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THE CHALLENGES OF POVERTY ALLEVIATION IN MALAWI – 1995-2005

JUNE KAMBALAMETORE

DECLARATION

I June Josephine Kambalametore, declare that this dissertation is my own original work, that I have accurately reported and acknowledged all sources, and that this document has not previously, in its entirety or in part, been submitted at any university for the purpose of obtaining an academic qualification.

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ACKNOWLEDGEMENTS

First and foremost I would like to thank God Almighty for providing me with guidance and knowledge to be able to write this dissertation.

Special thanks go to my supervisor, Professor D. Mahadea, who is responsible for guiding me and helping me complete the writing of this dissertation.

I would also like to thank Dr R. Simson from the department of Economics and Finance, University of KwaZulu Natal, for his assistance.

Dad, Mum, thank you for the unconditional sacrifice and support you have shown me in many ways, especially in seeing to it that I have a good education. Maureen, Mitchell and Donald may you continue being the loving and wonderful people that you are. I love you all very dearly.

Werani, Peace and Laura, thank you for your wonderful friendship and for always being there when I needed you most.

ABSTRACT

This dissertation examines the challenges of poverty alleviation in Malawi, with particular reference to the period 1995 to 2005. Malawi is a small landlocked country, considered to be one of the poorest countries in the world. Some of the major indicators of poverty in Malawi are inequality in income distribution, attainability of basic needs and low levels of development. The Integrated Household Survey (IHS) of 2004/5 revealed that 52.4 percent of the Malawian population was living below the poverty line in 2005 (National Statistics Office (NSO), 2005: 139). Poverty reduction strategies in Malawi have had a slight impact on reducing the level of poverty. Nevertheless, the government of Malawi remains committed to the implementation of redistributive measures and economic reforms in its quest for economic growth, poverty reduction and enhanced employment opportunities in the country (Malawi Government, 2006: 1).

This study uses an econometric analysis to examine the effects of government spending on socioeconomic services, foreign aid and Gross Domestic Product (GDP) growth on the levels of poverty in Malawi, using data for period 1995-2005. The regression results indicate that in GDP growth and government expenditure on socioeconomic services, particularly on education, have a significant impact on reducing poverty levels in Malawi. To address poverty, Malawi should thus pursue an economic growth enhancing strategy, with expansion of human capabilities that also facilitates fiscal redistribution. The regression results show that if GDP growth is increased by 1 percent on average, this would decrease the headcount poverty by 0.237 percent, ceteris paribus. The model also shows that, on average, a K1 million increase in government expenditure on education will decrease the headcount poverty by 0.1 percent, ceteris paribus. The regression results therefore indicate that GDP growth and government expenditure on education will have to increase in order for poverty levels in Malawi to decrease in the long run. The results of a similar comparative regression analysis for Botswana further confirm the consistency that education is a significant factor in reducing poverty.

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ARV	Anti Retro Viro
ASGISA	Accelerated Shared Growth Initiative for South Africa
CPI	Consumer Price Index
CPI	Corruption Perception Index
DPP	Democratic Progressive Party
DW	Durbin Watson
GDP	Gross Domestic Product
GNP	Gross National Product
HDI	Human Development Index
HIPC	Highly Indebted Poor Country
IHS	Integrated Household Survey
HIV	Human Immune Virus
HPI	Human Poverty Index
IFAD	International Fund for Agricultural Development
ILO	International Labour Organisation
IMF	International Monetary Fund
LCD	Less Developed Countries
MCP	Malawi Congress Party
MDG	Millennium Development Goals
MGDS	Malawi Growth Development Strategy
MK	Malawi Kwacha (Malawi's Currency)
MPRS	Malawi Poverty Reduction Strategies

NSO	National Statistics Office
PAP	Poverty Alleviation Programme
PEPFAR	President’s Emergency Plan for AIDS Relief
PRSP	Poverty Reduction Strategy Papers
RBM	Reserve Bank of Malawi
TOL	Tolerance
UDF	United Democratic Front
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations International Children’s Emergency Fund
USAID	United States Agency for International Development
VIF	Variance-Inflating Factor
WHO	World Health Organisation

CHAPTER ONE

INTRODUCTION

1.1 Introductory Structure of the Study

Poverty is a major problem in Malawi, as in many other developing countries. One is interested in understanding the nature of poverty in the country and the extent to which government measures can assist in combating this problem. Accordingly, this introductory chapter provides an overview of certain aspects of poverty in Malawi. It also outlines the nature of the study to be conducted, purpose of the study, and the research objectives. The structure of the research study and the definition some of concepts will also be briefly looked at.

