section will begin with the pre-reform period before independence.

3.4.1 Pre-Reform Period Before Independence (1940-1974)

As revealed earlier, to boost the agricultural sector and to guarantee the supply of raw material for its textile industry in Portugal, the Portuguese regime, under Salazar, introduced legalized forced labor in agriculture, laying emphasis on the production of cash crops for export, notably cotton, cashew nuts, tea, sugar, copra, groundnuts, and sisal. After World War II, more than half a million peasant families were forced to grow and sell cotton to the State below world market prices (Dana 1961:1 and Waterhouse and Lauriciano 2010:18).

From the 1950s, the Portuguese colonial regime began to encourage peasants to grow food crops, such as maize, rice, and wheat with a view to reducing dependence on imported food. By 1970, about 5 million hectares of the country's total area of 80 million hectares were devoted to agriculture which accounted for over 40 percent of the country's GDP and employed 70 percent of the active labour force (Bowen 2000:24-34).

The Mozambique Cotton Institute (IAM) and the Mozambique Cereals' Institute (ICM) were the monopoly purchasers of cotton and cereals, fixing their prices below market prices. The Portuguese colonial regime subsidized farmers by providing them with cheap credit and inputs, good transport infrastructure, coordinating marketing facilities and maintaining extension services. However, despite these positive trends in the protection and subsidization of the agricultural sector, Bowen (2000:37-203) reveals that the local black peasants were exploited as they were paid low prices and wages compared to their Portuguese counterparts.

3.4.2 Pre-Reform Period After Independence under Socialist Ideology (1975-1986)

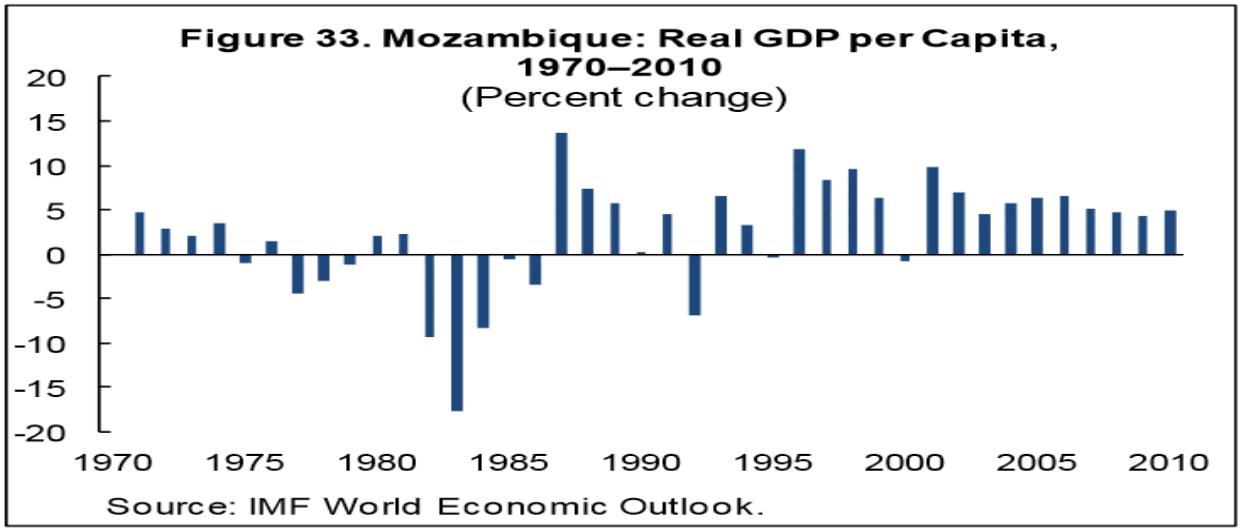
When Mozambique gained independence from Portugal on 25 June 1975, FRELIMO introduced a socialist ideology and a central planning system, channelling most funds towards creating large state farms.

During this period, the country witnessed a massive exodus of Portuguese settlers, thus creating a vaccum in the agricultural sector. However, as was the case during the Portuguese colonial regime, the Frelimo socialist government highly protected and subsidized the State agricultural sector during the central planning system: Fixed prices for producers were set by the National Commission of Wages and Prices (CNPS); all produce had to be sold at a set price to AGRICOM, a state-owned marketing board established after independence to guarantee the transportation, commercialization, storage and processing of all crops (with the exception of cotton and cashew) between rural zones of production and urban consumption areas; and the Government provided subsidies on agricultural inputs, such as fertilizers, and established another state-owned company, SEMOC (Mozambique Seed Company), which had the task of distributing seeds as part of a seed assistance program (Alfieri et al 2007:6-7).

Despite similarities in the protection and subsidization of the agricultural sector, compared to the Portuguese colonial period, the country performed poorly in both economic and agricultural sectors after independence, under the Frelimo's socialist government, as demonstrated in Exhibit 3.1 and Table 3.1.

Exhibit 3.1 shows that, while from 1970 to 1974 (during the Portuguese colonial period), the country's real GDP growth rate showed positive trends, almost all the trends in the real GDP growth rate were negative after independence during the Frelimo government's socialist ideology from 1975 to 1986.

Exhibit 3.1 Mozambique: Real GDP per Capita (1970–2010)



S3ource: IMF 2013 (https://www.imf.org/external/pubs/ft/wp/2013/wp1332.pdf) accessed on 4/01/2016

Despite similarities in the protection and subsidization of agriculture, the country's performance in the production of key food commodities was also poor after independence under the Frelimo's socialist government, as shown in Table 3.1 below.

Table 3.1 Average trends of Food Production before and after IMF/WB's Trade Reforms (Tons)

Commodities	Before Reforms				Changes
	Before Independence	After Independence under Socialist Ideology			
	1970-1974	1975-80	1981-86	1975-86	
	Average	Average	Average	Average	
Maize	**422648.00**	388333.00	376500.00	**382417.00**	**-40231.00**
Sorghum	**207336.00**	200736.00	221166.00	**210951.00**	**3615.00**
Millet	**10000.00**	6833.00	5000	**5917.00**	**-4083.00**
Paddy Rice	**109700.00**	68500.00	83833.00	**76167.00**	**-33533.00**
Cassava	**3.10** *Million	3.40	3.64	**3.52**	**0.42.00**
Groundnuts	**142000.00**	131333.00	110 166.00	**120750.00**	**-21250.00**
Pulses, nes	**68200.00**	66002.00	77833.00	**71918.00**	**3718.00**
Sweet Potatoes	**40000.00**	40833.00	93000.00	**66917.00**	**26917.00**

Source: FAOSTAT (http://faostat3.fao.org/download/Q/QC/E) accessed on 22/08/2015

3.5 POST-REFORM PERIOD UNDER IMF/WB'S SAPs (1987-1994)

Two periods are covered in this section: the pre-reform period after independence, under Frelimo government's socialist ideology (1975-1986), and the post-reform period under the IMF/WB's SAPs (1987-1994).

3.5.1 Relating IMF/WB's Trade Reforms to Macroeconomic Indicators' Performance

In Table 3.2 below, the average real GDP growth rate which was very low before trade reforms, averaging1.74 percent, rose sharply to an average of 6.35 percent in post- reform period under the IMF/WB'SAPs.

Table 3.2 Average Macroeconomic Indicators before and after Trade Reforms (1975-1994)

Indicators	Before Reforms			After Reforms			Changes	%Change
	1975-80	1981-86	Average	1987-92	1993-94	Average		
Real GDP %	4.1	-2.35	**1.74**	5.3	7.4	**6.35**	4.61	**265**
Inflation %	N/A	27.82	**27.82**	66.85	50.05	**58.45**	30.63	**110**
Imports of goods and services (%GDP)	N/A	19.45	**19.45**	40.3	51	**45.65**	26.2	**135**
Exports of goods and services (%GDP)	N/A	5.63	**5.63**	8.48	10.7	**9.59**	3.96	**70**
External Debt USD million	N/A	2.521	**2.521**	4.581	5.145	**4.863**	3.564	**141**

Sources: World Bank (http://www.databank.worldbank.org/http://data.worldbank.org/indicator/PA.NUS.FCRF/) **http://data.worldbank.org/indicator/NE.IMP.GNFS.ZS accessed on 20/08/15 and 04/01/16**

In Table 3.2 above, the average inflation rate which was 27.82 percent in pre-reform period, climbed to 58.45 percent in post-reform period following removal of price controls. Exports of goods and services increased by 70 percent while imports climbed by 135 percent, depicting a deficit trade balance. The external debt which was 2.5 million US dollars rose to 4.86 million US dollars after the reforms, under SAPs. The presented data suggests that the performance of Mozambique's macroeconomic indicators was better in post-reform period (1987-94).

3.5.2 Relating Trade Reforms to Agricultural Sector's Performance

Table 3.3 below shows changes obtained in production quantities of key food commodities in pre-reform period (1975-86) and post-reform period under the IMF/WB's SAPs (1987-94) periods.

Table 3.3 Average trends of key Food Commodities' production before and after IMF/WB's Reforms (Tons)

Commodities	Before Reforms			After Reforms Under IMF/WB's SAPS	Changes	%Change
			Average	Average		
	1975-80	1981-86	1975-86	1987-94		
Maize	388333.00	376500.00	**382417.00**	**340690.00**	-41727	**-11**
Sorghum	200736.00	221166.00	**210951.00**	**152682.00**	-58269	**-28**
Millet	6833.00	5000	**5917.00**	**10411.00**	4494	**76**
Paddy Rice	68500.00	83833.00	**76167.00**	**78768.00**	2601	**3.41**
Cassava	3.40 *Million	3.64	**3.52**	**3.70**	0.18	**5.30**
Groundnuts	131333.00	110 166.00	**120750.00**	**99763.00**	-20987	**-17**
Pulses, nes	66002.00	77833.00	**71918.00**	**82570.00**	10652	**14.8**
Sweet Potatoes	40833.00	93000.00	**66917.00**	**75129**	8,212	**12**

Source: FAOSTAT (http://faostat3.fao.org/download/Q/QC/E) accessed on 22/08/2015

In Table 3.3, the average production quantities of maize, sorghum, and groundnuts registered negative figures in post-reform period, under IMF/WB SAPs, while the average production quantities of millet, paddy rice, cassava, pulses (nes), and sweet potatoes registered positive figures.

The two tables' results (Table 3.3 and Table 3.4) suggest that the performance in the production of key food commodities in post-reform period, under the IMF/WB's SAPs (1987-94), athough positive in some ways and negative in other ways, was better than before trade reforms, under the Frelimo government's socialist ideology.

3.6 POST-REFORM PERIOD UNDER IMF/WB/WTO'S TRADE REFORMS (1995-2014)

This section covers changes obtained in macroeconomic and agricultural sectors' indicators in post-reform period, under the IMF/WB/WTO's increased trade liberalization period.

3.6.1 Changes Effected in Macroeconomic Indicators

Table 3.4 below presents average macroeconomic trends before the reforms and after the reforms, under the IMF/WB/WTO's period.

Table 3.4 Average Macroeconomic Indicators before and after IMF/WB/WTO's Reforms (1975-2014)

Indicators	Before Reforms			After Reforms						Changes	% Change
	1975-80	1981-86	Average	1995-2000	2001-06	2007-12	2013	2014	Average		
Real GDP%	4.1	-2.35	**1.74**	8.3	8.82	6.96	7.1	8.3	**7.89**	6.15	**353**
Inflation%	N/A	27.82	**27.82**	16.62	12.42	7.72	3.5	2.6	**8.57**	-19.25	**-69**
Exchange rate MZN/USD$	N/A	N/A	N/A	13.43	22.75	29.20	30.10	31.45	N/A	N/A	N/A
Imports of goods and services (%GDP)	N/A	19.45	**19.45**	40.13	46.12	49.33	74.80	69.50	**55.97**	36.52	**188**
Exports of goods and services (%GDP)	N/A	5.63	**5.63**	12.05	26.73	28.35	25.70	26.20	**23.81**	18.18	**323**
External Debt USD Million	N/A	2,521	**2,521**	6,085	4,393	4,313	6,890	N/A	**5,420**	2,899	**115**

Source: World Bank (http://www.databank.worldbank.org/http://data.worldbank.org/indicator/PA.NUS.FCRF/ **http://data.worldbank.org/indicator/NE.IMP.GNFS.ZS) accessed on 20/08/15 and 04/01/16**

In Table 3.4, the real GDP growth rate rose sharply from the negative figure of -2.35 percent in 1981-86 to a positive figure of 7.89 percent in 1987-2014, showing an increase of 353 percent; the average inflation rate which was 27.82 percent before reforms reduced to an average of 8.57 percent from 1987-2014; imports of goods and services increased from 19.45 percent of the GDP in 1975-86 to an average of 55.97 percent from 1987-2014; export of goods and services increased from 5.63 percent in 1975-86 to 23.81 percent from 1987-2014. The external debt increased from 2,521million dollars in 1975-86 to 5,420 million dollars from 1987-2014.

3.6.2 Changes Effected in Agricultural Sector

Section 3.6.2 deals with changes effected after trade reforms in key food production quantities, food production and utilization, cash crops' production, producer price index, area harvested, and crops' yields.

3.6.2.1 Changes Obtained in key Food Commodities' Production Quantities

Table 3.5 presents changes effected in key food commodities' production quantities before reforms and in post-IMF/WB/WTO's reform period.

Table 3.5 Average trends of Food Production before and after IMF/WB/WTO's Reforms (Tons) (1975-2013)

Food commodities	Before Reforms			After Reforms				Changes	% Change
	1975-80	1981-86	Average 1975-86	1987-1994	1995-2004	2005-13	Average 1987-2013		
Maize	388333.00	376500.00	**382417.00**	**0.38** *Million tons	1.1 ***M**	2.5 ***M**	**1.3** ***M**	917583.00	240
Sorghum	200736.00	221166.00	**210951.00**	210951.00	217265.00	275 208	**215052.00**	4 101.00	1.94
Millet	6833.00	5000.00	**5917.00**	5917.00	31797.00	39 471	**27226.00**	21309.00	360
Paddy Rice	68500.00	83833.00	**76167.00**	76167.00	145913.00	174 860	**133180.00**	57013.00	75
Cassava	3.40 *Million	3.64	**3.52**	3.52	5.53	7.17	**5.47**	1.95	55
Groundnuts	131333.00	110 166.00	**120750.00**	120750.00	114745.00	105 970	**106826.00**	-13924.00	-11.53
Pulses, nes	66002.00	77833.00	**71918.00**	71918.00	120581.00	196009.00	**133053.00**	61 135.00	85
Sweet Potatoes	40833.00	93000.00	**66917.00**	66917.00	374512	756735	**402125.00**	335208.00	501

Source: FAOSTAT (http://faostat3.fao.org/download/Q/QC/E) accessed on 22/08/2015

In Table 3.5, maize, millet and sweet potatoes show sharp increases after trade reforms. Excepting groundnuts which showed a negative production figure, the production quantities of sorghum, paddy rice, cassava, and pulses (nes) also showed substantial increases.

3.6.2.2 Changes Obtained in Food Production and Utilization

Table 3.6 below shows Mozambique's production and utilization of key food commodities during 2011 (the latest data available). The table reveals Mozambique does not heavily rely on food imports for its key food commodities. The percentage of imported maize which is the main food staple was only 7.7 percent in 2011. Most maize is used for food consumption, while 24 percent is used for animal feed industry (poultry dairy and cattle rearing). About 6 percent of the maize is wasted which can be viewed as a cause for concern.

Table 3.6 Mozambique's Food Balance Sheet for 2011 (1000 Metric Tons)

Mozambique's Food Balance Sheet for 2011 (1000 Metric tons)												
Domestic Supply							Domestic Utilization					
Products	**Production.**	**Imported**	**% Imported**	**Exported**	**% Exported**	**Total**	**Food**	**Food Manu**	**Feed**	**Seed**	**Waste**	**Total**
Maize and products	2,179	160	7.7	12	0.6	2,077	1430		500	31	116	2,077
Sorghum and products	410	4	1.3	0	0.0	314	268	3	12	9	21	313
Millet and products	52	0	0.0	0	0.0	46	41			2	3	46
Rice (milled equivalent)	181	359	63.0	0	0.0	570	528	11		13	19	571
Wheat and products	20	410	87.2	51	10.9	470	459	0		1	10	470
Cassava and products	10,094	0	0.0	0	0.0	8,294	5,204		1,90		2,000	8,294
Sweet potatoes	860	0	0.0		0.0	860	774				86	860
Pulses + (total)	499	0	0.0	71	16.6	428	327			80	21	428
Pulses, Other and products	299	0	0.0	71	31.1	228	186			27	15	228

Source: FAOSTAT (http://faostat.fao.org/site/368/DesktopDefault.aspx?) accessed on 22/09/2015

3.6.2.3 Changes Obtained in Cash Crops' Production

Mozambique's major cash crops for export are cashew nuts, tobacco, cotton, copra, tea, sugar cane, and sesame seed. Table 3.7 below shows trends in the production of these cash crops.

Table 3.7 Cash Crops' Production and Effects on Food Production (Tons)

Cash Crops	Before Reforms			After Reforms				Changes	% Change
				IMF/WB	IMF/WB/WTO				
	1975-80	1981-86	Average	1987-1994	1995-2004	2005-13	Average 1995-2013		
Cashewnuts	99933.00	40500.00	**70217.00**	**35629.00**	52656.00	83113.00	**57133.00**	-13084	-19
Tobacco	2764.00	3000.00	**2882.00**	**3196.00**	14754.00	65540.00	**27830.00**	24948	866
Cotton	23666.00	10333.00	**17000.00**	**11850.00**	27665.00	48889.00	**29468.00**	12468	73
Coconuts	443333.00	412000.00	**428.000.00**	**425164.00**	412011.00	293940.00	**377038.00**	-50962	-12
Tea	16740.00	13532.00	**15136.00**	**2579.00**	6714.00	21819.00	**10371.00**	- 4765	-31
Sugarcane	2.16***M**	0.89	**1.53**	**0.227**	0.825	2.74	**1.26**	- 0.27	-18
Sesame	3000.00	3000.00	**3.000**	**2400.00**	6795.00	60877.00	**23357.00**	20357	679

Source: FAOSTAT (http://faostat3.fao.org/download/Q/QC/E) accessed on 22/08/2015

When compared to Table 3.5, Table 3.7 demonstrates that, under the IMF/WB/WTO's period, the production of food crops increased by greater percentage than the production of cash crops for export in Mozambique. Out of seven major cash crops (cashew nuts, coconuts, tea, sugarcane, tobacco, cotton, and sesame), only three (tobacco, cotton, and sesame) show positive production figures under the IMF/WB/WTO's period, as compared to the period before reforms, thus suggesting that the production of cash crops for export has not outcompeted food production after trade reforms.

3.6.2.4 Changes Obtained in Producer Price Index of key food commodities

Producer price indices are used to understand the extent to which the prices of goods and services have risen at the global and national levels. As noted in section 2.4.2 of this study, the global food prices have been falling in recent years. Table 3.8 shows Mozambique's behaviour

towards recent uninterrupted falls in global food prices. The table shows a fall in prices of all food commodities in 2013 compared to 2012, with the exception of pulses (nes), suggesting that Mozambique's prices are responding well to international prices' transmission.

Table 3.8 Average trends of Producer Price Index of key food Commodities after Reforms (1997-2013)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Maize	107.14	108.67	114.80	207.86	250.77	273.82	340.31	373.83	**370.00**
Cassava	105.88	141.18	194.12	213.88	300.45	328.07	407.74	447.90	**443.32**
Sorghum	94.12	132.35	132.35	147.06	174.79	190.85	237.20	260.56	**257.90**
Paddy Rice	101.37	109.59	136.99	200.12	242.50	264.79	329.09	361.51	**357.81**
Potatoes	93.69	113.36	120.55	102.36	107.01	116.85	145.23	159.53	**157.90**
Groundnuts	105	105	**110**	104.25	107.86	117.78	146.38	160.80	**159.15**
Pulses, nes	95.86	101.51	98.51	108.45	110.58	120.74	159.15	**150.07**	163.16

Source: FAOSTAT (http://faostat3.fao.org/download/P/PI/E) accessed on 17/09/2015

3.6.2.5 Changes Obtained in Area Harvested before and After Reforms (Ha) (1975-2013)

In Table 3.9, the trends of area harvested for paddy rice, groundnuts, and pulses (nes) show negative figures in post-reforms, under IMF/WB's SAPs, compared to the pre-reform period. In post-IMF/WB/WTO's reforms, the area harvested for maize increased by 56 percent, the area harvested for sorghum increased by 29 percent, the area harvested for paddy rice increased by 12 percent, the area harvested for cassava increased by 10 percent, and the area harvested for sweet potatoes increased by 62 percent. In contrast, the areas harvested for groundnuts and pulses (nes) continued to show negative figures, even in post-IMF/WB/WTO's period. As for the area harvested for millet, it had a very substantial expansion of 2194 percent in post-IMF/WB/WTO's reforms, suggesting that harvested area figures influence production of key food commodities.

Table 3.9 Average trends of Area Harvested before and after Reforms (Ha) (1975-2014)

Food Commodities	Before Reforms			After Reforms		Changes	% Change
				IMF/WB's Period	IMF/WB/WTO's Period		
	1975-80	1981-86	Average	1987-94	1995-2004		
Maize	620082.00	833 333.00	**726708.00**	**954 276.00**	**1306270.00**	403565.00	**56.00**
Sorghum	260675.00	360 000.00	**310338.00**	**376 414.00**	**422047.00**	88893.00	**29.00**
Millet	20000.00	20000.00	**2.000.00**	**31 437.00**	**60310.00**	43874.00	**2194.00**
Paddy rice	8366.00	8522.00	**8444.00**	**7 207.00**	**11661.00**	990.00	**12**
Cassava	823333.00	895 000.00	**859167.00**	**917516.00**	**976616.00**	87899.00	**10**
Groundnuts	350000.00	326 667.00	**338334.00**	**307722.00**	**317820.00**	-25563.00	**-8.00**
Pulses, nes	5320.00	3087.00	**4204.00**	**2888.00**	**4620.00**	-450.00	**-11.00**
Sweet potatoes	48205.00	54314.00	**51260.00**	**86362.00**	**79735.00**	31789.00	**62.00**

Source: FAOSTAT (http://faostat3.fao.org/download/Q/QC/E) accessed on 22/08/2016

3.6.2.6 Changes Obtained in Crops' Yields before and After Reforms (Ha) (1975-2013)

Table 3.10 depicts the average trends of crops' yields before and after trade liberalization reforms.

The table shows a falling crop yields' trend for maize, sorghum, paddy rice, cassava, groundnuts, and sweet potatoes under IMF/WB's SAPs. In post- IMF/WB/WTO's trade period, the average crops yields' trends for sorghum, paddy rice, and groundnuts continued to register negative figures suggesting that crops yields' figures do not influence production of key food commodities in Mozambique.

The figures obtained in Table 3.9 suggest that the increase in production of key food commodities in Mozambique in post-IMF/WB/WTO's trade reforms has been mainly the result of food production increase in area harvested.

Table 3.10 Average trends of Crops' Yields before and after Reforms (Hg/Ha) (1975-2014)

Commodities	Before Reforms (1975-1986)			After Reforms (1987-2013)		Changes	%Changes
				Under IMF/WB	Under IMF/WB/WTO		
	1975-80	1981-86	Average	1987-94	1995-2013		
Maize	6 285.00	4 533.00	**5409.00**	**3 760.00**	**7274.00**	**108.00**	**2**
Sorghum	7 756.00	6142.0.000	**6949.00**	**4 183.00**	**5109.00**	-2303.00	**-33**
Millet	3 417.00	2500.00	**2959.00**	**3 009.00**	**4254.00**	673.00	**23**
Paddy Rice	8 366.00	8 522.00	**8444.00**	**7 207.00**	**8691.00**	-495.00	**-5.90**
Cassava	41 310.00	40 693.00	**41002.00**	**40 083.00**	**56615.00**	7347.00	**18**
Groundnuts	3 752.00	3 371.00	**3562.00**	**3 259.00**	**3451.00**	-207	**-5.8**
Pulses & other	125395.00	252500.00	**188948.00**	**385788.00**	**322895.00**	165394.00	**88**
Sweet Potatoes	50800.00	51000.00	**50900.00**	**8774.00**	**99216.00**	3095.00	**6**

Source: FAOSTAT (http://faostat3.fao.org/download/Q/QC/E) accessed on 22/09/15

Section 3.6.2 has provided data on key food production quantities; food production and utilization; cash crops' production; producer price indices, area harvested, and crops' yields. The figures suggest that in post-IMF/WB/WTO's trade reforms, the country's agricultural sector performed better compared to the period before the reforms. Substantial increases were registered in food production quantities after the reforms. The balance sheet table demonstrates the country does not heavily rely on key food imports. Trends in cash production figures show that cash crop production does not out-compete food production in Mozambique. The producer prices index table shows Mozambique prices are responding well to international prices' transmission. The table on areas harvested suggests that increases in food production quantities after the reforms are mainly the result of increases in areas harvested rather than the result of increases in crops' yields.