1.2 Overview of Poverty

Poverty may be defined as a situation when an individual is unable to provide him/herself with the minimum requirements of basic needs. Poverty is a multidimensional problem. It is partly subjective, partly relative and partly related to lack of capabilities. In practice, most poverty measurement focuses on insufficient income to meet private consumption, below an objective poverty line. Poverty can also be linked to the deprivation of sufficient consumption to afford enough calories and the deprivation of basic material needs (International Fund for Agricultural Development (IFAD), 2001).

The World Bank uses an income poverty line of US $1 per day per person to determine the number of people living under extreme poverty and 2 dollars per day to measure moderate poverty. According to the World Bank (2006), the number of people living on less than US $1 a day has risen in the last few years from 1.3 billion to about 1.5 billion. Moreover, poverty continues to worsen as the world's population continues to grow. In most countries, politics and poor standards of living play a role in the increase of poverty and dependency. Poverty is, therefore, not just an economic issue but also a socio-political issue. As a multidimensional

phenomenon, poverty is defined and measured in a multitude of ways (Falkingham and Namazie, 2001: 8).

Globally, among the countries in the world, Malawi is regarded as one of the poorest countries. The poverty level in Malawi in 2005 was 52.4 percent (National Statistics Office (NSO), 2005: 139). This indicates that just over half of the people were living under conditions of poverty, of which the greater proportion were in the rural areas. Since Malawi gained its independence in 1964, one of the government's main priorities has been to fight against poverty. However, Malawi remains vulnerable to worsening economic conditions, with aggravating implications on poverty and economic development (Kubalasa, 2006: 2).

This study will analyse the nature and extent of poverty in Malawi. The econometric study focuses on how Gross Domestic Product (GDP) growth, foreign aid and government expenditure on socioeconomic services can contribute to the alleviation of poverty.

1.3 Research Problem

When Malawi gained its independence in 1964, the government promised that it would fight against poverty, disease and ignorance (Kubalasa, 2006: 3). After 40 years of independence, Malawi is not a rich country - about 6.3 million Malawians currently live in poverty (NSO, 2005: 139). What are the challenges of poverty alleviation in Malawi? Why has there been little success in combating poverty in Malawi? Can fiscal redistribution, economic growth and foreign aid make a difference to the poverty situation in Malawi? Can Malawi attain the Millennium Development Goals? These research questions form the background of this thesis.

1.4 Research Objectives

The objectives of this research are:

1. To provide an overview of the problem of poverty in Malawi.
2. To examine:

- The relationship between poverty reduction and fiscal redistribution in Malawi (1995-2005);
- The relationship between GDP growth and poverty reduction in Malawi;
- The relationship between foreign aid and poverty reduction in Malawi;
- The constraints on the attainment of the Millennium Development Goals (MDGs) in Malawi.

1.5 Thesis Organisation

This dissertation consists of 6 chapters. The first chapter is introductory: it presents an overview of poverty and briefly outlines the objectives of the study. Chapter 2 looks at Malawi's economy. Chapter 3 presents a literature review on the theoretical and conceptual aspects of poverty. Indicators, measures and causes of poverty as well as the Millennium Development Goals will also be examined. Chapter 4 looks at poverty specifically in the context of Malawi. Chapter 5 focuses on the econometric analysis to determine the impact of GDP growth, foreign aid and government expenditure on certain socioeconomic services on poverty alleviation. Lastly, Chapter 6 concludes the whole thesis with some policy recommendations based on the results from Chapter 5.

1.6 Definition of Concepts

Poverty – A specific level of income is necessary to secure basic human requirements of food, clothing and shelter. Without this level of income, an individual is considered to be in poverty (Todaro and Smith, 2009: 815).

Gross Domestic Product (GDP) – The total final output of goods and services produced by a country's economy (Mankiw, 2007: 17).

Foreign aid – The international transfer of public funds in the form of loans or grants either directly from one government to the other (bilateral assistance) or indirectly through the vehicle of multilateral assistance agency like the World Bank (Todaro and Smith, 2009: 824).

Fiscal redistribution – Expenditure by the government in the form of transfer payments from the state to groups of individuals in the form of welfare provisions, and socioeconomic expenses such as pensions, education, housing, health care and social security (Sachs, 2006: 228).

CHAPTER TWO

MACROECONOMIC ASPECTS OF MALAWI'S ECONOMY

2.1 Introduction

It is important for any economy to have a good macroeconomic framework. This is because good macroeconomic frameworks lead to stability in the economy, contributing to sustainable economic growth. In order to achieve macroeconomic stability, it is important for economies to limit the supply of money and lower both government expenditure and budget deficit (Mehrotra and Delamonica, 2007: 16). According to the World Bank (2007), better economic policy and performance are one of the core elements to improving Africa's well-being. In the past few years, Malawi has gone through an unstable macroeconomic environment. This has been mainly caused by high government expenditure, high inflation, high interest rates and erratic economic growth. However, in the last two years Malawi has seen some progress in it macroeconomic performance (Malawi Government and World Bank, 2006:180).

This chapter discusses the macroeconomic developments in Malawi since 1980-2005. It looks at the volatility of GDP growth, changes in inflation and interest rates, and public expenditure in recent years, as well as recent labour market conditions in Malawi. However, the focus of the study is the period 1995-2005.

2.2 Background to Malawi

Malawi is a small landlocked country in the south east of Africa, with Tanzania, Mozambique and Zambia as its neighbouring countries. In 1891, the British government colonised Malawi, which was then known as "Nyasaland" meaning "lake". Malawi gained its independence on the 6th of July 1964 as a poor country. After independence, Malawi became a one-party state, ruled by President Dr. Hasting Kamuzu Banda. Even though Banda was known for his autocratic rule, he was one of Africa's most influential leaders. In 1970, Dr. Banda was declared President for life of the Malawi Congress Party (MCP). In 1971, Banda consolidated his power and was

named president for life of Malawi itself (Ihonvbere, 1997: 225). Dr. Banda ruled Malawi for 30 years. During his rule there was stability in the country and Malawi became self-sufficient in food. Education standards, health facilities and agriculture were given vital importance (Voice of America (VOA) (2006).

On the 17th of May 1994, Malawi became a democratic country ruled by the United Democratic Front (UDF) government, with Bakili Muluzi as the President. The UDF government declared its priorities to be in the areas of improved health care, education, infrastructure and poverty alleviation. However, even with democracy, not much has changed in Malawi. Democracy has seen rising public corruption. Ill-qualified party loyalists filled the majority of important positions in government. This was seen to have had a major effect on services, like public hospitals and education, because as the party loyalists became richer, the economy went through serious economic neglect (Mungomo, 2000: 22).

In May 2004, Bingu wa Mutharika, running for the UDF Party, succeeded Mr. Muluzi as the President of Malawi. Due to differences between Mutharika and Muluzi, Mutharika then left the UDF in 2005 and formed his own party, the Democratic Progressive Party (DPP). To date, the DPP has one-third membership in Parliament (World Bank, 2008).

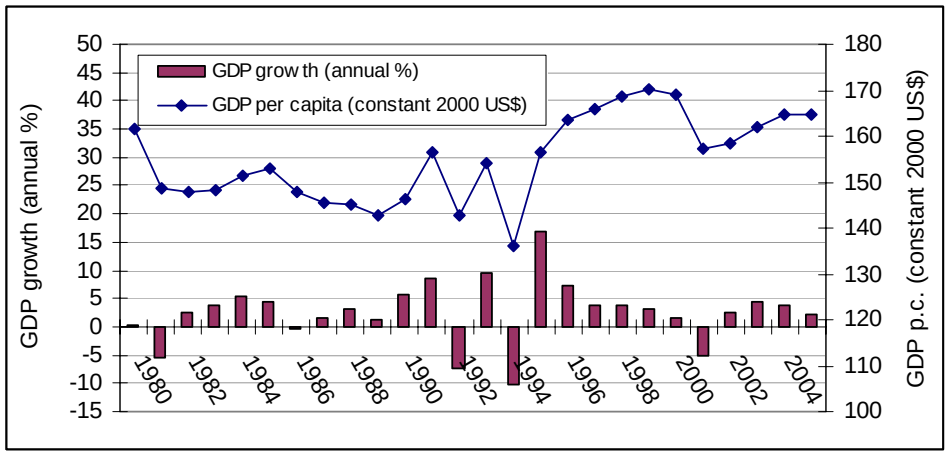
2.3 Macroeconomic Performance

Economic growth and inflation

Malawi has a small economy with a Gross Domestic Product of about US $2 billion (World Bank, 2008). In the last decade, Malawi experienced, on average, about 3 percent economic growth rate. Population growth has risen at more than 2 percent per annum, and as a result per capita incomes have increased by almost 1 percent. The overall economic performance during the period 1990-2002 has been rather mixed, due to external shocks and poor domestic policy