The findings obtained in area harvested and crops' yields are a matter for concern. They tend to confirm claims by critics that small farmers no longer apply inputs in their farms as they are no longer subsidized and have become too expensive since the introduction of trade liberalization reforms. Thus, the declining crops' yield trends for basic commodities due to declining soil fertility in this study call for urgent measures and greater commitment from the Government to address this problem. Measures, such as the successful fertilizer program launched in Malawi, could be adopted to solve the problem.

3.7 CHANGES OBTAINED IN INSTITUTIONAL REFORMS AND EXTERNAL SHOCKS

In assessing the impact of trade liberalization on food security, institutional reforms and external shocks must be taken into account as they all influence changes in the food security situation. According to the FAO (2003:238), associated reforms can impact on food security and their impact "will often be greater than that of agricultural trade liberalization alone". In Mozambique, major changes have been registered in institutional reforms and other causal factors since the country obtained independence from Portugal. This section starts with institutional changes.

3.7.1 Land Reforms

As revealed earlier, when Mozambique achieved independence in 1975, the country's rulers nationalized all land in the country under a basically socialist Constitution. After the end of the civil war in 1992, the government initiated a land policy review which led to a new Land Law.

The basic provisions of the "Land Law" introduced in 1997 state that all land in Mozambique belongs to the State. Land users are protected, provided they can demonstrate "good faith" occupation of the land. Land leases can be granted for up to 50 years following the approval of a development plan. These leases are renewable, inheritable, and transferable subject to administrative authorization. The "Land Law" also states that foreign individuals who have resided at least five years in Mozambique or collectives registered or constituted in the Republic of Mozambique can obtain the "Right to the Use of Land" in Mozambique which is best known by its acronym, DUAT (*Direito de Uso e Aproveitamento de Terra")* (Forum for Food Security in Southern Africa 2004:42).

3.7.2 Mozambique's Agricultural Policy Reforms

AGRICOM, a state-owned marketing Board, which took care of the commercialization of all crops with the exception of cotton and cashew, was established after independence. In 1994, it was replaced by the ICM (Alfieri et al 2007:11).

In 1998, the government approved the "Food Security and Nutrition Strategy". According to the Forum for Food Security in Southern Africa (2004:42), this strategy was designed to secure food availability, food access, and optimum food utilization by maximizing economic growth and food security, particularly in the small farming sector.

Within the framework of the national food and agricultural policies, the Government also introduced the "National Plan for the Fight against Desertification" which lays a series of actions to be undertaken by local communities with the aim of reducing the causes and consequences of drought and desertification in most critical zones (Forum for Food Security in Southern Africa 2004:48).

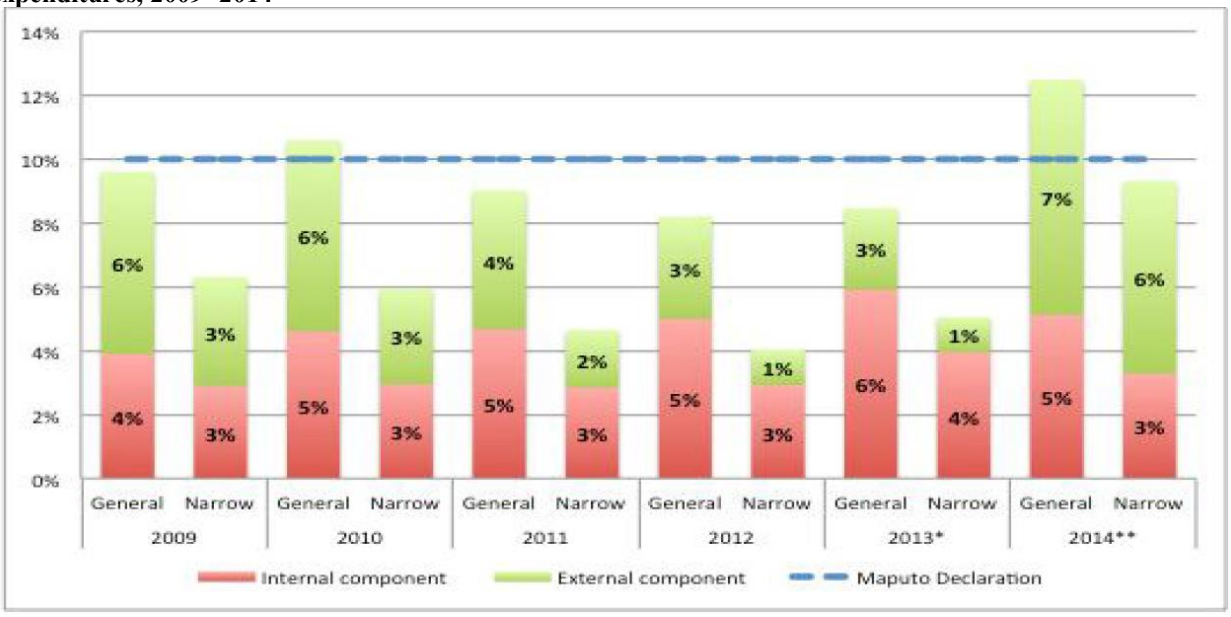
In recent years, Mozambique Government's support to food security has focused on three main strategies: the "Green Revolution" strategy introduced in 2007 in response to the AGRA initiative, a strategy aimed at improving productivity by increasing production areas, utilizing seeds and fertilizers, and investing in irrigation and mechanization; PAPA (2008-2011), an action plan for implementing the Green Revolution agenda; and PEDSA (2009-2019) whose general objective is to "contribute towards the food security and income of agricultural producers in a competitive and sustainable way" (FAO/WFP 2010:1-2).

In May 2011, the Mozambican Government approved a five-year Government Program, known as Poverty Reduction Action Plan (*Plano de Acção para Redução da Pobreza – PARP*). The PARP (2011-2014), which benefitted from consultation with civil society and "international cooperation partners", had as its principal goal to reduce the incidence of poverty from 54.7% in 2009 to 42% in 2014, through the promotion of pro-poor growth (IMF 2011:5-8).

During the period of these land reforms, there has been an annual increase in the percentage of budget allocated to agricultural sector. Although the country has not consistently achieved the 10 percent CAADP (Comprehensive Africa Agriculture development Plan) target, from 2001 to 2009, the budget allocated to agricultural sector surpassed the 10 percent CAADP target in 2003, 2004, and 2007 (ReSAKSS 2013:2). From 2010 to 2014, it met the CAADP target in 2010 and in 2014 (ReSAKSS 2014:8-36).

Nhlengethwa, Matchaya & Chilonda (2014:113) concur that Mozambique's public expenditures in support of agriculture did not match the Maputo target of 10 percent of the national budget in 2011, 2012, and 2013 as they demonstrate in figure 3.2.

Exhibit 3.2 Mozambique agriculture budget and expenditure as shares of total national budget and expenditures, 2009- 2014



Source: Nhlengethwa et al (2014:113) http://www.usc.es/econo/RGE/Vol23/rge2349c.pdf accessed on 25/01/2016

3.7.3 Reduced Market Monopolies and Reduced Parastatal Involvement

Since the end of the civil war, the Mozambique Government has made considerable efforts to reduce market monopolies and parastatal involvement. Over the period 1989-99, the country

implemented a privatization program that has resulted in the privatization of the vast majority of state-owned companies, including telecommunications, electricity, ports, and the railroads, thus increasing the country's attractiveness for foreign investment in different fields. By May 2011, over 1,200 state-owned enterprises had been privatized, including telecommunications, electricity, ports, and the railroads (WTO 2001:6).

Within the framework of market liberalization, in 1991, the government disbanded price controls, maintaining fixed prices for a group of basic consumer items, such as public transport fares, electricity and water. Following the riots which broke out in the capital city, Maputo, in February 2008, September 2010, and again in November 2012, over hikes in urban transport costs and price of bread, the government continues to subsidize fuel, the price of bread flour, public transportation, and school feeding programs.

3.7.4 External Shocks

Mozambican agriculture is highly vulnerable to weather risks, such as floods, droughts, and cyclones. Considering that most of the cultivalble land is rain-fed, agricultural production in Mozambique depends highly on rainfall. While people living in coastal regions or in the margins of big rivers are vulnerable to cyclones, storms and floods, in the interior of the country people are vulnerable to droughts. At the beginning of 2015, excessive rains caused damage and people's displacement in central and Northern provinces of the country, while southern provinces of Inhambane, Gaza, and Maputo experienced drought. Emphasis has been laid on the "Preparedness and Early Warning Systems". The former Department for the Prevention and Combat of Natural Disasters (DPCCN), which managed war-displaced people and drought relief, has been replaced by the National Disaster Management Institute (INGC) which has produced an Action Plan for Disaster Management. (Forum for Food Security in Southern Africa 2004: 3).

Sections 3.4.3.5 and 3.6 above have assessed the macroeconomic reforms, the agriculture sector reforms, institutional reforms, and external shocks which can positively or negatively influence the status of food security in Mozambique.

3.8 RELATING NATIONAL LEVEL RESPONSES TO FOOD SECURITY INDICATORS

To get a better understanding of the relationship between trade liberalization and food security, this section begins with an explanation of how trade liberalization impacts on food security: The implementation of trade liberalization reforms increases a country's openness. By increasing a country's openness, the reforms help to improve price transmission from "border to producer", thus making the producer to respond. The producer's response will induce changes in aggregate levels of production. And changes in aggregate levels of production, in turn, have the potential to increase people's access to food thus improving their food security status and welfare (FAO 2003: 239).

3.8.1 Changes Effected in Food Availability (1990-2013)

Food availability, according to the FAO (2015a:2), captures not only the quantity but also the quality and diversity of food. Thus, in assessing food availability, the following factors are analyzed: adequate DES; share of calories derived from cereals, roots and tubers; average protein supply; average supply of animal-source proteins; and the average value of food production, as demonstrated in Table 3.11. During the period after the reforms, the table presents rising trends for DES; the value of food production; the share of energy supply from cereals, roots and tubers; as well as the average supply of protein and protein of animal origin.

Table 3.11 Food Availability

DES (Dietary Energy Supply) *		**Value of Food Production**		**Share of Energy Supply derived ***		**Average Supply**			
		per capita		**from cereals, roots and tubers**		**Protein**		**Protein of Animal Origin**	
(kcal/cap./day)	(kcal/cap./day)	I$/cap	I$/cap	percent	percent	g/cap/day	g/cap/day	g/cap/day	g/cap/day
2000	**2014**	**1990-92**	**2009-11**	**2000**	**2014**	**1990-92**	**2008-10**	**1990-92**	**2008-10**
1991	2328	70	83	77	73	31	43	4	5

Source: FAO (http://www.fao.org/3/a-i3620e.pdf) [page 55]accessed on 17/09/201
***Source: FAO (http://www.fao.org/3/a-i4691e.pdf) [page 158] accessed on 15/11/2015**

In Table 3.11 above, the DES, the value of food production, and the average supply of protein and protein of animal origin showed rising trends from 2000 to 2014, from 1990-92 to 2009-11, and from 1990-92 to 2008-10, respectively; while the share of energy supply from cereals, roots and tubers showed a declining trend from 2000 to 2014.

3.8.2 Changes Effected in Physical and Economic Access and Food Access (1990-2010)

Tables 3.12 and 3.13 below show changes effected in physical and economic access as well as in improved water access. In physical access, the percentages of paved road and road density show a rising trend. In economic access, the domestic food price volatility index shows an increase from 2000 to 2014. As relates to improved water access, the percentage of population benefitting from improved water source has also increased from 41.1 percent to 49.2 percent.

Table 3.12 Physical and Economic Access

Physical Access						Economic Access *			Improved water source *	
% of paved road		Rail Lines Density		Road Density		Domestic Food Price Volatility Index			(% Population)	
%	%	Km per 100 square km of land area	Km per 100 square km of land area	Km per 100 square km of land area	Km per 100 square km of land area	index	index	index	%	%
1990	2005-09	1990	2005-09	1990	2005-09	1990	2000	2014	2000	2014
17	21	N/A	0.4	3	4	-	5.3	6.7	41.1	49.2

Source: FAO (http://www.fao.org/3/a-i3620e.pdf) [page 56] accessed on 17/09/2015

***Source: FAO (http://www.fao.org/3/a-i4691e.pdf) [page 158] accessed on 15/11/2015**

Table 3.13 below shows the trends of food access. In the table, all the figures relating to the percentages of prevalence of undernourishment show a falling trend from 30 percent in 2011 to 25.3 percent in 2014-16. The depth of food deficit also declined from 241 Kcal/cap/day in 2011 to 208 Kcal/cap/day in 2014. The percentage of the prevalence of food inadequacy also declined from 65.2 percent in 1990-92 to 46.1 percent in 2011-2013.

Table 3.13 Food Access

Prevalence of undernourishment *				% of Food Expenditure of the Poor	Depth of Food Deficit				*Prevalence of Food Inadequacy	
%	%	%	%	%	Kcal/cap/day	Kcal/cap/day	Kcal/cap/day	Kcal/cap/day	%	%
2011	**2012**	**2013**	**2014-16**	**2000-12**	**2011**	**2012**	**2013**	**2014**	**1990-92**	**2011-13**
30	29	28	25.3	N/A	241`	229	216	208	65.2	46.1

Source: World Bank (http://data.worldbank.org/indicator/SN.ITK.DEFC.ZS) accessed on07/9/15
***Source: FAO (http://www.fao.org/3/a-i3620e.pdf) [page 52] accessed on 17/09/2015**

3.8.3 Changes in Vulnerability/Stability Indicator

In Table 3.14, the value of food imports over total merchandise exports shows a falling trend, the cereal dependency ratio shows a rising trend, while the area equipped for irrigation is stationary.

Table 3.14 Changes in Vulnerability/Stability Indicator

Value of Food Imports over Total Merchandise Exports			Cereal Import Dependency Ratio *			Area Equipped for Irrigation (1 000 ha) *		
Percent	Percent	Percent	Percent	Percent	Percent	Area	Area	Area
1990-92	**1999-2001**	**2008-10**	**1990**	**2000**	**2014**	**1990**	**2000**	**2014**
156	**43**	**25**	**57.3**	**23.1**	**27.3**	**-**	**-**	**118**

Source: FAO (http://www.fao.org/3/a-i3620e.pdf) accessed on 17/09/2015

***Source: FAO (http://www.fao.org/3/a-i4691e.pdf) [page 158] accessed on 15/11/2015**

3.8.4 Changes in Utilization Indicator

Table 3.15 shows falling trends for all figures relating to underweight, stunted, and wasted.

Table 3.15 Changes in Utilization Indicator

Children under five of age						Adults
Underweight *		**Stunted**		**Wasted**		**Underweight**
Percent	Percent	Percent	Percent	Percent	Percent	Percent
2000	**2014**	**1990-95**	**2005-11**	**1990-95**	**2005-11**	**1990-2011**
21.2	15.6	60	44	9.6	7.5	N/A

Source: FAO (http://www.fao.org/3/a-i3620e.pdf) accessed on 17/09/2015

***Source: FAO (http://www.fao.org/3/a-i4691e.pdf) [page 158] accessed on 15/11/2015**

Section 3.7 presented changes effected in food security indicators, notably changes effected in food availability, changes effected in physical and economic access and food access, changes in vulnerability/stability indicator, and changes effected in utilization indicators.

3.9 ANALYSIS AND DISCUSSION OF NATIONAL RESULTS OBTAINED FROM SECONDARY DATA

In this section, the researcher analyzes and discusses the results obtained from secondary data for the period before and after IMF/WB/WTO's trade reforms

3.9.1 Changes Effected in Macroeconomic Sector before and after Trade Reforms

Unlike the years before trade reforms, Table 3.4 shows significant increases in real GDP growth rate and in import and export of goods and services after trade reforms. The import and export of goods and services rose sharply in the period after the reforms. The average inflation rate which before trade reforms stood at 28 percent in 1981-86, climbed to 67 percent under the IMF/WB's SAPs (1987-92), mainly due to the removal of most price controls and sharp increase in monetary supply following the currency devaluation.

The increases in GDP growth rate and in import and export of goods and services are by far greater in post-IMF/WB/ WTO's trade reforms. According to the IMF (2015:4), the high GDP growth rate in Mozambique originates from the following sectors: extractive industries, construction, manufacturing, utilities, and financial services. The following also contributed to the high GDP growth rate: favorable import prices, a bumper harvest that held down food prices, and a low consumer price inflation rate.

The inflation rate which had reached alarming levels during SAPs' period dropped to a single digit figure in post-IMF/WB/WTO's period. During this period, the country imported and exported more goods and services, with imports exceeding exports, thus creating a trade deficit balance. The table also shows an increase in average external debt from $2.5 billion in 1986 to $6 billion in 2000. The table shows a rising trend for the external debt which had registered a low average figure of $4 billion in 2012, after debt rescheduling and debt forgiveness. The external debt figure stood at $6.9 billion in 2013 which is a matter for concern.

The combined increases in the GDP growth rate and in import and export of goods and services, as well as the sharp drop in inflation rate suggest that the period after reforms, under IMF/WB'S SAPs, particularly under the IMF/WB/WTO, has been favorable to the economic sector.

3.9.2 Changes Effected in Agricultural Sector

According to critics and as stated in Chapter 2, under the IMF/WB/WTO's trade reforms, small producers in developing countries are unable to compete with food imports, thus forcing them to curtail or abandon food production activity. According to same critics, reliance on food imports exposes developing countries to external economic shocks. This study seeks to determine how and to what extent this is true for Mozambique.

In the case of Mozambique, Table 3.3 shows falling trends in the production quantities of maize, sorghum, and groundnuts and slight increases in the production quantities of millet, paddy rice, cassava, pulses, and sweet potatoes during the IMF/WB's SAPs (1987-1994). However, several factors, including the civil war between the Frelimo government and Renamo, could have have influenced the outcome considering that Table 3.5 registers better results in the production quantities of key food commodities in post civil war and during the post-IMF/WB/WTO's period (1995-2013). The highest production percentage rates, under the IMF/WB/WTO's period, were obtained in the production of millet and sweet potatoes. The production of groundnuts still shows a negative figure in post- IMF/WB/WTO's period, compared to the period before trade reforms.

The trends in key food commodities' production quantities as well as in imports and exports of these commodities, as shown in table 3.6, suggest that Mozambique relies more on the country's domestic production for its key food commodities than on imports. With the exception of rice and wheat (mostly consumed in urban areas) which exhibit high import figures, the table shows that the country imported minor quantities of key food commodities, notably corn. The table equally shows that domestic food producers, particularly smallholders, have not reduced their food production quantities as a result of being unable to compete with cheap (subsidized) food imports.

Table 3.8 presents trends of annual producer price index after IMF/WB's SAPs and in post IMF/WB/WTO's period. Compared to the IMF/WB SAPs' period, the IMF/WB/WTO's period shows a sharp rising trend, thus suggesting the existence of price transmission from international agricultural commodity prices to domestic food prices. As revealed earlier, riots which broke out in the capital city, Maputo, on 5 February 2008, on 1 and 2 September 2010, and again on 15 November 2012 over hikes in urban transport costs and price of bread, tend to confirm critics who claim that sharp increases in international prices can harm the poor in net importing countries. Trends show that international prices of key food commodities, such as wheat, rice, maize and soybeans, increased sharply between 2007 and 2008.

Table 3.9 depicting the average trends of area harvested show positive results in the post IMF/WB' s reform period for production of maize, sorghum, millet, cassava, and sweet potatoes and negative results for the production of paddy rice, groundnuts, and pulses. During the IMF/WB/WTO's period, the results became substantially positive, with the exception of average trends of groundnuts which showed negative results, compared to the period before trade reforms.

Table 3.10 depicting the average trends of crops' yields before and after reforms shows poor results. The average results obtained under IMF/WB's SAPs, from 1987 to 1994, show declining trends in the crops' yields for maize, sorghum, cassava, and groundnuts, while the average crop yields' results of maize, millet, cassava, pulses (nes), and sweet potatoes show positive results in post-IMF/WB/WTO's period. The average crops' yields for sorghum, paddy rice, and groundnuts still showed falling figures, compared to the period before trade reforms. These trends suggest that the food production quantities' results are more the product of increases in area harvested than the product of crops' yields.

3.9.3 Relating National Level Responses to Food Security Indicators

The researcher assessed the results obtained in food security indicators, notably in availability, access, stability and utilization. As relates to food availability, the country registered increases after the reforms, under IMF/WB's SAPs and under IMF/WB/WTO's period. The DES increased from 1991 kcal/pc/day in 2000 to 2328 kcal/pc/day. The share of energy supply derived from cereals, roots and tubers declined by 4 percent from 2000 to 2014.

As revealed in Chapter 3, physical access is facilitated by adequate infrastructure, such as railway lines, paved roads, ports, and food storage facilities. In assessing changes effected in physical and economic access, Table 3.12 shows that the physical access to paved road increased from 17 percent in the post-IMF/WB's reform period to 21 percent in the post-IMF/WB/WTO's period, while the rail lines density remained stationary at 0.4 km per 100 square km of land area, and the road density rose only from 3 to 4 km per 100 square km of land area from 1990 to 2005-09. The domestic food price volatility index rose from 5.3 in 2000 to 6.7 in 2012. The number of people benefitting from improved source of water rose from 41.1 percent in 2000 to 49.2 percent in 2014.

Food availability is not enough for food security. Table 3.13 presents trends of food access, prevalence of undernourishment, percentage of expenditure of the poor, depth of food deficit, and prevalence of food inadequacy. As relates to prevalence of undernourishment, the figure has dropped from 30 percent in 2011 to 25.3 percent in 2014-16. The table shows improvements in the prevalence of food inadequacy which fell from 65.2 percent to 46.1 percent.

As for changes in vulnerability/stability indicator, the percentage of value of food imports over total merchandise exports has dropped from 156 percent in 1990-92 to 43 percent in 1999-2001, and to 25 percent in 2008-10. Table 3.15 shows changes in utilization indicator. The percentage of children under five of age underweight dropped from 21.2 percent in 2000 to 15.6 percent in 2014. The percentage of children under five of age stunted dropped from 60 percent in 1990-95 to 44 percent in 2005-11. The percentage of children under five of age wasted also dropped from 9.6 percent in 1990-95 to 7.5 percent in 2005-11.

The trends of Mozambique's food security indicators have steadily improved over the years after the reforms, under IMF/WB's SAPs and under the IMF/WB/WTO's period. It should be noted, however, that the improvement rates are low, compared to other developing countries and some neighboring countries.

In assessing the results obtained in food availability, access, stability, and utilization, the researcher compared the results with those obtained by other countries; particularly Mozambique's neighboring countries, namely, Malawi, Zambia, Zimbabwe, and Swaziland (excluding the more advanced South Africa in some comparisons).

3.9.3.1 Food Availability

In food availability, Mozambique has increased its DES from 1991 kcal/pc/day in 2000 to 2328 kcal/pc/day in 2014. Thus, Mozambique performed better than Tanzania and Zambia whose DES is lower. The country also performed better than Swaziland whose DES fell from 2000 to 2014 instead of increasing over the years. What is more, Mozambique does not appear on the list of 20 countries with bottom DES in the World, whereas Swaziland, Tanzania, Zambia, and Zimbabwe do (FAO Statistical Pocketbook 2015:24).

As for the value of food production per capita, although the figure increased from 70 to 83 percent, the value of food production per capita is the lowest amongst neighboring countries. The second lowest figure is registered by Zambia which climbed from 85 percent to 101 percent, followed by Zimbabwe. The highest percentage of value of food production per capita is registered by Swaziland, although this percentage fell from 288 percent to 239 percent during the IMF/WB/WTO's period.

Although the percentage of share of energy supply derived from cereals, roots and tubers dropped by 4 percent, from 77 percent in 2000 to 73 percent in 2014, Mozambique is still on the list of top 20 countries whose energy supply is derived from cereals, roots, and tubers in the period 2009-2011. Other neighboring countries on this list are Malawi and Zambia (FAO

2015b:16). According to the FAO (2002), there has been a tendency in developing and industrialized countries to shift away from staples, such as roots and tubers, towards more livestock products and vegetables.

Although Mozambique's average supply of protein rose from 31 to 43 g/cap/day, it is still the lowest amongst neighboring countries. The average supply of protein of Tanzania remained stationary at 55 g/cap/day; that of Zimbabwe rose from 50 to 55 g/cap/day, of Zambia fell from 51 to 47 g/cap/day; of Swaziland remained stationary at 58 g/cap/day; and of South Africa rose from 74 to 84 g/cap/day. Mozambique's average supply of protein of animal origin which rose from 4 to 5 g/cap/day is also the lowest amongst neighboring countries.