management. After improving from an average rate of 1.9 percent in 1980-89 to 4.1 percent in 1990-99, real GDP growth contracted by 4.1 percent in 2001 (The National Action Group, 2003: 23). This volatility in GDP growth has been due mainly to the impact of changing weather patterns on agriculture. In addition, poor performance in the manufacturing sector has also been a contributing factor and competition from imported goods has only made it worse. In 2006 Malawi saw one of its strongest GDP growth rates of about 7.9 percent partly due to increases in the maize production and fertilizer subsidy programme (Malawi Government and World Bank, 2006: 183).

Figure 2.1: GDP Growth and Changes in GDP per Capita in Malawi, 1980-2005



Source: National Statistics Office (NSO) and International Monetary Fund (IMF) statistics cited in Malawi Government and World Bank, 2006: 182

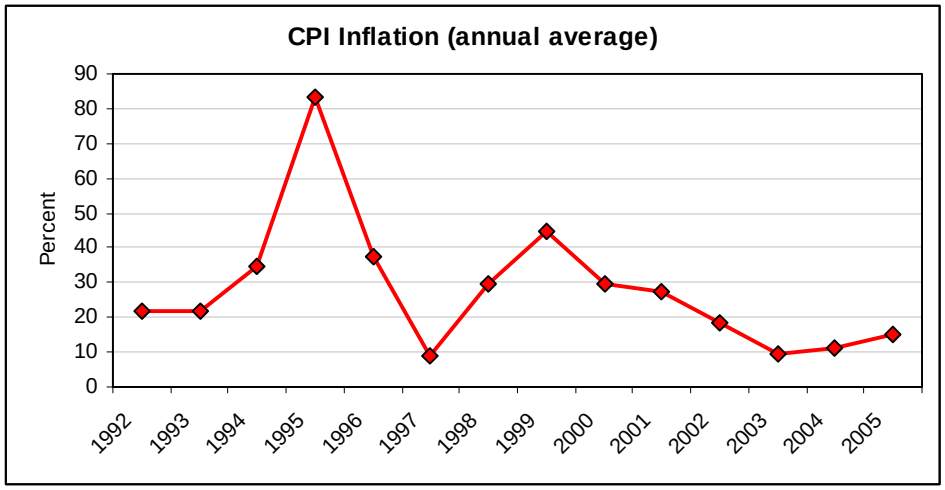
As shown in the graph above, real GDP per capita has been volatile over the past 2 decades. In 1999, Malawi's economy experienced its highest GDP per capita of about US $170.

Economic growth and poverty reduction are seen to have an inverse relationship and therefore an important factor in the reduction of poverty. As economic growth increases, the availability of goods and services in the economy will increase and, as a result, the level of living standards will increase and therefore reducing poverty. However, how quickly growth can reduce poverty

depends both on the initial income distribution and how it evolves over time (Lustig, Arias and Rigolini, 2002: 2).

The inflation rate in Malawi, largely influenced by increases in food prices, increased from about 20 percent in 1992-1993, to a record high of 83 percent in 1995 as indicated in Figure 2.2. The high inflation was partly the result of the liberalization of the exchange rate system in February 1994, leading to a large depreciation of the Malawi Kwacha (MK), a large increase in the public sector wage bill, increases in government expenditures on the 1993 referendum (for multiparty democracy) and increases in the money supply. By 1997, as a result of improved fiscal discipline, stabilization of the exchange rate and favourable weather, inflation reduced to 9 percent. In 1999, inflation rose back to 45 percent. It was then brought under control due to restrictive monetary policies, reaching 10 percent by 2003, and 9.2 percent in January 2007 (Malawi Government and World Bank, 2006: 186).

Figure 2.2: CPI Inflation



Source: NSO and IMF Statistics cited Malawi Government and World Bank, 2006: 186

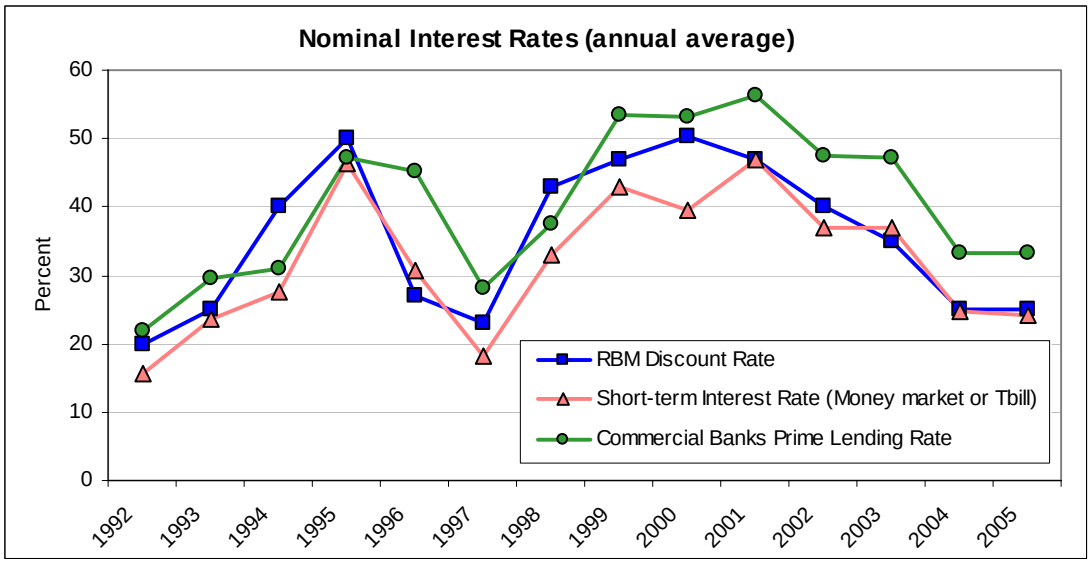
Towards the end of 2005 inflation can be seen to have started to rise again to about 15.5 percent from about 10 percent in 2004. This was due to a depreciation in the Malawi Kwacha (MK) relative to the Euro and Dollar as well as in increase in the price of oil (Reserve Bank of Malawi (RBM), 2008).

High inflation acts as a regressive tax on household incomes by reducing purchasing power, and causes adverse impacts on households which are dependent on fixed salaries, as well as low-income households in general (Daily, 2007:6). This in return has a negative effect on the levels of poverty in an economy. The inflation tax is regressive because it affects the savings of middle-income people. Those who were already poor before inflation pay an insignificant amount of their income as an inflation tax. Inflation affects poverty mainly through its impact on real wages because nominal wages fail to increase as fast as prices in episodes of rising inflation rates (Cardosa, 1999: 5), thereby reducing the purchasing power of households. Low income earners are more adversely affected by inflation as it can increase their levels of deprivation and poverty, in the absence of welfare support systems.

Interest rates

An increase in government borrowing has caused an increase in interest rates. This is partly because government has demanded more scarce resources from the private sector. High inflationary expectations and high oligopolistic structure of the financial sector have also contributed to the increase in interest rates. Figure 2.3 depicts the movements in nominal interest rates since 1992 to 2005. The commercial banks' prime lending rate has generally been accelerating, reaching a record high at 56 percent in 2001 and thereafter declining. Since 2000, the real interest rate has been above 20 percent, peaking at almost 40 percent in 2003 (Malawi Government and World Bank, 2006: 187).

Figure 2.3: Movements in Interest Rates 1992- 2003



Source: RBM and IMF Statistics cited in Malawi Government and World Bank, 2006: 187

Figure 2.3 illustrates movements in nominal interest rates. The lending rate has been declining since 2001. This follows from the decrease in the discount rate by the RBM from 45 percent in 2002 to 25 percent in 2004. The lending rates move in step with changes in the discount rate.

High interest rates act as disincentive to investment as they increase the cost of borrowing and hence slow down economic growth. High interest rates will therefore worsen poverty as the poor fail to raise credit resources to maximize agricultural production and other income generating activities or to meet their debt obligations (Southern African Regional Poverty Network (SARPN), 2003).