3.9.3.2 Physical and Economic Access

Compared to neighboring countries, the lack of physical access to water in Mozambique which stands at 50.8 percent is the highest. The country has the lowest figure of road density amongst neighboring countries and the second lowest of rail line density after Tanzania. As for the percentage of paved roads, it is only better than Zimbabwe which has14 percent of paved road.

Food Access: Although Mozambique falls on the list of 20 countries with the highest prevalence of undernourishment in the World (also on the list in the region are Swaziland, Tanzania, Zambia, and Zimbabwe) (FAO 2015b:18), it can be stated that Mozambique performed better than Swaziland, Tanzania, and Zambia as in the above countries the percentages of undernourishment rose instead of falling, as shown in Table 2.1 in Chapter 2.

As for depth of food deficit, Mozambique's fell from 241 in 2011 to 229 in 2012 and to 216 Kcal/cap/day in 2014. It performed better than Swaziland, Tanzania, and Zambia where the depth of food deficit rose from 92 to 262 Kcal/cap/day, from 180 to 221 Kcal/cap/day, and from 225 to 306 Kcal/cap/day, respectively. Regarding the prevalence of food inadequacy, Mozambique's percentage has dropped from 65.2 percent in 1990-92 to 46.1 percent in 2011-13, performing better than Swaziland, Tanzania, and Zambia whose percentages rose from 23.1

percent to 47.9 percent in the case of Swaziland; from 38.1 percent to 40.5 percent in the case of Tanzania; and from 43.1 percent to 52.5 in the case of Zambia (FAO Statistical Yearbook 2014:52).

3.9.3.3 Food Vulnerability/Stability

Mozambique's percentage of cereal import dependency ratio dropped from 57.3 percent in 1990 to 23.1 percent in 2000, thereafter climbed to 27.3 percent in 2014. The cereal import dependency ratios also climbed in Zambia, Tanzania, Zimbabwe, and Swaziland. As for the area of arable land equipped for irrigation, Mozambique remained stationary at 118 000 ha. Mozambique and Tanzania have the lowest percentage of arable land equipped for irrigation in the region.

3.9.3.4 Utilization

Despite the drop in the percentage of underweight children, Mozambique has one of the highest percentages of underweight children amongst neighboring countries. As for children less than five of age who are stunted, Mozambique is on the list of 20 countries in the World whose percentage of children aged under five were stunted in the period 2006-2014. Other listed neighboring countries are Malawi, Zambia, and Tanzania.

Section 3.4 presented and analyzed changes effected before and after the introduction of trade liberalization reforms in Mozambique to assess how and to what extent trade liberalization impacted on food security in Mozambique. In assessing this impact, adopting the conceptual framework developed by the FAO (2003:239-256), the researcher presented and analyzed changes effected in macroeconomic indicators and agricultural sector. These changes with the potential to induce changes in food security indicators produced the results summarized in the table below.

3.9.4 Summary of Changes Effected in Food Security Indicators

Table 3.16 Summary of Results of Mozambique's Food Security Indicators

Food Security Indicators	Positive Side	Negative Side	Summary Results
Availability			
DES	DES rose from 1991 to 2014. Mozambique is not on list of 20 bottom DES	-	Steadily rising DES. The result is more positive than negative
Value of food Production	-	Although increasing, still lowest amongst neighboring countries	Mixed results – more negative than positive
Share of Energy Supply from cereals, roots & tubers	Dropped from 77% in 2000 to 73% in 2014.	However, still highest amongst neighboring countries. Mozambique is on the list of 20 bottom countries in the World in energy supply share.	Mixed results – more negative than positive
Physical Access			
% Paved roads over total roads	Rose from 16.8% in 1990 to 20.8% in 2005-09	-	Better than neighboring countries– more positive
Road Density	0.4 per 100 km2 of land area	Lowest after Tanzania among neighboring countries	Mixed results – both negative and positive
Rail Lines Density	3.8 per 100 km2 of land area	Lowest after Swaziland among neighboring countries	Mixed results – both negative and positive
Access to Water	-	Lack of access to water stands at 50.8% -highest amongst neighbors	More negative than positive
Food Access			
Undernourishment	Although among 20 bottom countries, better than neighbors	-	Better than neighboring countries– more positive
Depth of Food Deficit	Dropped from 241 in 2011 to 216 kcal/cap/day in 2014	-	Better than neighboring countries– more positive
Food Inadequacy %	Dropped from 65.2 % in 1990-92 to 43.8% in 2011-13	-	Better than neighboring countries– more positive
Stability			
Cereal import ratio	Dropped from 57.3% in 1990 to 23.1% in 2000.	Then rose to 27.3% in 2014	Mixed results – both positive and negative
Area Equipped for Irrigation %	-	Lowest among neighboring. Countries.	More negative than positive
Value of food Imports over total merchandise exports	Dropped from 43% in 1999-2001 to 23% in 2007-09	Second highest percentage after Tanzania:23%	Mixed results – both positive and negative
Political Stability	-	Government trying to disarm Renamo without success.	More negative than positive
Utilization			
Access to Water	-	Lack of access to water stands at 50.8% -highest amongst neighbors	More negative than positive
Percentage of Underweight Children		One of the highest amongst neighboring countries	More negative than positive
Percentage of Stunted Children		On the list of 20 countries with highest percentage	Mixed results – both positive and negative

Table 3.16 above provides a summary of changes effected in food security indicators.

3.10 CONCLUSION

This chapter provides information on the impact of trade liberalization on food security in Mozambique. It began by providing background information on Mozambique's political, economic, agricultural, educational and health fields.

Thereafter, it assessed the macroeconomic reforms, the agriculture sector reforms, institutional reforms, and external shocks which can positively or negatively influence the status of food security in Mozambique. Based on the results, Mozambique has performed well in macroeconomic and agricultural sectors' indicators.

The changes effected in macroeconomic indicators and agricultural sector were related to food security indicators to determine the impact of trade liberalization on food security in Mozambique. With the figures of food security indicators steadily rising over the years, it can be concluded that Mozambique performed comparatively well after trade reforms, under the IMF/WB's SAPs and under the IMF/WB/WTO's period.

Mozambique has peformed better than Tanzania, Zambia, and Swaziland. In these three countries, although figures of food security indicators are higher, the percentages of the prevalence of undernourishment and food inadequacy rose over the years, instead of declining. In the case of Tanzania and Zambia, these percentages rose side by side with high GDP growth rates, as revealed in Table 2.1 in Chapter 2.

On the negative side, although the figures of Mozambique's food security indicators have been steadily rising over the years, they are still some of the lowest among neighboring countries and LDCs. What is more, the FAO (2015b:14-24) places Mozambique on various lists of bottom 20 countries: The country is on the list of top 17 African countries and top 20 countries with the highest figure of undernourished people in the World in the period 2014-16. It is among 20 countries whose energy supply is mostly derived from cereals, roots, and tubers. The country is also on the list of 20 countries whose percentage of children aged less than five were stunted in the period 2006-2014.

In physical and economic access, compared to neighboring countries and other LDCs, the lack of physical access to water and sanitation is very high. The country has also some of the lowest figures of road and rail line density, making communication difficult for 70 percent of the population living in rural areas. Mozambique has also one of the lowest areas in the region equipped for irrigation.

From the above, it can be concluded that while some of the results are positive, others are mixed and negative thus suggesting that trade liberalization has had both positive and negative impacts on food security in Mozambique. Overall, this impact has been more positive than negative, particularly as relates to comparative analysis across a number of countries at regional level.

The next chapter deals with Research Design and Methodology.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

This Chapter discusses the research design and methodology used by the researcher in assessing the impact of trade liberalization on food security at national and rural household levels. It builds on Chapters two and three which focused on trade liberalization reforms and food security at international and national levels.

To seek to understand the impact of trade liberalization on food security in Mozambique, the researcher conducted the present study using the two main known research methods, namely secondary and primary research methods. The secondary research methods involved the study of existing literature on trade liberalization and food security while the primary research referred to first-hand information the researcher collected personally from the field, through a household survey, focus group discussions, interviews, and observations.

The specific objectives of the research are to provide an overall analysis of trade liberalization and food security; to identify and analyze the prevailing causes of food insecurity; and to evaluate the impact of trade liberalization on food security at rural household levels in Mozambique's Kambulatsitsi area.

4.2 FIELDWORK PROCEDURES

The field research study took place in Kambulatsitsi area of Moatize District in Tete Province from 12th to 17th December 2010. The researcher also carried out a follow-up visit to the area from 3rd to 5th October 2013.

During the five-day field research study, the researcher and his team members collected data relying mainly on primary responses obtained through a household survey, focus group discussions, personal interviews, and observations. During the October 2013 visit, the information was mainly collected through direct observations.

4.2.1 Area under Study

Kambulatsitsi which is an Administrative Post is bordered in the North by Zobué Administrative Post, in the South by Mutarara District, in the West by Moatize Administrative Post, and in the East by the Republic of Malawi (Appendices A and B, on Pages 192 and 193).

The area's infrastructure is poor and the inhabitants lack basic services. They rely on agricultural production for a living which takes place on small subsistence farms, using mostly a hand hoe to till the land. The people experience drought and poor rainfalls on constant basis and their use of agricultural inputs (improved seeds, fertilizers and pesticides) is very limited.

The people's main sources of income derive from the production of food and cash crops. The main, mostly drought-resistant, crops grown in the area are sorghum, millet, maize, beans, sweet potatoes, a wide variety of vegetables, as well groundnuts, cotton, and pulses (the latter four are also cash crops). Other sources of income include remittances from relatives in urban areas and outside the country; the production and sale of livestock, notably cattle, goats, pigs, and poultry; the production and sale of charcoal; the cutting and sale of timber and firewood; the sale of wild fruits and bush meat; as well the carrying out of casual jobs in other people's farms and for other people.

The area under study, Kambulatsitsi, is situated in Moatize District which is bordered in the North by Angonia and Macanga districts, in the South by Mutarara and Tambara districts, in the West by Zambezi River, and in the East by the Republic of Malawi. Moatize District is divided into three administrative posts: the Administrative Post of Moatize, the Administrative Post of Kambulatsitsi, and the Administrative Post of Zobué.

A literature review reveals that Moatize District is richly endowed with coal resources. Despite the presence of coal resources, the people in southern Moatize District, particularly in Kambulatsitsi, the area under study, experience food crisis on constant basis and traditionally depend for their living on drought-resistant crops, such as sweet potatoes and sorghum. Very often, they use coping strategies to provide alternative sources of income (Macamo 1999:7).

The district of Moatize is found in Tete Province which is situated in the northwestern part of the central region of Mozambique. The province is bordered by Zimbabwe, Zambia and Malawi, as well as by Manica Province in the South. The northern districts of Tete Province, notably Angonia, Tsangano and Macanga, are important cereal-producing areas. Tobacco is an important cash crop, particularly in Angonia. The people in the above districts sell their produce at competitive prices to neighboring countries, such as Malawi and Zambia (VAC 2002:14-15).

4.2.2 Selection and Training of Research Assistants

Before embarking on the field study, the researcher recruited and trained a group of 10 research assistants and a supervisor to help carry out the field work. The recruited research assistants are teachers of Kambulatsitsi Secondary School at Kambulatsitsi Administrative Post headquarters who were on end-of-year holidays. The team supervisor, Victor Inacio, recruited in Tete City, is a collaborator of the Department of Agriculture in Tete Province, possessing wide experience in fieldwork practice.

The field staff was provided with questionnaires duly translated into Portuguese language and then trained by the researcher on the fieldwork to be carried out. They were all fluent in the two ethnic languages (Nyungwe and Sena) spoken in the areas under study.

They were instructed to interview the head of the household and in his or her absence, any other adult person. They received instructions to begin by introducing themselves, to explain the purpose of their interviews, to inform interviewees that participation in the study is voluntary and that all information provided by them would be treated with strict confidentiality, and to finish by thanking them.

Prior to departure to the field, the 10 recruited assistants were provided with booklets containing questionnaires duly translated into Portuguese language. Each booklet contained the names of 10 interviewed respondents (totaling 100 respondents for the 10 localities); the name of the locality; and the name of the interviewer, including his academic qualifications, and cell-phone number.

4.2.3 Fieldwork and Data Collection

The researcher and his team members based themselves at Kambulatsitsi Administrative Post Headquarters from where they carried out fieldwork in the following 10 localities of Kambulatsitsi Administrative Post: Necungas, Ntowe, Chipango, Kambulatsitsi, Cachite, Cavumbo, Kassavu, Madamba, Mameme, and Bulawaio (Map of Moatize District showing different localities where interviews took place is found on Page 182).

At Kambulatsitsi Administrative Post Headquarters, the researcher met the administrative post authorities and the representative of the Department of Agriculture and NGOs working in various fields. After the meeting with the post administrator, the researcher and his assistants were authorized to carry out the field research. The administrator not only granted permission but, together with his officials, traditional authorities, and the representative of the Department of Agriculture in Kambulatsitsi Administrative Post, provided all the required support to guarantee the smooth running of the research project.

The interviewers were instructed to record the answers and to make notes in the booklet itself. As they returned the booklets, the researcher and his assistant reviewed them to identify missing and invalid or inconsistent entries. Booklets were reviewed, guaranteeing that the following was carried out: all questions were answered; only one answer was marked in a question, unless they do not apply; and respondents were given the opportunity to provide comments. Where errors were found, the interviewer was asked to repeat the work and adjust his/her booklet accordingly before he or she was paid off.

Data was reviewed through simple manual checks by the researcher and his assistant/supervisor and later analyzed and used in Chapter 5. The relevant questionnaires are included at the end of this dissertation.

During the five-day field work, the researcher and his team members collected data relying mainly on primary responses obtained through a household survey, focus group discussions, personal interviews, and observations. The researcher pre-tested the questionnaires, using the secondary school teachers at Kambulatsitsi as respondents. Corrections were made where necessary. Singleton, Straits & Straits (1993:521) define pre-testing as a trial experiment with a small number of respondents to evaluate and rehearse the field research procedures.

4.3 RESEARCH DESIGN AND METHODOLOGY

A research design guides a researcher in the process of collecting, analyzing, and interpreting data, by following defined methods (Nachmias and Nachmias 1987:127). The researcher followed the methodological framework developed by the FAO (2003:235) for analyzing the impact of reforms on national food security, using both secondary and primary research.

4.3.1 Secondary Research

When a researcher embarks on a study, his first task is to review the existing literature to see how other scholars have investigated the research problem. This helps the researcher to avoid duplicating a study (Mouton 2001:87).

According to Madziakapita (2008:87), secondary research is information obtained through literature, publications, media, and other non-human sources. Based on the above understanding, the researcher gathered information from various studies, both published and unpublished sources, related to trade liberalization and food security, to understand the impact of trade liberalization on food security.

Published sources include published literature, such as academic books, periodicals, journals, magazines, newspapers, reports, articles, as well as government policy documents and other publications on trade liberalization and food security. Unpublished sources include related information not yet published, such as government documents, articles, and dissertations/theses obtained from websites.

At the national level, the study concentrates on secondary research, relying mainly on FAO, FAOSTAT, and World Bank data. For analyzing the impact of reforms on national food security, the researcher followed the methodological framework developed by the FAO (2003:235) which is approached using a before and after trade reforms approach. The period before trade reforms is the period after independence and before trade liberalization reforms under the Frelimo government's socialist ideology (1975-1986), while the period after trade reforms is the IMF/WB SAPs' period (1987-1994) and the period of increased trade openness under the IMF/WB/WTO (1995-2014).

At rural level, the researcher used mainly primary research. According to the FAO (2003:140), any assessment of the impact of trade liberalization on food security requires a benchmark to compare the current values (*ex post*) or the simulated values (*ex ante*). Where statistics are not available for two distinct periods in time, a "with and without approach" is viewed as most

appropriate in assessing the impact of agricultural trade liberalization reforms on food security. From this standpoint, the researcher assessed the impact of trade liberalization on food security in Kambulatsitsi area taking into consideration the following two distinct periods: a period of "without trade liberalization reforms (*ex ante*)" extending up to 1986 and a period of "with trade liberalization reforms (*ex post)*" beginning from 1987 when the Mozambique Parliament formally approved the IMF/WB-backed PRE to 2010.

4.3.2 Primary Research

Primary research refers to first-hand information that a researcher collects personally from the field, that is, information that has not been previously collected by anyone else. At the rural level, the researcher carried out the study through a household survey, focus group discussions, personal interviews, and observations.

While "household surveys" are a data collection method relevant to the quantitative approach and usually expressed as statistics, "Focus Group Discussions", "Personal Interviews", and "Observations" are data collection methods of qualitative approach, usually published in the form of narrative reports or descriptions. They are usually open-ended.

To seek to understand the impact of trade liberalization on food security at the rural level, the researcher prepared questionnaires. De Vos and Fouché (1998:88-89) define a questionnaire as an instrument with open or closed questions or statements to which a respondent must reply.

The researcher formulated questionnaires to measure in Kambulatsitsi area households' food security, food insecurity, the impact of trade liberalization on food security, and the impact of other factors on food security. In general, using existing instruments provides greater validity and reliability to the measurement. However, according to Mouton (2001:100), a researcher can design his own instruments (questionnaires) if existing ones are not appropriate.

- **Questionnaire Applied to Measure Household Food Security**

The researcher adopted Madziakapita's (2008: 170-185) questionnaires to measure household food security (food availability, food access, food utilization and food stability) in Kambulatsitsi area. Question one deals with food availability, Question two deals with food access, Question 3 deals with stability, and Question 4 deals with food utilization. The questionnaire measuring household food security is found on Appendix C, Questionnaire C1, on Page 183.

- **Questionnaire Applied to Measure Household Food Insecurity**

The researcher applied the FANTA's Household Food Insecurity Access Scale (HFIAS) to measure household food insecurity in Kambulatsisi area. For years, researchers worldwide have been using variations of the U.S. Department of Agriculture's (USDA) Household Food Security Supplemental Module (HFSSM) to measure food insecurity (Melgar-Quinonez and Michelle 2008:1).

Beginning 2000, the USAID's Food and Nutrition Technical Assistance (FANTA) (2005:1), undertook a series of activities aimed at validating the USDA HFSSM approach for use in developing countries. This effort culminated in the development of HFIAS.

The HFIAS questionnaire which assesses whether households have experienced food insecurity during the last 30 days was further improved by FANTA in 2006. Presently, it is composed of 9 questions aimed at providing a universally applicable tool for measuring food insecurity.

During the pre-testing, the researcher and his assistants adapted some questions to the local context to ensure respondents know their meaning. It was felt that Questions 5 and 6 which, in the standardized HFIAS questionnaire, refer to "smaller meals" and "fewer meals in a day", respectively, would not be clearly understood in the local context. Rural people in most parts of the country normally have two meals a day, mainly because of their poverty and farm-work schedule. They leave their homes to either farm or fetch water/firewood very early in the

morning, before the sun breaks. When they return home, it is already close to mid-day. They prepare their first meal which stands for breakfast and lunch at the same time.

Based on the above situation, the researcher adapted the standardized HFIAS questionnaire coming up with seven questions instead of nine: Question one inquires about the respondents' anxiety and uncertainty about the household food insecurity, Questions two to four, deal with insufficient quality, including insufficient food variety and preferences, and Questions five to seven below, deal with insufficient food intake and its physical consequences. The questionnaire measuring food insecurity is found on Appendix C2, on Page 184.

- **Questionnaire Applied to Measure Impact of Trade Liberalization on Food Security**

While carrying out the field study, the researcher sought to comply with the guidelines laid down by the conceptual framework for analyzing the impact of trade reforms on food security at household level (FAO 2003:237). Question 1 dealt with price changes' influence on production and Questions 2 to 4 dealt with the presence of MNCs demonstrated by increased cash crop production. The questionnaire measuring impact of trade liberalization on food security is found on Appendix C3, on Page 188.

- **Questionnaire Applied to Measure Impact of Factors other than Trade Liberalization**

The researcher designed a 4-question questionnaire to measure the impact on food security of factors other than trade liberalization. Questions deal with climatic factors, acute diseases, and lack of basic infrastructure. The questionnaire measuring the impact on food security of factors other than trade liberalization can be found on Appendix C4, page 190.

4.3.2.1 Household Survey

One of the data collection methods relevant to the quantitative approach is a household survey. It is usually expressed as statistics and, therefore, relevant to the quantitative approach. There are

two broad categories of data collection methods: quantitative and qualitative. The difference in the 2 categories lies essentially in the approach and the types of questions they seek to answer. Quantitative methods produce hard numbers while qualitative methods capture more descriptive data. One of the major distinguishing characteristics of qualitative research is that the researcher attempts to understand people in their natural settings (Mouton 2001:194).

According to Madziakapita (2008:89), a household survey is a data collection process from only certain members of the population to obtain information which is representative of a vast group of people.

- **Sample Design and Sampling Methods**

Sampling methods can be divided into two categories: probability sampling and non-probability sampling. According to Babbie (2001:236), the probability or random sampling is the best method available to the social researcher for, with it; every member of the population has an equal chance of being included in the sample. For Clark, Riley, Wilkie and Wood (1998: 76-77), probability sampling is the most effective means by which a sample can represent the population from which it is drawn. Thus, the researcher and his assistants used probability or random sampling techniques while carrying out their field work, thus giving every household an equal chance of being selected.

Sampling is a very important aspect of research since the conclusions that can be drawn from the research depend directly upon whom the research was conducted (Terre Blanche & Durrheim 1999:274-5). Vuuren & Maree (1999:274) define sampling as a process used to select cases for inclusion in a research study. Mouton (1996:132), in turn, defines sampling as a random selection of elements from a target population to produce representative selections.

Using random sampling techniques, a total of 100 households in 10 localities of Kambulatsitsi Administrative Post were interviewed. According to Madziakapita (2008:93), a sample size of

between 100 and 200 is recommended when one lacks previous survey experience and no available survey data on the same subject can be found.

- **Researcher Adopted Closed-Ended Questions in Household Survey**

In posing questions to the respondents, researchers adopt two options: open-ended and closed-ended questions. In open-ended questions, the respondent is asked to provide his or her own answer to the question. In closed-ended questions, the respondent is asked to select an answer from among a list provided by the researcher.

The researcher decided to adopt closed-ended questions for the 100 respondents in the Household Survey for the following reasons: closed-ended questions enable the researcher to interview a greater number of people within a shorter period, without a danger that some respondents will give answers that are essentially irrelevant on issues of interest to the researcher. Closed questions also have the advantage of being easy to process (Babbie 2001:240). With closed questions, the result of the investigation can become available fairly quickly, responses can be compared better with one another and they can be very valuable in the case of a relatively large sample. There is one disadvantage, however: by using closed questions, important information can be missed since closed questions do not provide a variety of response options available on any particular subject.

4.3.2.2 Focus Group Discussions

Madziakapita (2008:96-97) defines a focus group discussion as a meeting of a group of people, between eight and 12 participants, to discuss their understanding and knowledge of a certain topic to enable a researcher to gain greater information about such a topic. For Babbie (2001:294), it is a group of between 12 and 15 people brought together in a room to engage in a guided discussion of some topic.

According to the above authors, more than one focus group is convened in a given study to guarantee a reliable insight. A typical "focus group discussion" is a semi-structured (key questions that help define areas to be explored) data gathering method which is qualitative in nature and consisting of open-ended questions. An advantage of a focus group discussion is that information from one individual can be cross-checked with others and more than one opinion gathered.

Within this framework, the researcher prepared a questionnaire for focus group discussions, adopting the following research techniques: A semi-structured questionnaire was used consisting of carefully selected and phrased open-ended questions which enabled the people to bring up things they wanted to talk about. Different localities of Kambulatsitsi area were randomly chosen to conduct focus group discussions.

The semi-structured questionnaire has a pre-determined set of questions which serve as a checklist to delimit issues to be discussed. The questions are open-ended in order to provide greater scope for discussion, giving participants opportunities to reveal their own opinions, feelings, and beliefs, and to describe whatever events seem significant to them. According to Babbie (2001:240) although open-ended questions lengthen the time necessary for data processing, they have the advantage of enabling respondents to reveal their own opinions and describe whatever events seem significant to them.

The researcher randomly selected three different areas of Kambulatsitsi – Kambulatsitsi Administrative Post Headquarters, Mameme, and Necungas – to conduct focus group discussions with a view to guaranteeing that issues of triangulation are determined objectively.

The first focus group discussion involved a group of 12 teachers belonging to the Kambulatsitsi Secondary School at Kambulatsitsi Administrative Headquarters. The 90-minute discussions were conducted in one of the classrooms. The teachers were able to provide relevant information on the situation of food security and the diverse factors that influence it. The teachers group included four women teachers.

The second focus group discussion took place at Mameme with 8 members of a Cotton Growers' Association active in the area. The association members provided information on cash crop production and food security in the area.

The third group discussion was with a nine-member community leaders' group at Necungas. These community leaders' group involved the chieftain (*régulo*) and his collaborators. The discussions were conducted in open-air space. Community leaders provided information on agricultural production, trade, and food security in the area.

Focus Group Discussions have their own limitations: there is a tendency by some members to feel intimidated and to avoid participating in the discussions; some participants may dominate the discussions; there are times when the discussions are irrelevant to the topic being discussed; the discussions may be difficult to handle and to manage. The researcher was aware of all these negative effects of Focus Group Discussions and efforts were made to minimize dominant voices and to involve all the participants in the discussions. Likewise, the researcher made sure that some Focus Group Discussions included women and the youths.

In order to triangulate the information, the teachers' group, because of their education level in the area, was asked different questions related to agricultural production, education, and social issues. Cotton growers were mainly asked questions related to cash crops' production; while the community leaders, because of their knowledge of the area, were posed different questions.

In all the three discussion groups, the researcher acted as a moderator and his team supervisor Victor Inacio as deputy moderator. As a moderator, the researcher acted as facilitator, introducing the subject, guiding the discussions, cross-checking comments, and encouraging all members to express their views. The questionnaire on Focus Group Discussions is found on Appendix D, Page 191.

4.3.2.3 Personal Interviews

Nachmias and Nachmias (1987:236) regard personal interviews as face-to-face interpersonal interviews in which an interviewer asks respondents or key informants questions about a particular topic. A key informant, according to Madziakapita (2008:100), is viewed as an individual with "an expert or knowledgeable opinion" on the subject.

Within this framework, the researcher carried out personal interviews guided by a semi-structured set of topics to encourage respondents to talk freely about IMF/WB/WTO's agricultural trade liberalization reforms and food security while at the same time keeping to the point on issues of interest to the researcher.

Personal interviews were carried out by the researcher himself with the following officials: Kambulatsitsi Administrative Post Administrator Domingos Janeiro, Agriculture Officer Joaquim Kunamizana, and Evangelist Church Pastor Tiago Juliasse based at the Twin Mountains of Necungas. These people, because of their knowledge, experience or social status in the community, have access to information viewed as valuable by the researcher.

Questions related to agricultural production were mainly posed to the agriculture officer qualified to provide reliable information. The post administrator was mainly asked questions related to the whole of Kambulatsistsi area. To guarantee as far as possible that the provided answers are the honest opinions of the individuals being interviewed, the researcher was alert to any inconsistencies arising in the answers, by crosschecking the information with other sources and ensuring that the respondents understood the raised questions. The used questionnaire on personal interviews is provided in Appendix E, Page 192.

4.3.2.4 Observations

Observation is noting down what one sees, hears, touches or feels. For Creswell (2003:185), in observation, the researcher records field notes on observed activities at the research site. This is another important source of qualitative data for evaluation, involving careful identification and accurate description of relevant human interactions and processes.

According to Madziakapita (2008:105), observation which takes place when the researcher is in the area and involved in the events enables one to learn more about an event without taking into account the biased viewpoints expressed during interviews.

For Terre Blanche & Durrheim (1999:134-9), while in personal interviews, the researcher relies on the interviewee's recollection of an experience, observation takes place while things are actually happening, thus getting the researcher closer to the action and fully involved in the setting being studied. The observational fieldwork for evaluation provides a better understanding of the context in which program activities occur and permits the researcher to present a more comprehensive view of the program by combining his own as well as other people's perceptions. From the above, the researcher used the data collection technique of a semi-structured observation using some prior questions that the inquirer wants to know.

The researcher and his team members noted down what they observed firsthand in the field pertaining to factors representing trade liberalization reforms and food security, thus helping to cross-check what interviewees have said (Appendix D, Page 191).

4.4 CONCLUSION

Research and Methodology discussed the secondary and primary methods used to address the research problem. The secondary research methods included the study of existing literature on IMF/WB/WTO's agricultural trade liberalization reforms and food security; while the primary research involved a household survey, a data collection method relevant to the quantitative approach, and focus group discussions, personal interviews, and observation, data collection methods relevant to the qualitative approach.

In the household survey, the researcher conducted a closed-ended survey in 10 localities of Kambulatsitsi area, namely Necungas, Ntowe, Chipango, Kambulatsitsi, Cachite, Cavumbo, Kassavu, Madamba, Mameme, and Bulawaio, using probability sampling.

In the focus group discussions, the researcher used a semi-structured questionnaire consisting of carefully selected and phrased open-ended questions which enabled interviewees to bring up things they wanted to talk about. The researcher randomly selected three different areas of Kambulatsitsi – Kambulatsitsi Administrative Post Headquarters, Mameme, and Necungas – to conduct focus group discussions with a view to guaranteeing that issues of triangulation are determined objectively.

The researcher carried out personal interviews guided by a semi-structured set of topics to encourage respondents to talk freely about trade liberalization and food security, while at the same time keeping to the point on issues of interest to the research.

As for observations, the researcher and his team members noted down what they observed firsthand in the field pertaining to factors representing trade liberalization and food security.

The next chapter will discuss the research "Findings and Discussions"

CHAPTER 5

FINDINGS AND DISCUSSIONS

5.1 INTRODUCTION

This Chapter is linked to the previous Chapter which dealt with data collection methods. The Chapter presents, analyzes, and discusses data gathered during fieldwork in the area of Kambulatsitsi, in Moatize District, Mozambique's Tete Province, using the four known data collection methods, namely a household survey, focus group discussions, personal interviews, and observations.

The researcher analyzed the quantitative information obtained from the household survey. This information was triangulated with the qualitative information obtained from focus group discussions, personal interviews, and observations.

5.2 PRESENTATION OF RESULTS OBTAINED DURING DECEMBER 2010 FIELD STUDY

The researcher carried out a field study in Kambulatsitsi area, Moatize District, Tete Province from 12th to 17th December 2010, as revealed in Chapter 4. In this section of the study, the researcher presents through tabular and text forms the results obtained in the area during that period.

While carrying out the field study, the researcher sought to comply with the guidelines laid down by the conceptual framework for analyzing the impact of trade reforms on food security: changes in relative prices resulting from increased trade openness influence changes in production which, in turn, influence changes in food security (FAO 2003:237), as demonstrated in Table 5.1 below.

Table 5.1 Guidelines for Analyzing Impact of Trade Liberalization on Food Security at Household Level

Guidelines at Household Level before Trade Reforms and after Trade Reforms	
Trade Liberalization (Cheaper imports and a fall in domestic prices influencing changes in agricultural production)	
Trade liberalization	Changes in relative border prices leading to changes in production
Agricultural Sector reforms and Institutional reforms influencing changes in food security	
Intensification	Intensification of existing production patterns
Diversification	Promotion of crop diversification
Farm Size	Expanded Farm Size
Herd Size	Expanded Herd Size
Parastatal Involvement	Reduced Parastatal Involvement
Off Farm Income	Increased off Farm Income (agricultural and nonagricultural)
Exit	Complete Exit from Agriculture
External Shocks (other causal factors influencing changes in food security)	
Penetration of MNCs	Increased presence of MNCs' activities
Climatic occurrences	Droughts, floods or cyclones
Food Security Indicators	
Availability	Level of local or own production, stock levels and net trade
Accessibility	Income level, purchasing power, expenditure, markets, and prices
Utilization	Feeding practices and diversity of diet
Stability	Stability of income or production all the times

Sources: FAO (2003:237) ftp://ftp.fao.org/docrep/fao.org and
FAO (2008:1) http://www.fao.org/docrep/013/al936e/al936e00.pdf [Accessed on 27 March 2015].

5.2.1 Household Survey

When carrying out the household survey, the researcher focused on food security, food insecurity, impact of trade reforms on food security, and impact of other factors on food security.

5.2.1.1 Food Security in Kambulatsitsi Area

Table 5.2 presents the four main dimensions of food security (food availability, food access, utilization, and stability) in Kambulatsitsi area. As revealed in Chapter 4, to measure household food security, the researcher and his team members interviewed 100 household members, 10 in each of the 10 localities.

Table 5.2 Food security in Kambulatsitsi Area According to its four Dimensions

Food Security Indicators						
Food Security Dimensions	**Questions**	Respondents				
		Answers				**Number of Respondents**
		No	Perc.	Yes	Perc.	Total
Food Availability (local or own production)	Q1. Is most food you eat produced locally?	49	49%	51	51%	100
	Q2. Do you produce surplus food to sell?	87	87%	13	13%	
Food Access	Q3. Do you have access to most of the food you eat through own production?	53	53%	47	47%	
Food Utilization	Q4. Does the food you eat meet dietary needs and preferences	96	96%	4	4%	
Stability of production)	Q5.Do you lack access to adequate food supplies at all times?	0	0%	100	100%	

As refers to "food availability", Table 5.2 shows 51 interviewed household members (51%) answered most food they consume is produced locally from own production in Kambulatsitsi area, against 49 household members (49%) that provided a negative answer. Only 13 interviewed household members (13%) answered they produce surplus food to sell, against 87 household members (87%) that answered they produce food only for own consumption.

Regarding food access, a good majority of interviewed households, 53 of them (53%), answered they do not obtain access to food solely through own production, against 47 members (47%) that answered they do.

As for stability of supplies, 100% of households answered they lack access to food supplies at all times. Seventy nine percent of households (79%) answered they use coping strategies to survive, against 21 (21%) that provided a negative answer.

As refers to food utilization, 96 interviewed households (90%) answered the quality of their diet is poor and, as such, the food they eat does not meet their dietary needs and preferences.

5.2.1.2 Food Insecurity in Kambulatsitsi Area

Table 5.3 below shows all surveyed localities of Kambulatsitsi face a very high level of food insecurity. This food insecurity is manifested in the form of anxiety that food will not be available due to lack of resources, insufficient food quality and variety, and insufficient food intake.

Table 5.3 Food insecurity in Kambulatsitsi Area

Food Insecurity in Kambulatsitsi Area											Respondents	
Areas	Anxiety			Insufficient Quality			Insufficient Food Intake				Perc.	Total
	Food Insecurity rare	Food Insecurity Some Times	Food Insecurity Often	Food Insecurity Rare	Food Insecurity Some Times	Food Insecurity Often	Food Insecurity Rare	Food Ins. Some times	Food Insecurity Often	Average Percentage		
Necungas	0%	40%	60%	15%	55%	30%	50%	10%	5%	21%	88%	10
Ntowe	0%	30%	70%	15%	37.5%	47.5%	35%	5%	10%	16.5%	83%	10
Chipango	50%	40%	10%	40%	37.5%	22.5%	25%	25%	5%	18%	85%	10
Kambulatsitsi%	0%	50%	50%	20%	45%	35%	20%	15%	15%	16.5%	83%	10
Cavumbo	0%	20%	80%	0%	12.5%	87.5%	15%	45%	20%	26.6%	93%	10
Cachite	0%	40%	60%	20%	45%	35%	55%	10%	5%	23%	90%	10
Kassavu	0%	0%	100%	15%	20%	65%	30%	30%	10%	23%	90%	10
Bulawaio	20%	30%	50%	10%	25%	65%	15%	20%	5%	13%	80%	10
Mameme	0%	20%	80%	10%	25%	65%	20%	15%	20%	18%	85%	10
Madamba	0%	0%	100%	22.5%	30%	47.5%	40%	10%	0%	16%	83%	10
Total												**100**

To measure household food insecurity (anxiety or uncertainty about obtaining enough to eat, insufficient food quality, and insufficient food intake), the researcher and his team members interviewed 100 household members, 10 in each locality, producing the above results: Question one (Q1) inquires about the respondent's anxiety that he/she would not have enough to eat due to

lack of resources. Q2 to Q5 deal with insufficient food quality, insufficient food variety and insufficient food preferences. Q6 and Q7 deal with insufficient food intake and its physical consequences.).

5.2.1.3 Impact of Trade Liberalization on Food Security in Kambulatsitsi Area

Table 5.4 below shows the impact of trade liberalization on food security in Kambulatsitsi area. Asked if imported food affected their food production, 79 percent of interviewed households answered no, against 21 percent that answered yes.

Fifty-nine percent (59%) of interviewed household members answered they produce less food now than 13 years ago, against 41 percent that answered negatively. Sixty-three percent (63%) of interviewed household members answered they experience greater food shortage now, against 37 percent that provided a negative answer.

Table 5.4 Impact of Trade Liberalization on food security in Kambulatsitsi Area

Impact of Trade Liberalization on food security			
QUESTIONS	**RESPONDENTS**		
	Answers		**Number of Respondents**
	No	**Yes**	**Total**
Trade Liberalization (Influence of Price Transmission from Border to Domestic Market)			100
Q1. Do cheap food imports affect your food production?	79%	21%	
Q2. Do you produce less food now than many years ago?	41%	59%	
Q3. Do you experience greater food shortage now than many years ago?	37%	63%	
Agricultural Sector Reform (Influence of Promotion of Crop Diversification)			
Q4. Do you produce more cash crops for export now than many years ago?	12%	88%	
Institutional Reform (Influence of Reduced Parastatal Involvement (Abolition of Agricom/ICM)			
Q5.Would price controls on food crops improve your food production?	34%	66%	

The results show a high presence and level of cash crop production in Kambulatsitsi area. Eighty-eight percent (88%) of interviewed household members answered they produce more cash crops now than they used to do many years go, against 12 percent that provided a negative answer.

Asked whether price controls on food crops would improve their food production, 66% of interviewees answered yes, against 34% that answered no.

5.2.1.4 Other Causal Factors Influencing Food Security (External Shocks)

Apart from trade liberalization, there are other causal factors influencing food security. These factors include climatic factors, such as droughts and poor rainfalls; acute diseases, such as HIV/AIDS, malaria and tuberculosis; and the lack of basic infrastructure, such as poor roads.

Table 5.5 Presence of other Factors Influencing Food Security

Presence of other Factors Influencing Food Security			
Questions	**Respondents**		
	Answers		**Respondents**
	No	**Yes**	**Total**
Effects of Increased Climatic Occurrences			
Q1. Do climatic factors affect your production causing food insecurity?	11%	89%	
Acute Diseases (HIV/AIDS, Malaria & TB)			
Q2. Do you have household members who have died of diseases, such as HIV/AIDS, malaria, and TB?	27%	73%	
Q3. Has their death reduced your food production?	33%	67%	
Lack of Basic Infrastructure			
Q4. Has the lack of such basic infrastructure reduced your production?	11%	89%	

Asked whether Kambulatsitsi locality experienced constant droughts and poor rainfalls that affected households' production causing food insecurity, 89 percent answered yes, against 11 percent that answered no. Table 5.4 also shows that 73 percent of interviewees admitted having household members who have died of diseases, such as HIV/AIDS, malaria and tuberculosis, against 27 percent that provided a negative answer. Asked if the death of these household members reduced their food production, 67 percent answered yes, against 33 percent that answered no. Asked if the lack of basic infrastructure reduced their food production, 89 percent answered yes, against 11 percent that answered no.

5.2.2 Focus Group Discussions

Table 5.4 registers "Focus Groups" discussions with a group of teachers in Kambulatsitsi locality, a cotton growers' association at Mameme, and a community leaders' group at Necungas.

Table 5.6 Focus Groups' Discussion Results

Questions	Teachers' group at Kambulatsitsi Administrative Post	Cotton Growers' Association at Mameme	Community Leaders' group at Necungas	Summary
Trade Liberalization (Border price transmission)				
Q1.Do cheap food imports affect your food production?	No: Peasants mostly grow food for own consumption.	No: The area does not experience a flood of cheap food imports.	No:Presence of cheap food imports not felt in the area	No:Area does not experience flood of food imports
Increased off Farm Income and Complete Exit from Agriculture				
Q2.Do most people rely on off farm jobs for a living?	No: Most people rely on food production for a living	No: people carry out casual, part-time jobs as a coping strategy	No: people rely on production of food for a living	No: people depend on food production for a living
Q3. Does migration affect food production?	Yes: migration reduces household food production.	Yes: migration of youths and male adults causes food shortage	Yes: active household members' migrate reducing production	Yes:Active members migrate reducing production
Promotion of Crop Diversification				
Q4.Do you think cash crop production discourages food production?	Yes: As they obtain inputs from cash crop firms, peasants neglect food produce	Yes: As soil is poor, people resort to cash crop production which fares well in the area.	No: people grow cash crops as a coping strategy but never neglect food produce	Yes: As they obtain inputs from cash crop firms, peasants neglect food produce
Effects of Increased Climatic Occurrences				
Q5.Are droughts and poor rainfalls a problem for your production?	Yes- People depend on the rains to carry out agricultural production	Yes-drought and poor rainfalls cause food shortage	Yes-drought and poor rainfalls are the main cause of food shortage	Yes: According to interviewees, they cause food shortage

The "Focus Groups" discussed changes in relative border prices, off farm income and complete exit from agriculture, increased production of cash crops, and climatic occurrences. To make the results easy to compare and to process, each focus group has single results as they were asked to come to clear conclusions.

5.2.3 Personal Interviews

Table 5.6 registers personal interviews with Kambulatsitsi Post Administrator Domingos Janeiro, Agriculture Officer Joaquim Kunamizana, and Pastor Tiago Juliasse. The personal interviews discussed production intensification, promotion of crops' diversification, expanded herd size, increased off farm income, and climatic occurrences.

Table 5.7 Personal Interviews with Government and Religious Officials

Questions	Post Administrator (Domingos Janeiro) at Kambulatsitsi	Agriculture Officer Joaquim Kunamizana at Kambulatsitsi	Religious leader Pastor Tiago Juliasse at Madamba	Summary
Production intensification and crops' diversification				
Q1. What measures do households take to alleviate food shortages?	They produce cash crops to earn income; look for casual jobs to obtain income/food	They produce drought-resistant crops; do casual work in exchange for food	They produce cash crops; work in other people's farms; sell wood & charcoal	They produce drought crops & cash crops; do casual jobs & sell charcoal.
Herd Size				
Q2.Do households depend on livestock production and sale for a living?	No: people sell herd only as a coping strategy when they face difficulties.	No: although people rear livestock, they rely on agriculture production.	No: People depend on food production for a living.	No: People traditionally rear livestock. However rely on agriculture.
Complete Exit from Agriculture				
Q3. Are there many people who migrate from rural areas?	Yes: young people and male adults often migrate to urban areas and outside country	Yes: Harsh living conditions in the area force young people to migrate	Yes: male adults & young people migrate to cities, leaving women to till land	Yes: Harsh living conditions in the area force people to migrate
External Shocks (Climatic occurrences)				
Q4. Are constant droughts and poor rainfalls the cause of food shortages?	Yes: droughts and poor rainfalls are the main cause of food shortages	Yes: arid and poor soil and lack of irrigation facilities are the cause of food shortages	Yes: droughts and poor rainfalls are the cause of food shortage in the area	Yes: droughts and poor rainfalls viewed as the cause of food shortage

5.2.4 Observations

Table 5.6 below shows the results of the observation visit carried out by the researcher during December 2010 field study.

Table 5.8 Observations in Kambulatsitsi Area during December 2010 Field Study

Guiding Elements	Summary of Observation Results
Trade Liberalization (Price Changes' Influence on Production)	
Cheap food imports	Most households do not feel threatened by competition from cheap food imports
Agricultural Sector Reform (Production Intensification and Crops' Diversification)	
Intensification of existing production patterns	Intensification of production of cash crops for export, such as cotton and sunflower
Farm Diversification of Production	Promotion of diversification of drought-resistant crops, such as cassava, sorghum, sweet potatoes, beans and groundnuts.
(Expanded Farm or Herd Size)	
Farm Size	Many households possess small subsistence farms, using mostly a hand hoe to till the land. They mainly produce for own consumption.
Herd Size	Although area good for rearing livestock, there is low production of livestock, such as cattle and goats.
(Increased off Farm Income and Complete Exit from Agriculture)	
Increased off Farm Income	Households increasingly resort to sale of charcoal, timber to earn income.
Complete Exit from Agriculture	Many male adults and young boys migrate to cities and outside Mozambique
Institutional reform	
Reduced parastatal involvement	Abolition of state-owned marketing board which bought and stored local produce and controlled prices
External Shocks	
Increased Penetration of MNCs	Cotton production companies encourage households to produce cotton for export.Households have increased the production of cash crops for export.
Climatic occurrences	Although households rely mostly on rain-fed agriculture, the area experiences droughts and poor rainfalls on constant basis.
Food Security	
Availability (Local or own Production)	Significant amount of food made available through local production. However, own food production not enough to meet consumption needs
Stability (Stability of Income or Production)	Kambulatsitsi faces high level of food insecurity characterized by persistent inability to meet minimum food requirements.
Accessibility (Income level/ purchasing power)	Households obtain access to food mainly through own production or casual work.
Food Utilization	Food utilization of households does not meet recommended dietary needs. People travel long distances to obtain water and health services.

The researcher and his team members observed that household members in Kambulatsitsi do not feel outcompeted by the presence of food coming from outside Kambulatsitsi. As they are unable to produce enough to feed themselves and in order to earn income with which they can obtain food, they have increased the production and sale of cash crops, notably the production and sale of cotton, groundnuts, and sunflower.

Most Kambulatsitsi households produce for own consumption and although the area is good for livestock production, notably the production of poultry, goats, pigs, and cattle, there is low production of livestock.

Households in the area depend on rain-fed agriculture to earn a living. The surveyed localities display high levels of aridity, poor soil, and poor rainfalls, making people to depend on rain-fed agriculture and the production of drought-resistant food and cash crops for export. The researcher and his team members also observed that households in Kambulatsitsi display a poor physical state and lack basic infrastructure.

The researcher and his team members also observed that households in Kambulatsitsi rely on subsistence farming. They eat mostly locally produced food, they lack purchasing power and resort to coping strategies to survive as they do not produce enough for own consumption. The food they eat does not meet their dietary needs and preferences. During the field research study, the researcher and his team members observed that Kambulatsitsi household members consumed poor meals, such as maize bran, green mangoes and green bananas, as well as baobab tree leaves. A number of them ate only one meal a day and occasionally skipped meals.

5.3 PRESENTATION OF RESULTS OBTAINED DURING OCTOBER 2013 FIELD OBSERVATIONS' STUDY

Table 5.7 below shows the results of the observation visit carried out by the researcher in kambulatsitsi area from 3-5 October 2013.

Table 5.9 Observations in Kambulatsitsi Area during in October 2013

Guidelines	Observations' Summary
Food Security	
Food availability in Kambulatsitsi	Significant amount of food supplied through local production. Also made available through exchange.
The main ways people get food in the area	Subsistence farming, buying with income obtained from casual or regular labor, livestock sale, trading artisan products and natural resources' products, and remittances.
Food Insecurity	
Severity and magnitude of food insecurity in October 2013 compared to December 2010	Researcher observed a lesser food insecurity severity in October 2013 compared to December 2010 (year of the field research study) due to good rains' performance during the 2011/2012 and 2012/13 agricultural seasons.
Increased Penetration of MNCs	
Active presence of coal mining activities in the area	Several long trains a day have been observed carrying coal dust in open wagons from Moatize to Beira Port along the Sena Railway. Researcher observed the building of new railway and maintenance road from Moatize to Nacala Port via Malawi by Vale Coal Mining Company.
Impact of coal mining companies activities	Rural households' displacements from their home and farming areas to give way for the building of the new railway linking Moatize to Nacala Port.
Climatic Occurences	
Good rains	Good rains that fell in the area during the 2011/12 and 2012/2013 agricultural seasons.
Impact on Food Security	The availability of rains yielded better food and livestock production and consequently lesser food insecurity.

From 3rd to 5th October 2013, the researcher carried out an extensive follow-up visit to all the 10 localities of Kambulatsitsi area surveyed during December 2010 field study. The main aim of the visit was to triangulate the information obtained during December 2010 field study, particularly the near-starvation situation observed that year, as a means of ensuring the reliability of collected data.

The researcher carried out field visits to different crop fields, observing the agricultural conditions and the food crop production, as well as holding discussions with the local agriculture officer, Mr. Joaquim Kunamizana, and other government officials in the area.

5.4 ANALYSIS AND DISCUSSION OF 2010 RESULTS

The field results analyzed below are based on the field research carried out by the researcher in Mozambique's Kambulatsitsi area from 12th to 17th December 2010 and from 3rd to 5th October 2013. The researcher analyzed the quantitative information obtained in the Household Survey and cross-checked it with the qualitative information obtained from Focus Group Discussions, Personal Interviews, and Observations, as well as with the information from the literature reviews.

5.4.1 Food Security in Kambulatsitsi Area

According to Table 5.1, a significant amount of food in Kambulatsitsi is made available through local food production which takes place on small subsistence farms, using mostly a hand hoe to till the land. Rural households rarely use irrigation facilities and agricultural inputs to improve their yields. They mostly rely on rain-fed agriculture and are, thus, highly vulnerable to the vagaries of weather. During the year, particularly after harvest, some households sell a portion of their produce, as shown in the picture below, in order to buy other necessities. When they run out of stock, they employ coping strategies, such as skipping meals, producing and selling charcoal, and providing casual work in exchange for food or money.