Investment and savings

Malawi continues to rely on foreign savings to finance its net investment. Low disposable incomes have affected savings and investment ratios negatively in the past years. National

savings as a share of GDP have remained below 3.2 percent while gross investment has been below 11.2 percent. It is noted that there is a disparity between investment and savings rates with the later being lower. This implies that the investments taking place in Malawi are not driven by national savings (Malawi Government and World Bank, 2006: 10). Investment levels fell from 13.6 percent of GDP in 2000/01 to 11.8 percent of GDP in 2001/02. Public investment fell from 10.0 percent in 2000/01 to 8.9 percent in 2001/02, while private investment fell from 2.3 percent in 2000/01 to 2.0 percent in 2001/02 (Malawi Public Funding, 2006). Gross investment strengthened slightly in 2006 rising to 15 percent of GDP, compared to 14.5 percent in 2005, with potential positive implications for GDP expansions and fiscal redistribution (Malawi Government, 2006).

Investment is seen as one of the main forces for GDP growth. In many cases, an increase in investment will lead to an increase in GDP growth and declining investment levels lead to low GDP growth rates. The United Nations (UN) argues that, to enable all countries to achieve the MDGs, there should be identification of priority public investments to empower poor people and therefore allowing them to break out of poverty. Public investment also tends to increase the level of employment, thereby, stimulating aggregate demand (Anderson, Renzio and Levy, 2006: 14).

2.4 Sector Performance

Agriculture sector

Malawi's economy is heavily dependent on agriculture, which contributes on average, close to 40 percent of the country's GDP annually and about 80 percent of all exports. However, in the last 10 years, the agricultural sector has performed rather weakly. As depicted in Figure 2.4, the agricultural sector experienced an average growth rate of almost 3 percent between 1994 and 1999, which then fell to an average of less than 1 percent between 2000 and 2004. This has mainly occurred as a result of recurrent drought conditions during 1991, 1994, 1997, and, most recently, in 2001 and 2005 (Malawi Government and World Bank, 2006: 153). This resulted in severe food shortages and therefore leaving many Malawians without enough food to eat and as

a result affecting the poor households. The agricultural sector is the main source of livelihood for the poor, accounting for about 63.7 percent of their total income. This sector contributes about 65 percent of the manufacturing sector raw materials and close to 80 percent of total employment. The agricultural sector mainly consists of smallholder farmers and estates located mainly in rural areas, and these are mostly engaged in rain-fed maize production. Land distribution is unequal, with more than 40 percent of smallholder households cultivating less than 0.5 hectares (World Bank, 2008). Tea, tobacco, sugar, cotton, corn and peanuts are some of Malawi's major exports.

The importance of agricultural production as a source of livelihood for most Malawians means that improvements in agricultural productivity would lead to rapid poverty reduction. In relation to the unfavourable weather patterns, the Malawi government implemented a national strategy called the National Adaptation Programmes of Action (NAPA). NAPA was implemented with the overall goal of addressing urgent and immediate needs for adaptation. The proposed intervention includes:

(a) Improving community resilience to climate change through the development of sustainable rural livelihoods;

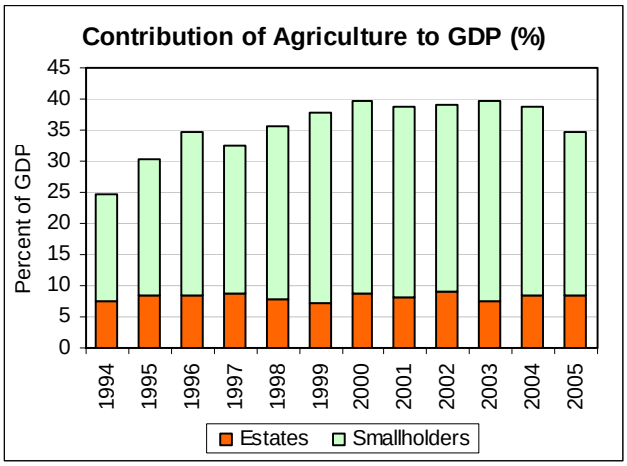
(b) Restoring forests in the upper and lower Shire valleys catchments to reduce siltation and associated water flow problems;

(c) Improving agricultural production under erratic rains and changing climatic conditions through assistance in the form of subsidies towards fertilizer and pesticides and extension services to small farmers;

(d) Improving Malawi's preparedness to cope with droughts and floods;

(e) Improving climate monitoring to enhance Malawi's early warning capability and decision making and sustainable utilization of Lake Malawi and lakeshore areas resources. (United Nations Framework Convention on Climate Change (UNFCCC), 2006: xii).