Figure 5.1 Rural households sell their maize, sorghum, and vegetables at Madamba Market, along the Moatize-Malawi road to enable them to buy other necessities (Source: Researcher's field data observations in October 2013).

Kambulatsitsi households produce drought-resistant crops, such as cassava, sorghum, sweet potatoes, beans, and groundnuts. They also grow maize, their preferred cereal; even though they know it does not fare well in the area. Very few households produce surplus to sell.

Apart from growing above crops, some Kambulatsitsi households also rear livestock, notably cattle, goats, pigs, and poultry. Although Kambulatsitsi is a good area for livestock production, the rearing of livestock is not a common strategy. Trinta Saene Chauma, a member of "Community Leaders' Group" at Necungas locality, revealed during "Focus Group Discussions" that livestock production in Kambulatsitsi area is undermined by the difficulties encountered in communal grazing. As fields are communal and are not fenced, there are constant conflicts forcing cattle owners to practice zero-grazing, which is keeping and feeding their animals in kraals.

Box 1. Conflicts between Livestock Owners and Food Crop Producers

Livestock owners do not freely pasture their livestock for fear their animals will destroy other people's crops, thus being forced to pay heavy fines. There are instances when livestock owners are forced to keep and feed their livestock inside their kraals to avoid conflicts. This situation does not augur well for the development of livestock production.

The second dimension of food security is "food access" which, at the household level, refers to the household's ability to get food from production, stocks, purchase, barter, gifts or food aid. As the area is insulated from established markets due to poor infrastructure, subsistence farming, and people's lack of purchasing power, the researcher's findings reveal the majority of rural households in Kambulatsitsi obtain their access to food mainly through own production or casual work. Though they rely on own food production, they do not produce enough to feed themselves, as revealed in Table 5.1.

Agricultural production remains, however, an important component of Kambulatsitsi rural households' livelihood. People, notably womenfolk, work hard in their fields, even when they are not certain that rains will fall. The picture below shows a field cleared by a single household, using hand hoes, at Bulawaio locality, with the hope that good rains will fall. Bulawaio, as Table

5.3 shows, is the locality that registered the lowest level of insufficient food intake. Only 13 percent of interviewed households answered they consume insufficient food intake.

Figure 5.2 A sorghum and maize plantation field being cleared at Bulawaio, the locality that registered the lowes food insecurity level in the 2010 survey (Source: Researcher's field data observations in October 2013).

Rural household members travel long distances to obtain water and health services. They do not have adequate storage facilities to maintain adequate quantities of food in good condition outside the harvest season. Being dependent on rain-fed agriculture and being vulnerable to climatic factors, such as droughts and poor rainfalls, households face serious food shortages that result in their poor health and malnourishment, forcing them to employ a series of coping strategies to meet their food needs.

5.4.2 Food Insecurity in Kambulatsitsi Area

The findings in Table 5.3 show a very high percentage of food insecurity in all the 10 surveyed localities of Kambulatsitsi area. The food insecurity table begins by showing households' anxiety and uncertainty over food supplies, followed by insufficient food quality and preferences, and then followed by insufficient food intake.

The highest percentage of food insecurity is registered in Cavumbo locality where 93 percent of households members interviewed in the locality answered they experience food insecurity, against 7 percent that replied negatively. In this locality, 26.6% of interviewed households members answered they consume insufficient food intake, with households eating only one meal a day and occasionally skipping meals for the entire day.

The lowest percentage of insufficient food intake is registered at Bulawaio locality where only 13 percent of interviewed households answered they consume insufficient food intake with household members eating only one meal a day and occasionally skipping meals for the entire day. This locality is followed by Madamba and Ntowe where 16 percent of interviewed household members in Madamba and 16.5% in Kambulatsitsi and Ntowe answered they consume insufficient food intake.

During "field observations", the researcher and his assistants witnessed the acute and chronic nature of drought situation in Kambulatsitsi area. Household members in Kambulatsitsi have developed a series of strategies to cope with the famine situation: they grow different types of drought-resistant crops, including cash crops; they carry out casual work in exchange for food or money; they collect wild foods and fruits; and they produce and sell honey, charcoal, as well as bricks.

The researcher and his assistants observed rural households' ability to cope with shocks: People were seen consuming or preparing, as their main meals, cooked green mangoes, cooked green bananas, cooked baobab tree leaves, and maize bran porridge.

The above field observations were confirmed by members of "Community Leaders' Group" during "Focus Group Discussions". When asked by the researcher to explain the food insecurity situation in the area, how they cope with it, and what they view as its main cause, they gave the following reply:

Box 2. Food Insecurity in Kambulatsitsi Area and how People Cope with the Situation

The food situation is bad. People work hard in their fields, planting different types of crops, hoping that some of them will survive. Even then, they harvest nothing. Droughts and poor rainfalls are the main causes of famine. We rely on rains for our food production.

Because of the famine situation, some *people eat only one meal a day and, at times, they go to sleep without eating any food.* People *consume wild plants and tubercles known in the area as "cangale" and "chitende". They prepare and eat cooked baobab tree leaves and cooked green bananas. As this is the season for mangoes, they also collect green mangoes and cook them to serve as a meal.*

Households carry out casual work and other activities to obtain food. They go around looking for "ganho-ganho" (casual labour) in other people's homes or fields. Women help better off women to pound their grain and, in exchange, they receive some grain. On most occasions, they only receive maize bran in exchange for their work. They take home the bran to pound it and to turn it into flour and then prepare a meal from it.

Men, in turn, work as casual laborers in other people's fields, particularly cash crops fields. In exchange, they receive grain or money which they use to buy food.

Kambulatsitsi households also carry out other non-farming activities to obtain income with which they can buy food and other essentials. They produce and sell charcoal, poles, firewood, as well as bricks for the construction of improved houses.

Household members, the youth in particular, prefer to produce and sell charcoal, as this is the easiest way they can obtain money. They produce charcoal and transport it to the main road linking Moatize and Malawi where they sell it to motorists going to Malawi or to Tete City. The main problem they face is the shortage of trees. They now travel long distances to obtain trees for charcoal production.

Unfortunately, some of the coping strategies households employ are negative. Rural household members in Kambulatsitsi were seen by the researcher and his team members preparing baobab trees leaves which they serve as stew to accompany maize porridge ("nsima"). According to anecdotal evidence, rural households present serious health problems, including body swelling, because of consuming baobab tree leaves.

Figure 5.3 shows a baobab tree. Baobab tree is revered by rural households in Tete Province, as all of its components (the bark, leaves, and fruits) are used by villagers for consumption and/or medicinal purposes. Besides, some of these baobab trees, like the one pictured below, are used to invoke the spirits of ancestors.

Figure 5.3 A sacred and revered baobab tree in the suburbs of Tete City overlooking the Zambezi River. Households consume baobab tree leaves during famine situations (Source: Researcher's field data observation in October 2013).

Coping strategies employed by households in the area also damage the environment. The increasing production and sale of charcoal; the cutting down of trees to produce timber, poles, and firewood, without their replacement; bushfires caused by pastoralists to obtain new grass for pasture; as well as fires caused by poachers during the dry season to enable them to chase and easily kill wild animals, all of the above coping strategies carried out in Kambulatsitsi, as shown

in the pictures below, damage the environment.They are responsible for the massive deforestation currently experienced in the area.

Figures 5.4 Pictures 1 (left side) and 2 (right side) show timber/poles' production for sale and bush fires at Necungas along the road to Mutarara District, whereas picture 3 (at bottom) shows massive charcoal sale along the main Moatize-Malawi road (Source: Researcher's field data observation in October 2013).

5.4.3 Trade Liberalization's Influence on Food Security in Kambulatsitsi Area

The objective in this section is to assess how and to what extent trade liberalization impacts on food security in Kambulatsitsi area. According to critics, trade liberalization negatively affects food production in developing countries, particularly in SSA countries, thereby contributing to food insecurity. According to them, as stated in Chapter 1, by opening up their economies to food imports from developed countries, developing countries are harmed by "imports whose prices are depressed because of export subsidies" (WTO 2016:2). What is more, being unable to compete with an influx of cheap food imports, small farmers in developing countries have been forced to abandon farming activity or to take up export crops' production at the expense of local food production and food security (Gonzalez 2007:1).

Rural producers in poor countries, like Mozambique, may find it equally difficult to compete with imports from countries with advanced agro-industrial sectors, such as South Africa. The first picture below shows Maputo City residents relying heavily on South African food imports (potatoes, onions, carrots, and fruits), while the second picture shows similar domestic products exposed for sale along the Estrada Nacional Nº. 1 at Nhamazi locality in Gorongosa District, Sofala Province, but with few people to buy them, mainly due to long distances and poor infrastructure that separate the food surplus areas from the food deficit areas.

Figure5.5 First picture shows sale of South African horticultural products in Maputo, while in the second picture (below it), domestic producers sell similar products at Nhamazi in Gorongoza but with no one to buy them.

Figure5.5 First picture shows sale of South African horticultural products in Maputo, while in the second picture, domestic producers sell similar products but with no one to buy them (Source: Researcher's field data observations in October 2013).

However, while in the second picture above, at Nhamazi in Gorongosa, rural producers are net food sellers, the same cannot be said about Kambulatsitsi area where rural producers have problems in feeding themselves and rely on coping strategies on constant basis to avoid dying of hunger.

The researcher's findings obtained from a household survey, focus group discussions, personal interviews, and observations in Kambulatsitsi show the majority of households in the area do not feel threatened by competition from cheap food imports. The main reason is that they are insulated from established markets and from changes in border prices due to poor infrastructure,

high dependence on subsistence farming, and lack of purchasing power. Agriculture Officer Joaquim Kunamizana confirmed that Kambulatsitsi residents do not face any threat.

Box 3. Kambulatsitsi Households face no Threat from Unrestricted Food Imports

Household members do not face any threat from food coming outside Kambulatsitsi area because they rarely produce surplus to sell. What they produce is not even enough for their own consumption. They lack purchasing power and when they face crop failure, they rely on coping strategies to solve their food needs.

According to findings, increased production of cash crops, notably cotton, in Kambulatsitsi has resulted in reduced food production. Interviewees stressed, however, that rural households resort to cash crops' production as a coping strategy since they are unable to produce enough food in the semi-arid and rain-fed area of Kambulatsitsi. With the income they earn from the sale of these crops, they purchase food, thus increasing the chances of guaranteeing their food security.

From the interviews and field observations conducted by the researcher, it was possible to confirm that most people produce both cash crops and food crops. The production of cash crops, such as cotton, fare well in the area and their sale provides more money than of any other crop. To cope with the situation, rural households grow different kinds of food crops, with the hope that one or more of them will survive. They also resort to different kinds of coping strategies, like selling charcoal, timber, and firewood to deal with the diverse factors affecting their food security situation.

The cash crops that people grow in the area include cotton, groundnuts, pigeon peas, cow peas, and sunflower. Agribusinesses, notably OLAM, distribute inputs to cotton cash crop producers and deduct their value at harvest. A member of a Cotton Growers' Association at Mameme said during "Focus Group Discussions" that they are encouraged by agribusinesses as well as by the government through the "community radio" to grow cash crops which fare well in the area.

Box 4: Agribusinesses and Government Encourage Households to Produce Cash Crops

We are encouraged by the representative of OLAM, as well as by traders, and the government, through the community radio, to grow cash crops which fare well in the area. People have increased the production of cash crops because their sale fetches better prices than food crops. Through the sale of these crops, we obtain money which we use to purchase food and other essentials, such as bicycles and bricks to build improved houses.

During "Focus Group Discussions" other members of the Cotton Growers' Association complained, however, that the prices they are paid for their cash crops are very low and exploitative.

Figure 5.6 depicts an abandoned cotton field plantation at the Twin Mountains of Necungas locality. The cotton field owner told the researcher during field observations that he did not take care of his cotton field. He decided, instead, to concentrate on food production since the money they are paid for the cotton crop is very little.

Figure5.6. Abandoned cotton plantation field at the revered Twin Mountains of Necungas (Source: Researcher's field data observations in October 2013).

The empirical findings obtained from a household survey, focus group discussions, personal interviews, and observations above indicate that there are various factors influencing food security in Kambulatsitsi area. The majority of households in Kambulatsitsi view climatic factors, such as droughts and poor rainfalls, as the main cause of crop failure. Household members in the area depend on the arrival and quality of the rains for their agricultural production.

5.4.4 Other Factors Influencing Food Security in Kambulatsitsi Area

The empirical findings obtained from a household survey, focus group discussions, personal interviews, and observations above indicate that there are several other factors which affect households' food security in Kambulatsitsi area.

The majority of interviewees answered that, apart from droughts and poor rainfalls, their food production is negatively affected by acute diseases, such as HIV/AIDS and malaria as well as by the lack of basic infrastructure.

To cope with the situation, rural households grow different kinds of food crops, with the hope that one or more of them will survive. They also resort to different kinds of coping strategies, like producing cash crops and selling charcoal and firewood to deal with the diverse factors affecting their food security situation.

5.4.4.1 Climatic Occurrences

As revealed in section 4.3.2, although Kambulatsitsi households experience drought and poor rainfalls on constant basis, they heavily rely on rainfed agriculture for their food production and consumption. The researcher and his team members observed the presence of arid land and shortage of rains in the area.

5.4.4.2 Acute Diseases, such as HIV/AIDS, Malaria, and TB

Many people die of acute diseases, such as HIV/AIDS, malaria, and tuberculosis in Kambulatsitsi area. Table 5.4 shows 73 percent out of 100 interviewed households members admitted having household members who have died of diseases, such as HIV/AIDS, malaria and tuberculosis, against 27 percent that provided a negative answer. Asked if their death reduced their food production, 67 percent answered yes, against 33 percent that answered no. Agricultural Extension Officer Joaquim Kunamizana said acute diseases are decimating rural household members in Kambulatsitsi:

Box 5: Many People die of Acute Diseases, such as HIV/AIDs, Malaria, and TB

Many people die of acute diseases, such as malaria, HIV/AIDS, and tuberculosis. When people get sick, they first visit traditional healers, as for most of them death is caused by witchcraft. They only agree to go to hospitals when it is too late.

5.4.4.3 Lack of Basic Infrastructure

Findings obtained from a households' survey, focus group discussions, personal interviews, and observations reveal Kambulatsitsi is insulated from the markets, mainly because of its remoteness caused by the lack of adequate infrastructure, notably road infrastructure. According to Table 5.4, 97% percent of a total of one hundred interviewed households answered there was shortage of basic infrastructure in their localities, against 3 percent that provided a negative answer. Asked if the lack of infrastructure reduced their food production, 89 percent answered yes, against 11 percent that answered no.

The area lacks feeder roads, transport facilities, and communication networks to guarantee an easy movement of people, thus linking rural producers to the markets. It lacks established markets where local produce and outside goods can be traded. What is more, most localities are isolated because of the low population density and long distances between homesteads.

Figure 5.7 Main road from Madamba to Kambulatsitsi Administrative Post Headquarters and to Mutarara District. The road becomes impassable during rainy season (Source: Researcher's field data observations in October 2013).

A member of Community Leaders Group at Necungas said during the "Focus Group Discussions" that the lack of infrastructure discourages production as people cannot take their products to markets. Another member blamed the government for closing down the ICM grain depot which in the past bought and stored local produce. The picture below shows an ICM grain depot at Kambulatsitsi Administrative Post Headquarters closed down in compliance with IMF/WB SAPs' policy prescriptions.

Box 6: Closure of ICM Depots in compliance with IMF/WB SAPs' Prescriptions

We used to obtain inputs from ICM at a minimal cost. Now we no longer have access to cheap inputs. We have to purchase them at high prices from traders who cheat us in the process. The ICM used to buy and store produce. Currently there are no storage facilities and thus people are discouraged from producing surplus food.

The picture below shows an ICM grain depot at Kambulatsitsi Administrative Post Headquarters closed down in compliance with IMF/WB SAPs' prescriptions.

Figure 5.8 An ICM grain depot in Kambulatsitsi closed down in compliance with IMF/WB SAPs' policy prescriptions (Source: Researcher's field data observations in October 2013).

5.5 ANALYSIS AND DISCUSSION OF 2013 RESULTS

With a view to monitoring the prevailing trade liberalization reforms and food security situation in Kambulatsitsi area, the researcher carried out an extensive follow-up visit to all the 10 surveyed localities of Kambulatsitsi from 3rd to 5th October 2013.

During the October 2013 visit, the information was mainly collected through direct observations, field visits by examining agricultural conditions and food crop production, households' visits, and discussions with a limited number of household members and local government officials, notably with the local agricultural extension officer, Mr. Joaquim Kunamizana. The researcher uses in this study some photographs taken iduring the 2013 visit. In this section, the photographs adequately illustrate features which were not present in December 2010.

From the observations as well as from discussions with the local agriculture officer, the researcher confirmed the various activities being carried out in the area by the Brazilian "Vale" Coal Mining Company and the Anglo-Australian "Rio Tinto" multinational company: several long trains, amounting to six a day, carry coal dust belonging to the above two companies from Moatize to Beira Port. The "Vale" Coal Mining Company is currently building a new railway line that will link Moatize to Nacala Port, via Malawi. To give way for the building of the new railway line, rural households have been displaced from their homes and farming areas in Kambulatsitsi.

The researcher also learned that the food security situation in Kambulatsitsi was better during October 2013 field observations' study than during December 2010 field study, mainly because of the good rains that fell in the area during the 2011/12 and 2012/2013 agricultural seasons. As revealed earlier, Kambulatsitsi households rely on rain-fed agriculture that is vulnerable to adverse weather conditions. Despite this food security improvement, there continues, however, to be a persistent inability by the households to adequately meet their food requirements.

5.5.1 Food (In) security Situation in Kambulatsitsi Area in October 2013

The rural households' high dependence on rainfalls in Kambulatsitsi makes them highly vulnerable to climate change. Rainfall changes influence crop yields in the area, thus impacting on availability and stability of food supplies. As revealed earlier, in the household survey carried out by the researcher in 10 localities of Kambulatsitsi area, the majority of households' respondents answered that constant droughts and poor rainfalls in the area caused food insecurity.

Interviewed by the researcher during the October 2013 field observations' study, local agricultural extension officer, Mr. Joaquim Kunamizana, said the rainfall performance during the 2011/12 and 2012/13 agricultural seasons was better than the one experienced in 2010/11 agricultural season.

Box 7: Rainfall Performance better during last two Agricultural Seasons

Rainfall performance improved substantially during the 2011/12 and 2012/13 agricultural seasons, resulting in better food and livestock production and thus better food security.

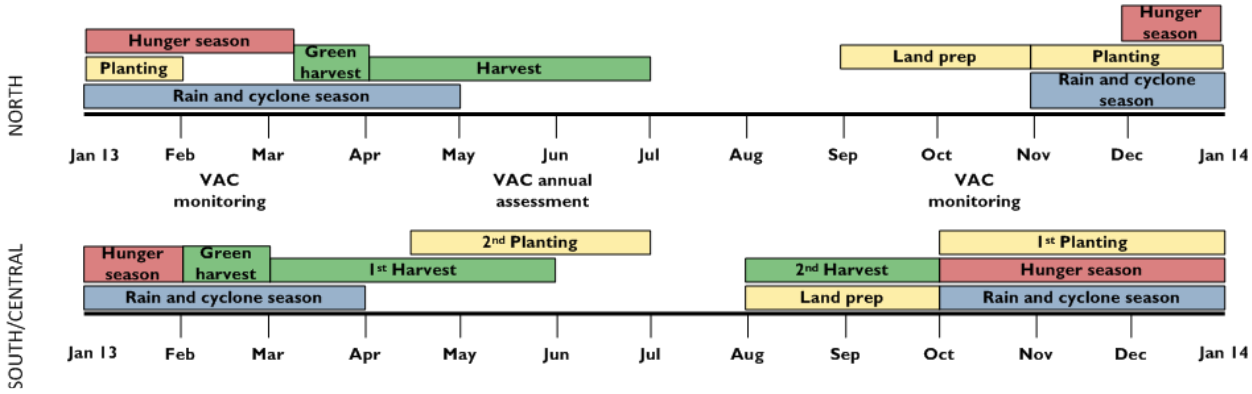
Households interviewed by the researcher during the study, confirmed the changes in rainfall performance over the past two years, leading to higher yields and consequently better food access and food security situation among many rural households in the area.

5.5.2 Deccember 2010 High Food Insecurity Results in Kambulatsitsi Area

When carrying out the field study in Kambulatsitsi area from 12th to 17th December 2010, the researcher did not take into consideration the period of the year when households in the area are most affected by food insecurity. Thus, given the fact that the field research study was carried out during a lean season, the level of the food insecurity findings obtained there may not reflect the everyday situation of the area.

The field study at rural household level in Kambulatsitsi, from 12th to 17th December 2010, was carried out during a lean season. A FEWSNET report for Mozambique (July and December 2010) which the researcher obtained after the field study reveals that "between July and December, moderate levels of food insecurity will continue among poor and very poor households in the Zambezi Basin: parts of the Mágoe, Cahora Bassa, Changara, Moatize (where the study took place) and Mutarara districts in the Tete Province" and that "food security conditions may deteriorate later in the October to December period when the lean season will peak. The report also reveals that if this occurs, it is most likely that households in a few other districts in the south will become moderately food insecure" (FEWSNET 2010:1).

Exhibit 5.1 Seasonal Calendar for a typical year in Mozambique provided by FEWSNET.



Source:FEWSNET(https://www.humanitarianresponse.info/system/files/documents/files/Mozambique%20Food%20Security%20Outlook%20April_September%202013.pdf) [Accessed on 29 October 2015].

5.5.3 Increased Coal Mining Companies' Activities in Kambulatsitsi

As revealed earlier, Moatize District, where the area under study (Kambulatsitsi) is located, is richly endowed with coal resources. According to the Human Rights Watch (2013:28), two mining companies, namely the Brazilian "Vale" and the Anglo-Australian "Rio Tinto" multinationals, have secured concessions to vast coal reserves in Moatize.

Local communities were relocated from their lands and received their compensation packages before the two companies began coal exploration in allocated areas in 2011. The Indian "Jindal Steel and Power Limited" and the British "Beacon Hill Resources" coal companies began coal mining operations in 2012, while several other companies and partnerships are still in prospecting or development phases.

During the October 2013 field observations' study, the researcher observed an active movement of several trains a day, belonging to the above two coal mining companies, going to Moatize and to Beira Port to carry coal and to unload coal, respectively. The following picture taken by the researcher at the Twin Mountains of Necungas shows two trains moving in different directions: one transporting coal to Beira Port and the other train going to Moatize to carry coal.

Figure 5.9 Two trains moving in different directions meet at Necungas rail station: one carrying coal to Beira and another going to Moatize to carry coal (Source: Researcher's field data observations in October 2013).

5.5.4 New Infrastructural Developments in Kambulatsitsi Area

During the October 2013 visit, the researcher saw at Bulawaio and Madamba localities, as the two pictures below show, the foundation works of a new railway from Moatize to Nacala Port, via Malawi, being built by "Vale" coal mining company. The researcher also saw at Bulawaio locality an all-weather road for the maintenance of the new railway, now under construction, and a water fountain built by Vale and donated to the local community.

The first picture (Figure 5.10) shows the new railway foundations and an all-weather road (on the left of the picture) for the maintenance of the railway line at Bulawaio locality. The second picture shows excavation machinery at work opening the railway foundations at Madamba locality along the main road from Madamba to Kambulatsitsi Administrative Post Headquarters.

Figure 5.10 New railway foundation works at Bulawaio and Madamba localities. In the second picture, area fenced with a no-entry sign (Source: Researcher's field data observations (October 2013)).

5.6 CONCLUSION

This Chapter presented, analyzed, and discussed data gathered during a fieldwork study carried out in Kambulatsitsi area, in Moatize District, Tete Province, using the four known data collection methods, namely a household survey, focus group discussions, personal interviews, and observations. The fieldwork study was carried out in two stages: from 12th to 17th December 2010 with a follow-up observations' study visit in October 2013".

The results presented in Chapter 5 showed increased productions of cash crops in Kambulatsitsi area. According to findings, however, this cash crops' production increase does not undermine food security. Households have increased cash crop production in the area as a "coping strategy" because they are unable to produce enough food in the semiarid area which experiences droughts and poor rainfalls on constant basis. Being dependent on rainfed agriculture and as they cannot afford to irrigate their fields, Kambulatsitsi households give preference to the production of cash crops known to fare well in the area and to have a potential to generate income, thus enabling them to purchase food and other essential commodities.

Likewise, Kambulatsitsi households are not hurt by cheap food imports. The empirical findings show that cheap food imports have no significant impact, either positive or negative, on the rural households' food security due to the area's poor infrastructure, households' high dependence on subsistence farming, as well as households' lack of purchasing power. These results tend to support Hertel's evidence, in section 3.2.3 of this study, which states that rural producers in Mozambique are disconnected from the markets and from changes in border prices due to poor infrastructure (USAID 2005:14-35).

In the household survey carried out by the researcher in 10 localities of Kambulatsitsi area, the majority of households' respondents view climatic factors, such as droughts and poor rainfalls, as the main cause of crop failure. The rural households highly depend on the arrival and quality of the rains for their agricultural production, thus making them highly vulnerable to climate change. Rainfall changes influence crop yields in the area, impacting on availability and stability of food supplies. Household members in the area depend on the arrival and quality of the rains

for their agricultural production. To confirm this, during the October 2013 field observations' study, the researcher found that the food security situation in Kambulatsisti area had improved mainly because of the good rains that fell in the area during the 2011/12 and 2012/2013 agricultural seasons.

During the October 2013 observations' study, the main aim of the visit was to triangulate the information obtained during December 2010 field study, particularly the near-starvation situation observed that year, as a means of ensuring the reliability of collected data. The researcher observed that the food security situation in Kambulatsitsi was better during October 2013 field observations' study than during December 2010 field study.

Also during October 2013 visit, from the observations and discussions with the local agriculture officer, the researcher confirmed the various activities being carried out in the area by the Brazilian "Vale" Coal Mining Company and the Anglo-Australian "Rio Tinto" multinational company: several long trains, amounting to six a day, were carrying coal dust belonging to the above two companies from Moatize to Beira Port. During the October 2013 visit, the researcher saw at Bulawaio and Madamba localities the foundation works of a new railway from Moatize to Nacala Port, via Malawi, being built by "Vale" coal mining company. To give way for the building of the new railway line, rural households were displaced from their homes and farming areas in Kambulatsitsi after having been compensated.

The next Chapter will provide Summary Discussion, Concluding Remarks, and Recommendations.

CHAPTER 6

DISCUSSION SUMMARY, CONCLUDING REMARKS, AND RECOMMENDATIONS

6.1 INTRODUCTION

The current study investigates the impact of trade liberalization on food security in Mozambique at both national and rural household levels.

To accomplish this goal, the researcher relied on secondary and primary data. At national level, the study focused on secondary research, relying mainly on FAO, FAOSTAT and World Bank data as a primary source of secondary data. Secondary data was also generated through extensive literature reviews on trade liberalization and food security obtained from both published and unpublished sources. At rural household level, the study focused on primary research obtained through a household survey, focus group discussions, personal interviews, and observations.

In conducting the research process, the researcher provided the background to the study and the research objectives in Chapter 1; provided an overall analysis of trade liberalization and food security at international level in Chapter 2.; discussed the above two concepts at Mozambique's level in Chapter 3; analyzed research design and methodology in Chapter 4; and presented and discussed the findings at rural household level in Chapter 5.

In present Chapter 6, the researcher summarizes the study and draws conclusions. The first part of this Chapter will address the research problem, the second part will discuss the results of the findings, the third part will present concluding remarks, the fourth part will present recommendations for action, and the fifth and last part will present future research undertakings.

6.2 SUMMARY DISCUSSION

Influenced by the theory of Neo-liberalism, characterized by strong private property rights, free markets, and free trade (Harvey 2005:2), the IMF, the World Bank, and the WTO have for long advocated agricultural trade liberalization reforms in developing countries as a solution to poverty reduction and food security (Bigman 2002:27).

Under the "Washington Consensus", the IMF and the World Bank urged developing countries' governments to pursue trade liberalization reforms by conditioning the granting of loans to these countries on the reduction and eventual elimination of trade barriers and government support for agriculture. In turn, the WTO sought to accomplish this objective through its AoA's provisions of improving market access, progressively reducing trade-distorting domestic support, and curtailing export subsidies.

In recent years, with the intensification of globalization, countries worldwide have become increasingly involved in reducing their trade barriers. Despite the shift towards closer economies worldwide, there has been preoccupation in certain circles over the impact of trade liberalization on food security in developing countries. Thirty years have passed since trade liberalization reforms have been imposed on developing countries. Despite overall progress in efforts to eradicate food insecurity, about 795 million people, over one in every nine people, were undernourished in the world in the period 2014-16. A total of 780 million of these people live in developing countries.

Under the IMF/WB's guidance since 1987 and under the WTO since 1995, Mozambique has implemented a committed program of trade liberalization with a view to improving its food security situation and welfare. Although classified as one of the world's fastest growing economies, with GDP growth rate averaging 7 percent over the last two decades, Mozambique continues to experience food shortages in different areas. The prevalence of undernourishment stood at 25.3 percent in 2014-16, below the average level of 23.2 percent registered by SSA countries. In 2014, the UN's Human Development Index (HID) report ranked Mozambique 178th out of 187 countries and the 2015 report ranked the country 180th out of 188 countries.

Mozambique's HDI index is below the average for countries in the low human development group and for SSA countries (UNDP 2015:2).

Critics argue that the IMF/WB's trade liberalization reforms and the WTO's AoA commitments negatively affect food production in developing countries, particularly in SSA countries, thereby contributing to food insecurity. According to them, developed countries are still allowed to spend large sums of money on export subsidies while developing countries are not allowed to do so. What is more, by opening up their economies to food imports from developed countries, developing countries are harmed by "imports whose prices are depressed because of export subsidies" (WTO 2016:2).

The main objective of this study was, thus, to determine the impact of trade liberalization on food security at national and rural household levels in Mozambique. In analyzing the relationship between trade liberalization and food security, the researcher adopted the conceptual framework developed by the FAO (2003:235-256). According to this framework, a country's food security status can be affected by diverse factors (causal factors), including trade liberalization. These causal factors influence food security through changes in relative prices, in the quantities produced and consumed, and in the trade volumes (intermediate effects). The intermediate effects, in turn, will change the production and consumption decisions of farmers and consumers, thus impacting on the performance of the agricultural sector and eventually on the food security situation of the country as a whole (outcomes).

Given the understanding that trade liberalization is an economy-wide phenomenon and considering the fact that the majority of people in Mozambique live in rural areas where they rely on agriculture and food production for their income and livelihood, this study incorporates both national and rural household levels.

At national level, the study concentrates on secondary research, relying mainly on FAO, FAOSTAT, and World Bank data as a primary source of secondary data. And at rural household level, the study focused on primary research carried out through a household survey, focus group discussions, personal interviews, and observations.

At national level, the methodological framework developed by the FAO (2003:235-274) is approached using a before and after trade reforms approach. The period before trade reforms is the period after independence under the Frelimo government's socialist ideology (1975-1986), while the period after trade reforms is the IMF/WB SAPs' period (1987-1994) and the period of increased trade openness under the IMF, the World Bank, and the WTO (1995-2014). At rural household level, the researcher used a "with and without trade liberalization approach" viewed by the FAO (2003:140) as the most appropriate in assessing this impact where statistics are not available for two distinct periods in time.

In analyzing the relationship between trade liberalization and food security, the researcher began by assessing the situation at global level. The findings reveal that significant gains have been made towards improving the food security situation at global level. However, Southern Asia and SSA countries in particular are known to have made slow progress in reducing food insecurity.

At Mozambique's level, the researcher related the positive changes obtained in macroeconomic indicators and agricultural sector to food security indicators to determine the impact of trade liberalization on food security. With the figures of food security indicators steadily rising over the years, the findings suggest that Mozambique performed well after trade reforms under the IMF, the World Bank, and the WTO.

On the negative side, although the figures of Mozambique's food security indicators have been steadily rising over the years, they are still some of the lowest amongst neighboring countries and the LDCs. What is more, FAO Report (2015b:14-24) places Mozambique on various lists of bottom 20 countries in the World: the country is on the list of bottom 17 African countries and bottom 20 countries worldwide with the highest figure of undernourished people in the World in the period 2014-16. It is among 20 bottom countries whose energy supply is mostly derived from cereals, roots, and tubers. The country is also on the list of bottom 20 countries whose percentage of children aged less than five were stunted in the period 2006-2014. Compared to neighboring countries and other LDCs, Mozambique has some of the lowest figures of lack of physical access to water and sanitation, of equipped areas for irrigation, and of road and rail line density, thus

cutting off from the mainstream economy the 70 percent of the population living in rural areas and making it difficult for them to overcome poverty.

At the rural household level in Kambulatsitsi, one of the main research questionnaires aimed at establishing the extent of food insecurity in the area. The findings from the 12th to 17th December 2010 field study revealed a very high percentage of food insecurity in all the 10 surveyed localities of Kambulatsitsi area, thus forcing households to develop a series of strategies to cope with the famine situation, such as growing different types of drought-resistant crops, including cash crops; carrying out casual work in exchange for food or money; collecting wild foods and fruits; and producing and selling honey, charcoal, and timber.

The researcher measured the impactof trade liberalization on food security at the rural household level in Kambulatsitsi by seeking to know how and to what extent cheap subsidized food imports and cash crops' production impact on food prices and food production in Kambulatsitsi area. The researcher's empirical findings obtained from a household survey, focus group discussions, personal interviews, and observations in Kambulatsitsi show the majority of households in the area do not feel threatened by competition from cheap food imports. The reason for the lack of competition from cheap food imports, according to findings, is that the rural households are insulated from established markets and from changes in border prices due to poor infrastructure, high dependence on subsistence farming, and lack of purchasing power. Thus, the study confirms Hertel's (USAID 2005:14-35) findings, as revealed in Section 3.2.3 of this study, that rural households in Mozambique are insulated from established markets and from changes in border prices.

The empirical findings obtained by the researcher suggest households in Kambulatsitsi have increased the production of cash crops for export after trade liberalization reforms. Most of the interviewees admitted that increased cash crop production in Kambulatsitsi has resulted in reduced food production. They stressed, however, that rural households resort to cash crop production is a coping strategy since they are unable to produce enough food in the semi-arid and rain-fed area of Kambulatsitsi. With the income they earn from the sale of cash crops, they purchase food, thus increasing the chances of guaranteeing their food security.

The researcher's findings reveal Kambulatsitsi households lack access to adequate and sufficient food as a consequence of diverse factors, including climate factors, such as drought and poor rainfalls; the migration of youths and male adults into towns and neighboring countries; acute diseases, such as HIV/AIDS, malaria, and tuberculosis; as well as the lack of basic infrastructure.

The findings show the area lacks adequate road, transportation, and telecommunication infrastructure, as well as markets where local and foreign commodities can be traded. The majority of the respondents in the area view climatic factors, such as droughts and poor rainfalls, as the main cause of crop failure and food insecurity. This is because the most important determinant of food security in Kambulatsitsi area is food production. People living in Kambulatsitsi area meet a significant share of their food requirements directly from their own food production. As they rely on rain-fed agriculture and rarely use irrigation facilities and agricultural inputs to improve their yields, they are at the mercy of the arrival and quality of rains.

Kambulatsitsi households' understanding that climatic factors play a fundamental role in food security was confirmed by the researcher during October 2013 field observations' study. During October 2013 observations' study, the main aim of the visit was to triangulate the information obtained during December 2010 field study, particularly the near-starvation situation observed that year, as a means of ensuring the reliability of collected data. The researcher confirmed that the food security situation in Kambulatsitsi was by far better during October 2013 field observations' study than during December 2010 field study because of good rains that fell in the area during the 2011/12 and 2012/2013 agricultural seasons.

Also during October 2013 visit, the researcher confirmed the various activities being carried out in the area by the Brazilian "Vale" Coal Mining Company and the Anglo-Australian "Rio Tinto" multinational company with a view to promoting coal mining industry in Moatize District (where the study took place).

6.3 CONCLUDING REMARKS

At national level, the changes effected in macroeconomic indicators and agricultural sector were related to food security indicators to determine the impact of trade liberalization on food security in Mozambique. The results obtained before and after trade liberalization reforms show a change for the better during the period after the IMF/WB/WTO's trade liberalization reforms.

Taking into consideration that the country has gone through 16 years of civil war which killed over one million people, displaced 4.5 million others, and caused extensive damage to the country's infrastructure, considering the continued political instability and low-scale armed clashes involving the Frelimo government's armed forces and Renamo armed men in recent years, coupled with extreme weather conditions in the country (constant floods, droughts, and cyclones), the evidence from secondary data suggests that Mozambique has comparatively performed better after the reforms, both under the IMF/WB's SAPs and under the IMF/WB//WTO's reforms, than some of its neighboring countries .

Mozambique has peformed better than Tanzania, Zambia, and Swaziland where although figures of food security indicators are higher, the prevalence of undernourishment and food inadequacy rose over the years, instead of declining. In the case of Tanzania and Zambia as revealed in Table 2.1, Chapter 2, these percentages rose side by side with high GDP growth rates.

A close examination of trends in agricultural sector and food security indicators shows, however, that while some of the results obtained after trade reforms are positive, others are mixed and negative. Although the figures of Mozambique's food security indicators have been steadily rising over the years, they are still some of the lowest amongst neighboring countries and LDCs. Compared to neighboring countries and other LDCs, Mozambique has some of the lowest figures of lack of physical access to water and sanitation, of road and rail line density, and of equipped areas for irrigation.

At rural household level in Kambulatsitsi area, the empirical findings show that cheap subsidized food imports and dumping have no significant impact, either positive or negative, on the rural

households' food security in Kambulatsitsi, thus suggesting that the majority of the poor who live in rural areas in Mozambique, constituting about 70 percent of the total Mozambican population, do not benefit from the advantages of trade liberalization and economic growth. The inadequate physical access, as demonstrated in summarized food security indicators' Table 3.16, that is, the poor road and railroad infrastructure, the lack of access to water (50.8% of the people lack access to water), the inadequate area equipped for irrigation, suggest that rural people's production and income have been limited to subsistence level, thus keeping them in a continued situation of food insecurity.

The majority of the respondents in Kambulatsitsi area view climatic factors, such as droughts and poor rainfalls, as the main cause of crop failure and food insecurity. People living in Kambulatsitsi area meet a significant share of their food requirements directly from their own food production. As they rely on rain-fed agriculture and rarely use irrigation facilities and agricultural inputs to improve their yields, they are at the mercy of the arrival and quality of rains. Kambulatsitsi households' understanding that climatic factors play a fundamental role in food security was confirmed by the reseearcher during the October 2013 field observations' study. The researcher observations' study confirmed a change for the better in Kambulatsitsi households' food security status, mainly due to good rainfall performance during 2011/12 and 2012/13 agricultural seasons.

Thus, on analyzing the impact of trade liberalization on food security at national level, the results suggest that trade liberalization influences food security in both positive and negative ways in Mozambique. The overall impact of trade liberalization on food security suggests being more positive than negative.

At the rural household level, trade liberalization has no significant impact, either positive or negative, on food security. Households are unaffected by cheap food imports since these products do not appear on their markets. Although households have increased the production of cash crops, cash cropping has not displaced food production. Cash cropping is not perceived as a problem by the people in the area who carry out this activity as a coping strategy to enable them to earn income and guarantee their food security.

6.4 RECOMMENDATIONS

Evidence from the findings at national and rural household levels indicates that there are issues that need to be addressed. Within this framework, the researcher recommends below steps which the Government could take to improve the people's food security situation.

6.4.1 Promoting Pro-Poor Growth

The results obtained at national and rural household levels suggest that the poor, who constitute the majority of people, are not benefitting from the earnings of trade liberalization and economic growth. At national level, efforts should be made to design social protection policies that would improve people's living conditions. In Mozambique, the majority of the people live in rural areas. However, these people are insulated from the earnings of trade liberalization and economic growth mainly due to deficiencies in transport infrastructure and limited access to domestic and international markets. As they rely on agriculture for their survival, efforts should be undertaken to develop this sector by designing agricultural strategies, including food production intensification and crop diversification, with a view to promoting their food security and welfare.

6.4.2 Improving Food Storage Capacity

On analyzing the impact of trade liberalization on food security at the national level, the results, as revealed in section 3.6.2.2, suggest that a good quantity of food is wasted. Maize and cassava in particular suffer from quite high levels of wastage (resulting most likely from storage losses). The Government would do well to pay greater attention to this problem by supporting farmers to reduce their post-harvest losses and improve their food storage capacity.

6.4.3 Directing Resources to Smallholder Food Crops' Production

At rural household level, the Government is advised to develop policies designed to stimulate smallholder food production as this sector plays an important role towards reducing poverty and food insecurity in rural areas. Mozambique has not consistently achieved the 10 percent CAADP target in agriculture as revealed in 3.7.2. The country would do well by increasing the agriculture budget particularly towards promoting the smallholder food crops' production; by improving basic infrastructure and other infrastructural development to link rural producers to established markets and to the monetary economy; by reviving extension services; and by encouraging and providing incentives to rural households to increase their food production, including producing surplus production to sell, thus enabling the country to reduce dependence on food imports.

6.4.4 Tackling Acute Diseases to Improve Rural Households' Food Security

The empirical results in Kambulatsitsi reveal the majority of interviewed households admitted having relatives who have died of diseases, such as HIV/AIDS, malaria, and tuberculosis. They equally admitted that their death reduced their households' food production. The findings in section 5.4.4.2 reveal, however, that when household members get sick, their first reaction is to seek witchdoctors' help, believing that their sickness has been caused by witchcraft. As their sickness worsens, they become desperate and begin to seek help from health centers.

The evidence shows that there is clearly a conflict between socio-cultural realities and the Government's efforts to combat acute diseases. This study proposes an approach that enables a community to participate and to feel it is part of the health program formulated by the Government. By making the community responsible for the program's dissemination; it would feel it is part of it and be proud of changes they can bring about in their lives. A program designed to allow the community to form local associations, for instance, would be of great help to sick members, as active members of such associations could go to health centers to fetch medicines and to obtain counseling for the very sick members who cannot afford to travel to health centers situated dozens of miles away.

6.4.5 Future Research Undertakings

While preparing this research study, several issues of concern came to light. These issues require further investigation or research. They include the following:

Mozambique is highly vulnerable to droughts and floods. The findings show Kambulatsitsi area is greatly affected by droughts and poor rainfalls. Thus, a study at the national level into the impact on food security of climatic factors, such as droughts or floods, would help to evolve anticipatory strategies aimed at reducing natural disasters' risks.

Smallholder producers in Mozambique contribute greatly to the production of export crops, such as cashew, cotton, tobacco, and sisal. A study into the impact on food security of cash crop production by smallholders would determine how cash crops' production impacts on households' food security.

With large tracts of land allocated to mining companies for mining exploration in Tete Province, it would be important to study the impact on food security of extractive industries' production.

With the infrastructural developments under way in Kambulatsitsi and as more licensed coal mining companies begin to explore coal; further research into the impact on food security of trade liberalization reforms in the area would yield robust data.

6.5 CONCLUSION

The researcher's empirical findings obtained at national level indicate that the overall impact of trade reforms on food security is mixed, positive in some ways and negative in other ways, leaning more towards the positive side. At rural household level in Kambulatsitsi, the empirical findings show that Kambulatsitsi smallholders are not affected by cheap food imports that would compete directly with their domestic products. Hence, trade liberalization has no significant impact, either positive or negative, on food security of Kambulatsitsi rural households.

BIBLIOGRAPHY

Santos, AA, Roffarello, LM & Filipe, M. 2015. African Economic Outlook. Available at: http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/2015/CN_data/. [Accessed on 19 January 2016]

Alfieri, A, Arndt, C and Cirera, X. 2007. Distortions to Agricultural Incentives in Mozambique. Available at: http://siteresources.worldbank.org/INTTRADERESEARCH/Resources/. [Accessed on 28 March 2014].

Babbie, E. 2001. The Practice of Social Research. Belmont: Wadsworth.

Bertow, K. and Schultheis, A. 2006. Impact of EU's agricultural trade policy on smallholders in Africa. Available at: http://www.germanwatch.org/handel/euaf07.htm [Accessed on 17 January 2016]

Bezuneh, M. and Yiheyis, Z. 2014. Has Trade Liberalization Improved Food Availability in Developing Countries? An Empirical Analysis. Journal of Economic Development. Vol. 39. Available at: http://www.ageconsearch.umn.edu. [Accessed on 20 October 2015].

Birovljev, J. and Ćetković, B. 2013. The Impact of the WTO Agreement on Agriculture on Food Security in Developing countries. Available at: http://ageconsearch.umn.edu/bitstream/160372/2/03-Birovljev,%20Cetkovic%20-%20EAAE%20135.pdf [Accessed on 17 January 2016]

Colman, D. and Nixson, F. 1986. Economics of Change in Less Developed Countries. Oxford: Philip Allan Publishers, Limited

Cornwell, L. 2000. Aid and Debt in Introduction to Development Studies, edited by F de Beer & H Swanepoel. Oxford: Oxford University Press.

Cresswell, JW.1994. Research design: qualitative & quantitative approaches. London: Sage.

EC-Mozambique. 2007. Joint Annual Report on 2007 for the Operational Review 2008. Available at: http://edz.bib.uni-mannheim.de/daten/edz-ma/gdex/08/jar07_mz_en.pdf [Accessd on 20 January 2016]

FANTA. 2006. Food Security. Available at: http:// www. fantaproject. org/focus/foodsecurity.shtml. [Accessed on 14 November 2010]

FAO (2002). Global and regional food consumption patterns and trends. Available at: http://www.fao.org/docrep/005/ac911e/ac911e05.htm [Accessed on 16 December 2015]

FAO (2003). Trade Reforms and Food Security: Conceptualizing the linkages; Available at: ftp://ftp.fao.org/docrep/fao.org [Accessed on 27 March 2015].

FAO (2006). Trade Reforms and Food Security: Country Case Studies and Synthesis, edited by H. Thomas; Available at: ftp://ftp.fao.org/docrep/fao/009/a0581e/a0581e00.pdf [Accessed on 17 March 2015]

FAO (2008). An Introduction to the Basic Concepts of Food Security. Available at: http://www.fao.org/docrep/013/al936e/al936e00.pdf [Accessed on 27 January 2015]

FAO (2010). Trade Liberalization and Food security in developing countries. Available at: http://www.fao.org/docrep [Accessed on 27 January 2010]

FAO (2014a). The State of Food Insecurity in the World (SOFI). Available at: http://www.fao.org/3/a-i4030e.pdf [Accessed on 17 January 2016]

FAO (2014 b). Statistical Pocketbook World food and agriculture. Available at: http://www.fao.org/3/a-i4691e.pdf [Accessed on 14 December 2015]

FAO (2015a). Regional Overview of Food Insecurity Africa. Available at: http://www.fao.org/3/a-i4635e.pdf [Accessed 30 November 2015]

FAO (2015b). Statistical Pocketbook World food and agriculture. Available at: http://www.fao.org/3/a-i4691e.pdf [Accessed on 08/11/2015]

FAO, IFAD and WFP 2015. The State of Food Insecurity in the World 2015. Meeting the 2015 international hunger targets: taking stock of uneven progress. Available at: http://www.fao.org/3/a-i4646e.pdfc[Accessed on 27 January 2015].

FAOSTAT Statistical Database. Available at: http://faostat3.fao.org/download/Q/QC/E [Accessed on 22/08/2015]

FAOSTAT Statistical Database. Available at: http://faostat.fao.org/site/368/DesktopDefault.aspx [Accessed on 22 September 2015]

FAOSTAT Statistical Database. Available at: http://faostat3.fao.org/download/P/PI/E [Accessed on 17/09/2015]

FAO/WFP.2010. Crop and Food Security Assessment Mission to Mozambique. Available at: http://www. fao.org.[Accessed on 10 November 2010].

FAO/WFP. 2014. Crop and Food Security Assessment Mission to Mozambique. Available at: http://www.fao.org/docrep/012/ak350e/ak350e00.htm [Accessed on 2 January 2016]

FEWSNET. 2009. Mozambique Food Security Update. Available at http://www.fews.net/sites/default/files/documents/reports/Mozambique_2009_01.pdf [Accessed on 9 November 2010].

Forum for Food Security in Southern Africa. 2004.Mozambique Food Security Issue Papers. Available at: http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/5617.pdf [Accessed on 11 March 2013]

Gonzalez, CG.2004.Trade Liberalization, Food Security, and the Environment: The Neoliberal Threat to Sustainable Rural Development. Available at: http://www.fog.its.uiowa.edu. [Accessed on 18 February 2010].

Gonzalez, CG.2007. Markets, Monocultures, and Malnutrition: Agricultural Trade Policy through an Environmental Justice Lens. A Center for Progressive White Paper. Available at: http://progressivereform.net/articles/Gonzalez_702.pdf [Accessed on 26 January 2016].

Hailu, MB. Consequences of Agricultural Trade Liberalization: a Food Insecure Country's Perspective. Available at: http://www.vi.unctad.org/digital-library/?...consequences.[Accessed on 26 March 2014].

Haines, R.2003. Advanced Study of Development Policy. Only study guide for MDVA08-T. Pretoria: University of South Africa.

Haines, R. 2000. Development Theory, in introduction to development studies, edited by F de Beer & H Swanepoel.2nd edition. Oxford: Oxford University Press.