Figure 2.4: Contribution of Agriculture to GDP



Source: Reserve Bank of Malawi, cited in Malawi Government and World Bank, 2006: 201

The agricultural sector mainly consists of estates and smallholders. As shown in Figure 2.4, relative to estates, smallholder farmers make a greater contribution to the agricultural sector; this is due to the fact that 90 percent of Malawian households have access to agricultural land. Smallholders also contribute significantly to cash crop and export production. It is however important for government to provide the poor people with security of tenure, as lack of secure tenure undermines incentives for farming people to invest in their land, such as building terraces or irrigation systems. The Malawi government can address these problems by recognising poor people's rights to the land that they legitimately occupy. Strengthening poor people's land rights and easing barriers to land transactions can set in motion a wide range of social and economic benefits, including improved governance, empowerment of women and other marginalized people, increased private investment and food supply, and these contribute to enhancing rapid economic growth and poverty reduction (Deininger, 2003:1-3). When poor people are granted legal means to own and control their land and other assets, they are empowered to invest and plan for further development in the future, knowing that they have title to the land. This also encourages dynamic entrepreneurs to use land as a security in their attempt to raise commercial loans (Sachs, 2006: 253).

Manufacturing sector

The manufacturing sector consists mostly of agro-processing of tobacco, tea, sugar and consumer products. The sector has been declining over the last decade, with its contribution to GDP falling from 32 percent in 1992 to 15 percent in 2003 (Southern Africa Global Competitive Hub, 2007: 11). The manufacturing sector experienced growth rates of less than 2 percent over the period 1995 to 1999, but this growth trend has turned negative since the year 2000. From 1990 to 2000 the manufacturing sector experienced an average growth rate of 0.5 percent and then fell to an average of -0.8 from 2000 to 2004 (World Bank, 2006: 195). This poor performance has been caused mainly by the adverse macroeconomic environment, the instability of the exchange rate and high lending interest rates. Competitions from imports, low domestic demand and rising costs of production have contributed to Malawi's poor manufacturing performance (Malawi Public Funding, 2006).

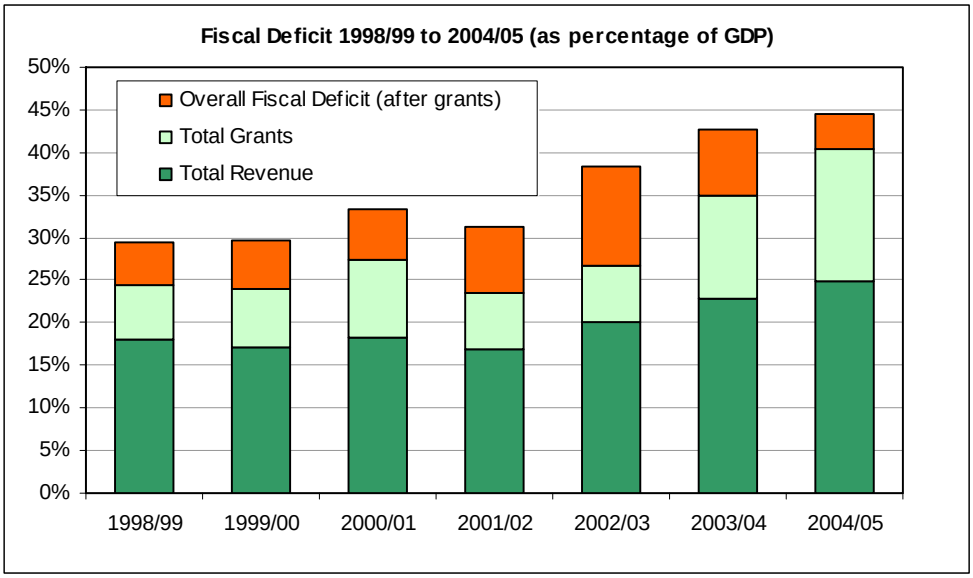
The poor performance of the manufacturing sector has had adverse impacts on poverty eradication efforts in Malawi. The urban poor were affected due to the contraction in employment as a result of restructuring, downsizing, bankruptcy, closure and relocation of businesses. The poor performing manufacturing sector has also impacted adversely on the country's GDP. The Malawi Government has established different measures to help stimulate the manufacturing sector. Some of these measures include, improving the quality of products and productivity of both labor and machines; enhancing skills through better integration of science and technology into vocational training; improving standard certification capacity; developing additional incentives for investment including redefining the roles; and responsibilities of support institutions (Malawi Government, 2006: xiv).