Hart-Landsberg, M. 2006. Neoliberalism: Myth and Reality.Available at: www.irishleftreview.org/.../martin-hartlandsberg-neoliberalism-myth-reality/. [Accessed on 14 November 2010].

Harvey, D. 2005. A Brief History of Neoliberalism. 1st edition. New York. Oxford University Press.

Hodges, T. and Tibana R.2005. A Economia Política do Orçamento em Moçambique. Maputo: Principia.

IMF. 2003. Trade Liberalization and Real Exchange Rate Movement. Available at: https://www.imf.org/external/pubs/ft/wp/2003/wp03124.pdf [Accessed on 10 December 2015]

IMF.2011. Republic of Mozambique: Poverty Reduction Strategy Paper. Available at: https://www.imf.org/external/pubs/ft/scr/2011/cr11132.pdf [Accessed on 5 November 2015]

IMF. 2013. Exchange Rate Liberalization in Selected Sub-Saharan African Countries: Successes, Failures, and Lessons. Available at: https://www.imf.org/external/pubs/ft/wp/2013/wp1332.pdf [Accessed on 20 January 2013]

Khor, M. 2006. "The Impact of Globalisation and Liberalisation on Agriculture and Small Farmers in Developing Countries: The Experience of Ghana" in IFAD's Globalization, Liberalization, Protectionism: Impacts on Poor Rural Producers in Developing Countries. Available at: http://www.ruralpovertyportal.org/documents/654016/100542/DLFE-1614.pdf [Accessed on 12 April 2016].

Khor, M. 2010. The WTO Agriculture Agreement: Features, Effects, Negotiations, and What is at Stake. Available at: http://www.twnside. org.sg/title2/latestwto/AOAFAO.doc [Accessed on 14 Nov. 2014].

Kotzé, D. 2007. Poverty, food security and famine, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa.

Macamo, J.L. 1999, Estimates of unrecorded cross-border trade between Mozambique and her neighbors, Office of Sustainable Development, Bureau for Africa, USAID, Washington, DC, Technical Paper No.88.

Madeley, J. 1996.Trade and the Poor: The impact of international trade on developing countries. London: Intermediate Technology Publications ltd.

Madeley, J. 2000.Hungry for Trade: how the poor pay for free trade. London: Zed Books.

Madziakapita, A. 2008. An Evaluation of the Impact of Food Aid on Food Security: The Case of Ngabu Area in Malawi. A Dissertation submitted to the University of South Africa.

McCorriston, S, Hemming, DJ, Lamontagne-Godwin, JD, Osborn J, Parr, MJ & Roberts PD. 2013. What is the evidence of the impact of agricultural trade liberalization on food security in developing countries? A systematic review. London:EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Melgar-Quinonez, H and Hackett, M. 2008. Measuring household food security: the global experience. Available at: http://www.scielo.br/scielo.php?pid=S1415-52732008000700004&script=sci_arttext. [Accessed on 28 March 2014].

Mishra, N. 2015. Ensuring food security through WTO rules: Should the 'policy space' be expanded. Available at: http://www.lse.ac.uk/IPA/images/Documents/PublicSphere/2015/Issue%203%20Singles/2-WTO%20food%20policy%20Space.pdf [Accessed on 18 January 2016]

Mouton, J. 2001. How to succeed in your master's and doctoral Studies. Pretoria: Van Schaik

Mozambique Agricultural Joint Sector Reviews Analytical Report. 2014. Available at: http://www.resakss.org/2014conference/docs/Mozambique_JSR_Assessment.pdf [Accessed on 13 November 2015]

Mucavele, FG. 2000. Analysis of Comparative Advantage and Agricultural Trade in Mozambique. Maputo: USAID.

Nachmias, CF & Nachmias, D. 1996. Research methods in the social sciences.London: Arnold.

Napier, C. 2004. The Politics of Southern Africa. Only study guide for APC301-K (Options 1 and 2). Pretoria: University of South Africa.

Nayak, P. 2000. Understanding the Entitlement Approach to Famine. Available at http://eham.org/html.[Accessed on 10 September 2011].

Ng'ambi, F.2009.SAPs and PRSPs as Models of Economic Development in Southern Africa: the Case of Malawi and Mozambique. Available at: http://www. osisa.org/.../2_4_economic injustice_p048-054_francis_ngambi_sap.pdf [Accessed on19 February 2010].

Nhlengethwa, S, Matchaya, G & Chilonda, P. 2014. The Agriculture Sector Performance in Mozambique. Economic Review of Galicia Vol. 23-4 (2014). Available at: http://www.usc.es/econo/RGE/Vol23/rge2349c.pdf [Accessed on 26 January 2016].

Nordström, P.2007.Food Security in Brazil – a study of trade liberalization in relation to the food security situation in Brazil. Available at: http//www. ex-epsilon.slu.se:8080/archive.[Accessed on 22 March 2014].

Oxfam Canada. 2015. What Rules and Policies Cause Hunger. Available at: https://www.oxfam.ca/sites/default/files/images/WFD-ISSUES.pdf [Accessed on 28 January 2016].

Posner.2001.Unequal Harvest: Farmers' Voices on International Trade and the Right to Food. Available at: http://www.ichrdd.ca/_english/commdoc/_publications_/globalization/_unequal_Harvest.html. [Accessed on 19 February 2010].

Prasch, Robert E. 1996.Reassessing the Theory of Comparative Advantage. Available at: http://www.econ.tcu.edu/harvey. [Accessed on 16 August 2011].

Republica de Moçambique (1997) 'Lei De Terras.Lei no 19/97'.

ReSAKSS .2013. Trends in Public Agricultural Spending in Mozambique. Available at: http://www.resakss.org/sites/default/files/pdfs/ReSAKSS_IN21.pdf [Accessed on 20 January 2016]

ReSAKSS. 2014. Mozambique: Advancing Mutual Accountability through Comprehensive, Inclusive, and Technically Robust Review and Dialogue. Available at: http://www.resakss.org/2014conference/docs/Mozambique_JSR_Assessment.pdf [Accessed on 20 January 2016]

Ruckert, A. 2007. The Social Impacts of Poverty Reduction Strategies in Latin America. Available at: http://cips.uottawa.ca/eng/documents/Ruckert_PostDoc.pdf. [Accessed on 26 March 2014].

Sebei, E.2007. Trade Potential Between South Africa and Mozambique. Available at: http:www.nda.agric.za.[Accessed on 19 February 2010].

Singleton, RA, Straits, BC & Straits, MM. 1993. Approaches to social research. New York: Oxford University Press

Stevens, C, Greenhill, R, Kennan, J, Devereux, S.2008. The WTO Agreement on Agriculture and Food Security.Available at: http://www.observatori.org/documents [Accessed on 04 September 2011].

Stevens, C, Devereux, S, Kennan,J. 2003. International trade, livelihoods and food security in developing countries. Available at: http://www.eldis.org/vfile/upload/1/document/0708/DOC15772.pdf. [Accessed on 28 March 2014].

Stewart, P. 2001. Theories: Development Administration. Study guide for DVA201-T. Pretoria: University of South Africa.

Stewart, P.2003. Advanced Study of Development Theories. Only study guide for MDVA01-L. Pretoria: University of South Africa

Stiglitz, J.E. and Charlton, A. 2005. Fair Trade for All: How Trade Can Promote Development Oxford: Oxford Universit Press.

Terre Blanche, M.,Durrheim, K. & Painter, D. (eds) (2006). Research in practice (2nd ed.). Cape Town: University of Cape Town Press.

Thirlwall, AP. 1999. Growth and Development. 6th edition. Hampshire: Macmillan Press LTD.

Thomas, H. and Morrison, J. 2006. Trade Reforms and Food Security: Country case studies and synthesis. Available at: ftp://ftp.fao.org/docrep/fao/009/a0581e/a0581e00.pdf [Accessed on 03 January 2016]

UNAIDS. 2016. Mozambique. HIV and AIDS estimates (2014). Available at: http://www.unaids.org/en/regionscountries/countries/mozambique [Accessed on 12 April 2016]

UNDP. 2015. Mozambique. Briefing note for countries on the 2015 Human Development Report. Available at: http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes [Accessed on 23 December 2015]

USAID.2005. The Impact of Trade Liberalization on Poverty. Summary of Proceedings from a Conference held on April 15, 2005.Available at: http://www.wilsoncenter.org/sites/default/files/ImpactofTrade_low.pdf [Accessed on 2 June 2014]

USAID/Mozambique.2007. Mozambique Food Security. Programming Framework. FY 2008-2012. Available at http://www.usaid.gov/mz/doc/misc/moz_food [Accessed on 13 November 2010].

VAC.2002. Emergency Food Security Assessment Report. Mozambique. Available at: http://www.iese.ac.mz/lib/saber/food_1.pdf [Accessed on 20 January 2016]

Van Vuuren, D. and Maree, A. (1999) 'Survey methods in market and media research: applied methods for the social sciences', in Terre Blanche, M. and Durrheim, K. (ed.), Research in Practice. Cape Town: UCT Press.

Waterhouse, R. and Lauriciano, G. 2010. Contexto politico e institucional da protecção social em Moçambique in Protecção Social: Abordagens, Desafios e Experiências para Moçambique, compiled by Nelson Saute. Maputo:IESE.

Winters, L. Alan. 2000. "Trade, Trade Policy, and Poverty: What are the Links?" World Economy 25(9): 1339-67.

Winters, L. Alan, Neil McCulloch, and Andrew McKay. 2004. "Trade Liberalisation and Poverty: The Evidence so far." Journal of Economic Literature 42(1):72-115.

Winters, LA. 2002.Trade Liberalization and Poverty: The Empirical Evidence. Available at: http://www.nottingham.c.uk/economics/reserach/credit.[Accessed on 11 February 2010].

World Bank. 2014. International Food Prices Hit Four-Year Low. Available at: http://www.worldbank.org/en/news/press-release/2014/09/30/international-food-prices-four-year-low .[Accessed on 12 April 2016]

World Bank. 2015. Statistical database. Mozambique. Available at: http://data.worldbank.org/country/mozambique [Accessed on 19 January 2016]

World Bank. 2016. Mozambique: Country at a Glance. Available at: http://www.worldbank.org/en/country/mozambique [Accessed on 23 January 2016]

World Bank Statistical database. Mozambique. Available at: http://www.databank.worldbank.org/http://data.worldbank.org/indicator/PA.NUS.FCRF/. [Accessed on 20 August 2015]

World Bank Statistical database. Mozambique. Available at: http://data.worldbank.org/indicator/NE.IMP.GNFS.ZS [Accessed on 04 January 2016]

WTO.2001. Trade Policy Review – Mozambique. Available at: http://www.wto.org/english/tratop_e/tpr_e/tp154_e.htm.[Accessed on 25 March 2014].

WTO. 2007. Mozambique –Private Sector Country Profile. Available at: http://www. afdb.org/fileadmin/upk.[Accessed on 10 November 2010]

WTO. 2008. Trade Policy Review –Mozambique. Available at: http://www. uscdn.creamermedia.co.za. [Accessed on 17 February 2010].

WTO. 2010. Trade Policy Review – Mozambique. Available at: http://www.us-cdn. creamermedia.co.za, [Accessed on 17 February 2010].

WTO. (2015 a). Understanding the WTO: Developing Countries. Available at https://www.wto.org/english/thewto_e/whatis_e/tif_e/dev1_e.htm [Accessed on 17 January 2016]

WTO (2015b). WTO members secure "historic" Nairobi Package for Africa and the world. Available at: https://www.wto.org/english/news_e/news15_e/mc10_19dec15_e.htm [Accessed on 18 January 2016]

WTO (2015 c). Understanding the WTO. Available at: https://www.wto.org/english/thewto_e/whatis_e/tif_e/understanding_e.pdf [Accessed on 17 January 2016]

WTO. 2016. Agriculture Negotiations: Export Subsidies and Competition. https://www.wto.org/english/tratop_e/agric_e/negs_bkgrnd08_export_e.htm [Accessed on 17 January 2016]

Wouters, J and De Meester, B. 2007.The World Trade Organization: A Legal and Institutional Analysis. Oxford: Intersenti.

REFERENCES

African Economic Outlook. 2010. Mozambique: Overview. Available at http://www.africaneconomicoutlook.org/en/africa/mozambique.[Accessed on 6November 2010].

Ajuzie, IS, Edoho FM, Kang, W, Wakonye, MN & Keleta GY. 2008. Import Response and Inflationary Pressures In The New Economy: The Quantity Theory of Money Revisited. Available at: http://www. cluteinstitute onlinejournals.com/pdfs/902.pdf. [Accessed on 14 November 2010].

Alaoui, O. 2008.Trade policy simulation and welfare analysis using a partial equilibrium model: the case of bovine meat in Morocco. Available at: http://www. krex.k-state.edu/dspace/handle/2097/785. [Accessed on 14 November 2010].

Alternatives to Neo-Liberalism in Southern Africa (ANSA): "Towards a people-driven development agenda".2007. Available at: http://www. gpn.org/ research /ANSA. [accessed 17 February 2010].

Amaya, MGV. 2009. Trade Liberalization and Food Security: The case of Bolivia after the Structural Reforms of 1985. Available at: http://www.banrepcultural.org/sites/default/files/Mauricio_Valencia-master-thesis.pdf. [Accessed on 26 March 2014].

Arndt, C, Jones, S and Tarp, F. 2006. Aid and Development: The Mozambican Case. Maputo: Republic of Mozambique.

Babbie, E. & Mouton, J. 2001. The practice of social research. Cape Town: Oxford University Press.

Bashaw, Z. 2008. Impact Assessment of World Trade Organization (WTO) Accession on Food Security in Ethiopia: An Appraisal Using Partial Equilibrium Model. Nagoya University. Unpublished work.

Bernstein, H. 1992. Poverty and the Poor, in Rural Livelihoods: Crises and Responses, edited by H Bernstein, B Crow and H Johnson. UK: The Open University.

Biacuana, G. 2009. Agriculture: Future Scenarios for Southern Africa. Winnipeg: International Institute for Sustainable Development.

Bickel ,G, Nord, M, Price, C, Hamilton,W & Cook, J.2002. Guide to Measuring Household Food Security, Revised 2000. USDA Guide 2000.

Bigman, D. 2002. The Pros and Cons of Globalization for Developing Countries, in Globalization and the Developing Countries: Emerging Strategies for Rural Development and Poverty Alleviation edited by D. Bigman. 2nd edition. Oxon: CABI Publishing.

Bond, P. and Dor, G.2003. Neoliberalism and Poverty Reduction Strategies in Africa. Available at: http://www.equinetafrica.org/bib/docs. [Accessed on 24 August 2011].

Bouma, G.D & Atkinson, GBJ. 1995. A Handbook of Social Science Research: A Comprehensive and Practical Guide for Students. Oxford: Oxford University Press.

Bouma, G.D.2000. Research Process. Oxford: Oxford University Press.

Burr, K. (2005) 'The Evolution of the International Law of Alienability: The 1997 Land Law of Mozambique as a Case Study', Columbia Journal of Transnational Law 43(3): 961-997.

Cabral, L. and Scoones, I.2006. Narratives of Agricultural Policy in Africa: What Role for Ministries of Agriculture? Available at: http://r4d.dfid.gov.uk/PDF/Outputs/futureagriculture.[Accessed on 15 August 2013].

Chang, HJ. 2007. Bad Samaritans: The Guilty Secrets of Rich Nations & the Threat to Global Prosperity. UK: Random House Business Books.

Chapoto, A. and Jayne, TS.2009a. The Impact of Trade Barriers and Market Interventions on Maize Price Unpredictability: Evidence from Eastern and Southern Africa. Michigan: Michigan State University.

Charles, J, Longrigg, A &Tugend, A. 2001.The Agreement on Agriculture: An Impact Assessment. Consumers International. Available at: http://www.balancedtrade.panda.org/casefiles/caseagri.html. [Accessed on 25 March 2014].

Cheng, F and Jian, Z. 2006. The Impact of Multilateral Trade Liberalization on Food Security in Sub-Saharan Africa and South Asia. Available at: https://www.gtap.agecon.purdue.edu/resources/download/2729.pdf.[Accessed on 26 March 20014]

Chisholm, AH and Tyers, R. 1982. Food Security: theory, Policy, and Perspectives from Asia and the Pacific Rim. Toronto: Lexington Books

Clover, J. 2003. Food Security in Sub-Saharan Africa. Available at: kms1.isn.ethz.ch/serviceengine/.../Clover.pdf. [Accessed on 12 September 2013].

Coates, J, Swindale, A & Bilinsky P.2007. Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access: Indicator Guide Version 3. Available at: http://www.fantaproject.org. [Accessed on 11 February 2010].

Colonnelli, E and Simon, GA.2012. Food Security Governance: History, Definitions and Institutions. Università degli Studi di Catania.

Consumers International. 2001. The Agreement on Agriculture. Available at: http://www.balancedtrade.panda.org/ casefiles/caseagri.html. [Accessed on 20 February 2010].

CUTS International. 1998. CUTS Briefing Paper: Trade Liberalization and Food Security. Available at: http://www.cutsinternational.org/1998-6.htm. [Accessed on 21 March 2009].

Dana, Leo Paul.1996. Global perspectives: Small business in Mozambique after the war Journal of Small Business Management.

Das, BL. 2005. The Current Negotiations in the WTO: Options, Opportunities and Risks for Developing Countries. London: Zed Books Ltd

David, WL.1985. The IMF Policy Paradigm: The Macroeconomic of Stabilization, Structural Adjustment and Economic Development. New York: Praeger Publishers.

DENIVA (Development Network of Indigenous Voluntary Associations).2006. Uganda: the impacts of Trade Liberalization in the Dairy and maize Sectors on Household Welfare. Available at: http://www. Deniva.or.ug.[Accessed on 11 February 2010].

De Vries, E and Richter-Altschaffer. 1974. World Food Crisis and Agricultural Trade Problems. Washington: Georgetown University.

Devereux, S. and Maxwell, S.2001. Food Security in sub-Saharan Africa. Pietermaritzburg. University of Natal Press

Devereux, S, Howe, P& Deng, LB. 2007. The 'new famines', in Human Security an Development, compiled by L Cornwell. Pretoria: University of South Africa.

De Wall, Alex.2002.'AIDS-related national crises' in Africa. UK: University of Sussex.

DFID. 2013. Annual Report and Accounts 2012-13. Available at: https://www.gov.uk/government/.../annual-report-accounts2013-13.pdf [Accessed on 9 June 2014]

Diaz-Bonilla, E., Thomas, M. & Robinson, S.2002. Trade Liberalization, WTO, and Food Security. Available at: http://www.cgiar.org/ifpri. [Accessed on 17 September 2011].

Dorosh, PA.2001. Trade Liberalization and National Food Security: Rice Trade between Bangladesh and India. Available at: http://elmu.umm.ac.id/file.php/1/jurnal/UVW/World%20Development/.[Accessed on 29 March 2014].

Elbe, S. 2006. HIV/AIDS: a human security challenge for the 21st century. UK: University of Sussex.

FAO.2003. Trade Reforms and Food Security: Conceptualizing the linkages; Available at: ftp://ftp.fao.org/docrep/fao.org. [Accessed on 27 January 2010].

FAO. 2008. Commodity Market Review. Available at: ftp://ftp.fao.org/docrep/fao/010/a1487e/a1487e00.pdf. [Accessed on 28 March 2014]

FAO.2011. Ensuring Food Security in a Changing World. Rome: FAO

FAO.2012.The State of Food Insecurity in the World: Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition. Available at: http:// www.fao.org/docrep/016. [Accessed on 21 March 2014].

FAO/WFP.2003. Crop and Food Security Assessment Mission to Mozambique. Available at: ftp://ftp.fao.org.[Accessed on 10 November 2010].

FAO/WFP 2004. Crop and Food Supply Assessment Mission to Mozambique. Available at: ftp://ftp.fao.org/docrep/fao.[Accessed on 09 January 2011].

Flores, M. 2007. Conflicts, rural development and food security in West Africa, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa.

Fox, L. 2008. Beating the Odds. Sustaining Inclusion in Mozambique's Growing Economy Washington: The World Bank.

Fried, M. 2002. Is Cheap Food a Good Thing: How can cheaper food have caused greater poverty and hunger?

Gervais, J.2010.Moving Agricultural Trade Liberalization Forward to Improve Global Food Security. Available at. http://www.farm foundation.org/news [Accessed on 04 September 2011].

Grada, O and Tim, D. 2002.Demography, food production and famine risks in the 21st Century. Available at: http://www.ucd.ie/economics/research/papers/2002/WP02.16.pdf. [Accessed on 26 March 2014].

Hagirath, L.D. 2005. The Current Negotiation s in the WTO. Options, Opportunities and Risks for Developing Countries. New York. Zed Books Ltd.

Haddad, L & Frankenberger T. 2007. Integrating relief and development to accelerate reductions in food security in shock-prone areas, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa.

Handley, G, Higgins, K and Sharma B. 2009. Poverty and Poverty Reduction in Sub-Saharan Africa: An Overview of Key Issues. London: Overseas Development Institute.

Hanlon, J. 2002. Are donors to Mozambique promoting corruption? Sheffield conference paper: Towards a New Political Economy of Development, University of Sheffield.

Hanlon, J. 2006. External roots of internal war in Human Security and Development, compiled by L Cornwell.

Hanlon, J.2007. Is Poverty Decreasing in Mozambique? Maputo: IESE

Hanlon, J. 1984. Mozambique: the Revolution Under Fire, London: Zed Books.

Hanlon, J. & Mosse M. 2010. MOZAMBIQUE: Interest rates and inflation up. Available at: http//www.gg.rhul.ac.uk/simon/ GG3072/2010-59.pdf [Accessed on 11 November 2010].

Hanlon, J. & Mosse M. 2010.The Mozambique 'paradox'. Available at http://www.gg.rhul.ac.uk/simon/GG3072/2010-60.pdf[Accessed on 10 November 2010].

Hanlon, J. and Smart, T.2008. Há Mais Bicicletas – mas há desenvolvimento? Maputo:CIEDIMA.

Hanlon, J. 1991. Who Calls the Shots? Bloomington: Indiana University Press.

Hanlon, J. 2006.External roots of internal war. UK: Open University.

Hawkes, C, and Ruel, M. 2011. Value Chains for Nutrition. Available at: http://www.ifpri.org/sites/default/files/publications.[Accessed on 30 April 2012].

Hermanns, U. 2005. Fighting poverty after agricultural liberalization in Africa. Available at: http://www.giga-hamburg.de/sites/default/files/openaccess/.[Accessed on 29 March 2014].

Higgins, K and Prowse, S. 2010. Trade, Growth and Poverty: making Aid for Trade work for inclusive growth and poverty reduction. London: Overseas Development Institute.

Hoeffler, H, and Maingi, G. 2005.Promoting agricultural value chains rural-urban linkages in practice: Chicago:GTZ

Hoeffler, H. 2006. Promoting the Kenyan Potato Value Chain: Can Contract Farming Help Build Trust and Reduce Transaction Risks? Nairobi. Ministry of Agriculture.

Howe, P. 2007. Reconsidering 'famine', in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa.

Humphrey, J., and Memedovic, O. 2006. Global Value Chains in the Agri-Food Sector. Viena: UNIDO.

Hussein, A. 2009. The use of Triangulation in Social Sciences Research: Can qualitative and quantitative methods be combined? Available at: http://jcsw.no/local/media/jcsw/docs/jcsw_issue_2009_1_8_article.pdf [Accessed on 27 April 2014]

Kwesi, O. and Ng'ambi, F. 2002. What caused the Malawi Famine? Available at: http://www.allbusiness.com/africa/ 1075325-htm.[Accessed on 11 November 2010].

IFAD.2012.Mid-Term Review Report of the International Fund for Agricultural Development Country: Republic of Mozambique.

Institute for Agriculture and Trade Policy. 2005. WTO Agreement on Agriculture: A Decade of Dumping. Minesota: IATP.

Jenkins, R.2002. The political economy of industrialization: a comparison of Latin American and East Asian newly industrializing countries in perspectives on development theory, urban and rural issues (revised edition), compiled by F. de Beer and PDS Stewart. Pretoria: UNISA

Jooma, MB. 2007. Southern Africa assessment: Food security and HIV/AIDS, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa.

Kaplinsky, R., and Morris, M., *A Handbook for Value Chain Research*, prepared for the Institute for International Development Research Center (IDRC), 2000.

Kendall, B. 2005. The Evolution of the International Law of Alienability: The 1997 Land of Mozambique as a Case Study. Available at: jurisafrica.org/docs/statutes/Mozambique.burr.pdf.[Accessed on 07 September 2013].

Keyserlingk, AV. (1999) The challenges of reintroducing animal traction in post-war Mozambique. Available at: http://www.atnesa.org/challenges/challenges-keyserlingk-mozambique.pdf.[Accessed on 11 November 2010].

Kherallah, M., Delgado, C., Gabre-Madhin, E., Minot, N. & Johnson, M.2000. The Road half travelled: agricultural market reform in Sub-Saharan Africa. Washington DC: International Food Policy Research Institute.

Kiome, R.2009. Food Security in Kenya. Nairobi: Ministry of Agriculture. Republic of Kenya

Khor, M. 2010. The WTO Agriculture Agreement: Features, Effects, Negotiations, and What is at Stake. Available at: http://www.twnside. org.sg/title2/latestwto/AOAFAO.doc [Accessed on 14 Nov. 2014].

Kotzé, D.2000.Poverty, Food Security and Famine, in Introduction to Development Studies, 2nd edition, edited by F de Beer and H Swanepoel. Cape Town: Oxford University Press

Kotzé, DA.2007. Role of women in the household economy, food production and food security. Policy guidelines, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa

Kwesi, O and Ng'ambi, F. 2002. What Caused the Malawi Famine? Available at: http://www.allbusiness.com/africa/1075325-htm.[Accessed on 11 November 2010].

Labonte, R, Schrecker, T, Sanders, D & Meeus, W. 200. Nutrition, food security and biotechnology, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa.

Lappé, FM, Collins, J & Fowler,C. 1977. Food First: Beyond the Myth of Scarcity. Boston: Houghton Mifflin Company.

Levinsohn, J. 2002. The World Bank's Poverty Reduction Strategy Paper Approach: Good Marketing or Good Policy. Available at: http://www.g24.org/levintgm. [Accessed on 10 February 2010].

Li, X and Wang, W. 2008. WTO Agreement on Agriculture: A Developing Country Perspective.Available at: http://ccsenet.org/journal/index.php/jpl/article/.../705. [Accesed on 26 March 2014].

Liebenberg, A and Swanepoel, HJ.2003. Only study guide for OADMET-G. Pretoria: University of South Africa.

Lovendal, CR & Knowles, M. 2005. Tomorrow's hunger: A framework for analyzing vulnerability to food security, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa.

Macamo, J.L. 1999, Estimates of unrecorded cross-border trade between Mozambique and her neighbors, Office of Sustainable Development, Bureau for Africa, USAID, Washington, DC, Technical Paper No.88.

Makwana, R. 2006. It's Time to Decommission the IMF, World Bank and WTO. Available at: http://www.stwr.org/imf-world-bank-trade/its-time-to-decommission-the-imf-world-bank- -and wto.html. [Accessed 04 January 2014].

Malaluan, J and Guttal, S.2003. Poverty Reduction Strategy Papers: A Poor Package for Poverty Reduction. Available at: http://cadtm.org/IMG/pdf/prsp.pdf [Accessed on 24 March 2014].

Marshall, R and Walters, B. 2011. Evaluating Ten Years of 'Strategizing' for Poverty Reduction:A Cross-Sectional Appraisal of the Poverty Reduction Strategy Paper (PRSP) Initiative: Available at: http://www.chronicpoverty.org/uploads/publication_files/marshall_walters_prsp.pdf. [Accessed on 26 March 2011].

McMichael, P.2004. Global development and the corporate food regime, in Analyzing Contemporary Development Debates and Issues, compiled by P Stewart. Pretoria: University of South Africa.

Maxwell, S. 2001.Food Security in Sub-Sahara Africa. Pietermaritzburg: University of Natal Press.

Maxwell, S. 1991.Food Policy and Food Security in Sudan. London: Intermediate Technology Publication

McLachlan, M. & Thorne, J. 2009. Seeding change: A proposal for renewal in the South African food system. Development Planning Division Working Paper Series No. 16, DBSA Midrand

Mondlane, E. 1969. The struggle for Mozambique: Middlesex : Penguin Books.

Mouton, J. 2001. How to succeed in your master's and doctoral Studies. Pretoria: Van Schaik

Mouton, J. 1996. Understanding social research. Pretoria: JL Van Schaik.

Mouton, J & Marais, HC. 1988. Basic concepts in the methodology of the social sciences. Pretoria: Human Sciences Research Council.

Mucavele, FG. 2007. The True Contribution of Agriculture to the Economic Development of Mozambique, Food Agriculture and Natural Resources Policy Analysis Network. Maput, Mozambique

Mwaniki, A. 2011. Achieving Food Security in Africa: Challenges and Issues. Available at: http://www.un.org/africa/osaa/rep.[Accessed on 22 March 2014].

Norfolk, S and Tanner, C. Improving Tenure Security for the Rural Poor. Mozambique-Country Case Study. Available at: http//ftp.fao.org/sd/sda/sdar/sard/Mozambiquecase [Accessed on 5 September 2013].

Nouve, KL. 2004. Impact of global agricultural trade reforms and world market conditions on welfare and food security in Mali: A CGE assessment.A Thesis Submitted to Michigan State University

Nyangito, HO.2003.Kenya's State of Agricultural Trade Reform in the Framework of World Trade Organization (Short Version).Nairobi: KIPRA.

Cabral, L.2009. Sector Budget Support in Practice. Desk Study Agriculture in Mozambique. London: ODI

OECD.2006. Promoting Pro-Poor Growth Agriculture. Available at: http://www.oecd.org/dac/povertyreduction/37922155.pdf [Accessed on 28 March 2014].

Ó Grada, C and Dyson, T. 2002. Demography, food production and famine risks in the 21st Century. Available at: http://www.ucd.ie/economics/research/papers/2002/WP02.16.p. [Accessed on 29 March 2014].

Önis, Z and Senses, F. 2003. Rethinking the Emergency of Post-Washington Consensus: A Critical Appraisal an ERC (Economic Research Center) Working Paper [accessed 20 August 2013].

Overseas Development Institute (ODI).2001. Food-security assessments in emergencies: a livelihoods approach. Available at: http://www.odihpn.org [Accessed on 15 September 2013].

Panagariya, A.2002. Trade and Food Security: Conceptualizing the Linkages. Available at http://ieham.org/html/docs/Tradeand_Food_Security_Conceptualizing_the_Linkages.pdf [Accessed on 12 April 2012].

Panagariya, A. (2003) Trade and food security: conceptualizing the linkages. Rome: Food and Agriculture Organization of the United Nations.

Pennycooke, Camiel.2011. Trade Policy and Food Security. The Implications of the WTO's Agreement on Agriculture for Caribbean Small Vulnerable Economies (SVEs).

Peloso, J. 2005. Free trade.New York: H. W. Wilson Co.

Pennycooke, C. 2011. The Implications of the WTO's Agreement on Agriculture for Caribbean Small Vulnerable Economies (SVEs).

Phillips, W. 2000. Food Security: A First Step Toward More Fair Trade. A Discussion Paper on Food Security and Agricultural Trade under the World Trade Organization. Available at: http://www.ccic.ca/_files/fr/archives. [Accessed on 15 March 2013]

Polana, E. and De Vletter, F. 2001.Female Itinerant Maize Traders in Southern Mozambique A Study of a Higher-End Informal Sector Activity and its Potential for Poverty Reduction. Harare: ILO/SAMAT

Poonyth, D, Sarris, A, Sharma,R and Shui, S.2004. The impact of domestic and trade policies on the world cotton market. Available at: ftp://ftp.fao.org/docrep/fao/006/ad767e/ad767e00.pdf. [Accessed on 26 March 2014].

República de Moçambique. 2006. Plano de Acção para a Redução da Pobreza Absoluta – 2006-2009. Maputo: Ministério da Planificação e Desenvolvimento.

República de Moçambique. 2011. Plano Estratégico para o Desenvolvimento do Sector Agrário. PEDSA 2011-2020. Maputo: Ministério da Agricultura.

ReSAKSS-SA.2011. The Structure and Trends of Public Expenditure on Agriculture in Mozambique. Available at: www.resakss.org/...//the-structure-and-trends-of-pub [Accessed on 28 May 2014]

ReSAKSS-SA.2011.Mozambique. Joint Sector Review Assessment: Advancing Mutual Accountability through Comprehensive, Inclusive, and Technically Robust Review and Dialogue. Available at: http://www.resakss.org/2014conference/docs/Mozambique_JSR_Assessment.pdf. [Accessed on 23 January 2016]

Rist, G.1997. The history of development: from western origins to global faith. London: Zed Books.

Ritchie, M.1993. Agricultural Trade Liberalization: Implications for sustainable agriculture. In The Case against Free Trade: GATT, NAFTA, and the Globalization of Corporate Power. San Francisco: Earth Island Press.

Ruckert, A. 2007. The Social Impacts of Poverty Reduction Strategies in Latin America. Available at: http://cips.uottawa.ca/eng/documents/Ruckert_PostDoc.pdf[Accessed on 26 March 2014].

República de Moçambique. 2006. Plano de Acção para a Redução da Pobreza Absoluta – 2006-2009.Maputo: Ministério da Planificação e Desenvolvimento

Roman, J. Food security in sub-Saharan Africa, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa.

Rukuni, M. and Eicher, CK. 1987.The Food Security Equation in Southern Africa. Michigan: Department of Agricultural Economics.

Sasson, A. 2012.Food Security for Africa: an urgent global challenge. Available at: http://www.agricultureandfoodsecurity.com. [Accessed on 16 September 2013].

Schneider, H. 1984. Meeting Food Needs in a Contest of Change. Paris: OECD

SETSAN (2009). Worst-case food security scenario, October 2008.available at www.fews.net/docs/Publications/mozambique_OL_2008_09_en.pdfle [Accessed on 13 November 2010].

Sharma, D. 2005.Trade Liberalization in Agriculture: Lessons from the First 10 years of the WTO. Available at: http://www.aprodev.eu/file/Trade/Devinder. [Accessed on 21 March 2014].

Shaw, DJ. 2007. World Food Security. A History since 1945. New York: Palgrave. Macmillan

Schmuck, H. 2013.The Economics of Early Response and Resilience: Mozambique Country Study. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data.[Accessed on 28 March 2014].

Simon, GA.2012. Food Security: Definition, Four Dimensions, History. Available: http://www.fao.org/fileadmin/templates/ERP/uni/F4D.pdf [Accessed on 10 April 2014].

Stevens, C, Greenhill, R, Kennan, J, Devereux, S.2008. The WTO Agreement on Agriculture and Food Security.Available at: http://www.observatori.org/documents [Accessed on 04 September 2011].

Stevens, C, Devereux, S, Kennan,J. 2003. International trade, livelihoods and food security in developing countries. Available at: http://www.eldis.org/vfile/upload/1/document/0708/DOC15772.pdf. [Accessed on 28 March 2014].

Stewart, P. 2001. Theories: Development Administration. Study guide for DVA201-T. Pretoria: University of South Africa.

Stewart, P.2003. Advanced Study of Development Theories. Only study guide for MDVA01-L. Pretoria: University of South Africa

Sigwele, HK.2007. The effects of International Trade Liberalization on Food Security and Competitiveness in the Agricultural Sector of Botswana. University of Pretoria. Unpublished work.

Simon, GA. 2012. Food Security: Definition, Four dimensions, History. Available at: http://www.fao.org/fileadmin/templates/ERP/uni/F4D.pdf. [Accessed on 26 March 2014].

Singleton, RA, Straits, BC & Straits, MM. 1993. Approaches to social research. New York: Oxford University Press

Sumich, J.2012. An "Imaginary Nation": Nationalism, Ideology & Mozambican National Elite in Sure Road? Nationalisms in Angola, Guinea-Bissau and Mozambique, edited by E. Mourier-Genoud. Danvers: BRILL

Stiglitz, J. 2002. Globalisation and its discontents. Allen Lane. The Penguin Press. London.

Swanepoel, H. 2000. The Dynamics of Development, in Introduction to Development Studies, edited by F de Beer & H Swanepoel. Oxford: Oxford University Press.

Tarp, F, Arndt, C, Jensen, HT, Robinson, S, Heltberg, R.2002.Facing the Development Challenge in Mozambique: an Economy-wide Perspective. Washington: International Food Policy Institute.

Timmer C. 2005. Agriculture and Pro-Poor Growth: An Asian Perspective (Working Paper Number 63 from "Centre for Global Development).

Trueblood, M and Shapouri, S. 2001. Implications of Trade Liberalization on Food Security of Low-Income Countries. Available at: http://www.ers.usda.gov/publications/aib.[Accessed on 10 January 2011].

Tschirley, DL.1999.The Effects of Maize Trade with Malawi on Price Levels in Mozambique: Implications for Trade and Development Policy. Available at: ideas.repec.org/p/ags/midcwp/56032.html.[Accessed on 8 Februaru 2010].

Tsutsui, V. 2010.Does Emergency Food Aid Improve Food Security at the Household Level? Evidence from Mozambique. Available at: http://graduate institute.academia.edu. [Accessed on 4 September 2011].

Tutwiler, MA. And Straub, M. 2005. Making Agricultural Trade Reform Work for the Poor

UNDP. 2007.Globalization, Agriculture and the Least Developed Countries. [accessed on 28 July 2013]

UNDP.2012. Mozambique Quick Facts. Economic and Policy Analysis Unit. [accessed on 29 August].

UNDP. 2015. Mozambique. Human Development Report 2015. Available at: http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/MOZ.pdf .[Accessed on 23 January 2016]

UNIDO 2009. Agro-Value Chain Analysis and development. Available at …accessed on 28 April 2012.

USAID/Mozambique.2007. Mozambique Food Security. Programming Framework. FY 2008-2012. Available at http://www.usaid.gov/mz/doc/misc/moz_food[Accessed on 13 November 2010].

Van Vuuren, D. and Maree, A. (1999) 'Survey methods in market and media research: applied methods for the social sciences', in Terre Blanche, M. and Durrheim, K. (ed.), Research in Practice. Cape Town: UCT Press.

Virtanen, P, and Ehrenpreis, D. 2007. Growth, Poverty and inequality in Mozambique. Brasilia: International Poverty Centre

Waterhouse, R. 2010. Vulnerabilidade em Moçambique: Padroões, tendências e respostas in Pobreza, Desigualdade e Vulnerabilidade em Moçambique, compiled by Nelson Saute. Maputo:IESE.

Webb, P & Rogers, B.2003. Addressing the "in" in food insecurity, in Human Security and Development, compiled by L Cornwell. Pretoria: University of South Africa

Willett, Susan, 'Development and Security in Africa: A Challenge for the New Millenium' in Geoff Harris ed., Achieving Security in Sub-Saharan Africa: Cost Effective Alternatives to the Military (Pretoria: Institute for Security Studies, 2004, pp. 101-20).

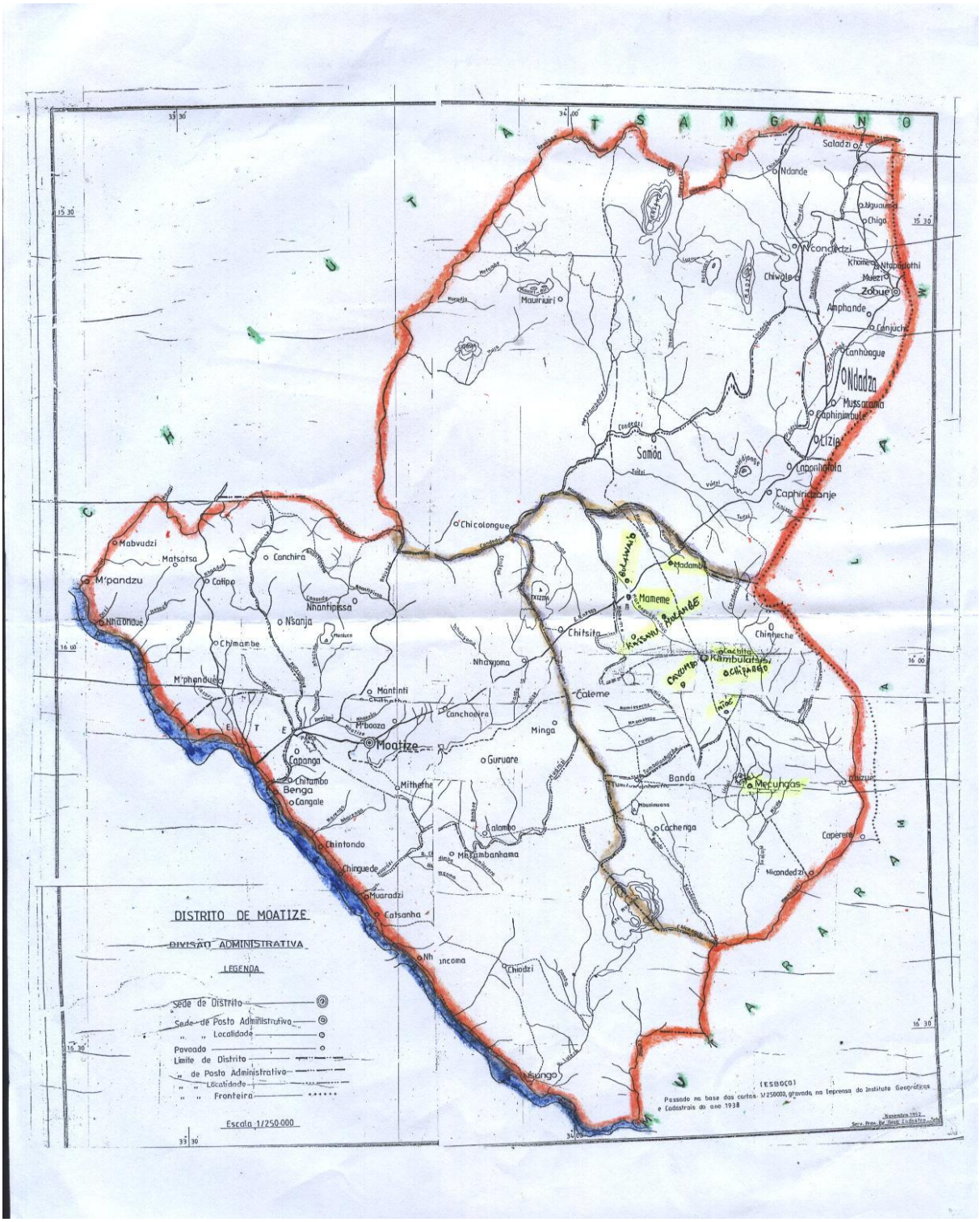
Woodhouse, P. 2010. Constrangimento na produtividade da agricultura africana in Economia Extractiva e Desafios de Industrialização em Moçambique, compiled by Nelson Saute. Maputo:IESE

Wouters, J and De Meester, B. 2007.The World Trade Organization: A Legal and Institutional Analysis. Oxford: Intersentia

APPENDICES

APPENDIX A Map of Mozambique showing provinces and districts (source: www.nationsonline.org/oneworld)

APPENDIX B - Map of Kambulatsitsi in Tete's Moatize District (source: DINAGECA)



APPENDIX C - HOUSEHOLD SURVEY QUESTIONNAIRES

APPENDIX C1 - Questionnaire Applied to Measure Household Food Security

I. "Food Availability" (local production, purchase from markets, food aid)

1. Is most food you eat produced locally in Kambulatsitsi?

a.0=No (skip to following question)

b.1=Yes

2. Do you produce surplus food to sell?

a.0=No (skip to following question)

b.1=Yes

II. "Food Access" (people's entitlements to food)

3. Do you have access to most of the food you eat through own production?

a.0=No (skip to following question)

b.1=Yes

III. "Food Utilization" (adequate and balanced diet)

4. Does the food you eat meet dietary needs and preferences?

a.0=No (skip to following question)

b.1=Yes

IV. "Stability of Supplies"(adequate food supplies at all times)

5. Do you lack access to adequate food supplies at all times?

a.0=No (skip to following question)

b.1=Yes

APPENDIX C2 - Questionnaire Applied to Measure Household Food Insecurity

I. Respondents' anxiety and uncertainty about Household's Food Insecurity

1. In the past 4 weeks, did you worry your household would not have enough food?

0=No (skip to following question)
1=Yes

How often did this happen?
1= Rarely (once or twice in the past four weeks)
2=Sometimes (three to 10 times in the past four weeks)
3=Often (more than 10 times in the past four weeks)

II. Insufficient Quality, including Insufficient Food Variety and Preferences

2. In the past 4 weeks, have you or any member of your household failed to eat preferred kinds of food because of a lack of resources?

0=No (skip to following question)
1=Yes

How often did this happen?
1= Rarely (once or twice in the past four weeks)
2=Sometimes (three to 10 times in the past four weeks)
3=Often (more than 10 times in the past four weeks)

3. In the past 4 weeks, have you or any member of your household eaten less kinds of food, due to lack of resources?

0=No (skip to following question)
1=Yes

How often did this happen?
1= Rarely (once or twice in the past four weeks)
2=Sometimes (three to 10 times in the past four weeks)
3=Often (more than 10 times in the past four weeks)

4. In the past 4 weeks, have you or any member of your household eaten food you did not want to eat because of lack of resources?

0=No (skip to following question)
1=Yes

How often did this happen?
1= Rarely (once or twice in the past four weeks)
2=Sometimes (three to 10 times in the past four weeks)
3=Often (more than 10 times in the past four weeks)

III. Insufficient Food Intake and its Physical Consequences

5. In the past 4 weeks, have you or any member of your household failed to eat any meal during day time because there was not enough food?

0=No (skip to following question)
1=Yes

How often did this happen?
1= Rarely (once or twice in the past four weeks)
2=Sometimes (three to 10 times in the past four weeks)
3=Often (more than 10 times in the past four weeks)

6. In the past 4 weeks, did you or any member of your household go to sleep without food because there was no food to eat?

0=No (skip to following question)
1=Yes

How often did this happen?
1= Rarely (once or twice in the past four weeks)
2=Sometimes (three to 10 times in the past four weeks)
3=Often (more than 10 times in the past four weeks)

7. In the past 4 weeks, did you or any member of your household go a whole day and night without eating anything because there was no food to eat?

0=No (skip to following question)
1=Yes

How often did this happen?
1= Rarely (once or twice in the past four weeks)
2=Sometimes (three to 10 times in the past four weeks)
3=Often (more than 10 times in the past four weeks)

APPENDIX C3 - Questionnaire Applied to Measure Impact of Trade Reforms on Food Security

I. Trade Liberalization (Cheap Imports and a Fall in Domestic Prices)

1. Do cheap food imports affect your food production?

   a.0=No (skip to following question)
   b.1=Yes.

2. Do you produce less food now than many years ago?

   a.0=No (skip to following question)
   b.1=Yes.

3. Do you experience greater food shortage now than many years ago?

   a.0=No (skip to following question)
   b.1=Yes.

II. Agricultural Sector Reform (Influence of Promotion of Crop Diversification)

4. Do you produce more cash crops now than many years ago?

   a.0=No (skip to following question)
   b.1=Yes.

III. Institutional Reform (Influence of Reduced Parastatal Involvement –Abolition of AGRICOM/ICM)

5. Would price controls on food crops improve your food production?

a.0=No (skip to following question)

b.1=Yes.

APPENDIX C4 - Questionnaire Applied to Measure other Factors Causing Food Insecurity

I. Effects of Increased Climatic Occurrences

1. Do climatic factors affect your production causing food insecurity?

a.0=No (skip to following question)

b.1=Yes.

II. Acute Diseases (HIV/AIDS, Malaria & TB)

2. Do you have household members who have died of diseases, such as HIV/AIDS, malaria, and TB?

a.0=No (skip to following question)

b.1=Yes.

3. Has their death reduced your food production?

a.0=No (skip to following question)

b.1=Yes.

III. Lack of Basic Infrastructure

4. Has the lack of such basic infrastructure reduced your production?

a.0=No (skip to following question)

b.1=Yes.

APPENDIX D – Focus Group Discussions Questionnaire

I. Trade Liberalization (Border Price Transmission)

1. Do cheap food imports affect your food production?

a.0=No (skip to following question)

b.1=Yes.

II. Increased off Farm Income and Complete Exit from Agriculture

2. Do most people rely on off farm jobs for a living?

a.0=No (skip to following question)

b.1=Yes.

3. Does migration affect food production?

a.0=No (skip to following question)

b.1=Yes.

III. Promotion of Crop Diversification

4. Do you think cash crop production discourages food production?

a.0=No (skip to following question)

b.1=Yes.

IV. Effects of Increased Climatic Occurrences

5. Are droughts and poor rainfalls a problem for your production?

a.0=No (skip to following question)

b.1=Yes.

APPENDIX E – Personal Interviews' Questionnaire

I. Production intensification and crops' diversification

1. Do households take measures to alleviate food shortages?

a.0=No (skip to following question)

b.1=Yes.

II. Herd Size

2. Do households depend on livestock production and sale for a living?

a.0=No (skip to following question)

b.1=Yes.

III. Complete Exit from Agriculture

3. Are there many people who migrate from rural areas?

a.0=No (skip to following question)

b.1=Yes.

IV. External Shocks (Climatic Occurrences)

4. Are constant droughts and poor rainfalls the cause of your food shortages?

a.0=No (skip to following question)

b.1=Yes.