2.5 Government Expenditure

For the last 10 years, the fiscal discipline in Malawi has been rather poor. Increases in domestic borrowing have led to government deficit. As a result of the increase in national debt, government was on the brink of falling into a 'debt trap'. This is a situation where a country is unable to get out of debt (Todaro and Smith, 2006: 675). In spite of Malawi's poor track record throughout the 1990s, the IMF agreed to a poverty reduction strategy for Malawi in 2000. At

that time, Malawi also attained the status of a Highly Indebted Poor Country (HIPC). This means that the international community committed to forgiving a significant proportion of Malawi's external debt (Malawi Government and the World Bank, 2006: 189). It is important to note that the government has continued to try to reduce domestic debt by reducing budget overspending. Having peaked at 25 percent of GDP in 2003/04, domestic debt is estimated to have declined to 20 percent of GDP by end 2005/06 (Malawi Government, 2007: 5). The IMF and World Bank carry out a regular debt sustainability analysis. The latest, published by the IMF in January 2008, assessed Malawi's risk of debt distress as moderate (Fitch Ratings, 2008: 8). A summary of Malawi's fiscal deficit is presented in Figure 2.5.

Figure 2.5: Fiscal Balance during 1998/99 to 2004/05



Source: IMF data cited in Malawi Government and World Bank: 190

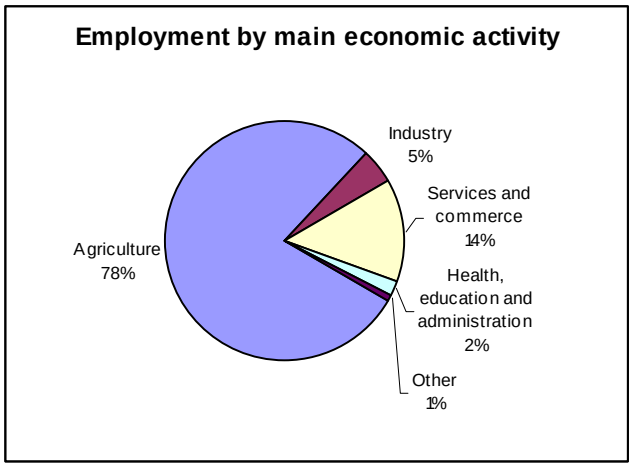
As a proportion of GDP, total government expenditure (including projects funded externally by donor agencies) increased from 29.5 to 39 in 2002/03. Government revenue also increased from 18.1 percent to 20.2 percent of GDP over the period. As a result, the fiscal deficit increased from 5.1 percent to 11.9 percent of GDP over the period 1998/99 to 2002/03 (Figure 2.5).

2.6 Labour Market

The employment rate is defined as the number of people currently employed divided by the total labour force which includes both the employed and unemployed. In the employment statistics, self-employed people are counted as employed. The unemployment rate on the other hand is the number of unemployed persons taken as a percentage of the total labour force (Barker, 2007:174). The sum of the employed and the unemployed population measured for a short reference period is equivalent to the labour force, also known as the current economically active population (International Labour Organization (ILO), 2008). In Malawi, the majority of individuals employed, especially in the rural areas, are engaged as farmers, as indicated in Figure 2.6. Only 5 percent are employed in the industrial/manufacturing sector. Urban individuals have more employment opportunities than rural individuals and wage employment is more likely among males (NSO, 2005:47).

If one uses the ILO standard definition of employment, 96 percent of all household heads are employed in Malawi. To identify the employed according to the ILO definition, the respondent must have worked at least one hour in the last 7 days or the respondent had a job to return to if he/she did not work in the last 7 days (i.e. persons temporarily absent from work). However, this figure masks the actual unemployment situation of heads of households (Malawi Government and World Bank, 2006: 33). From 1990 to 2004 the average annual percentage growth of the labour force was 1.9 percent. In 1990, the labour force participation rate between the ages of 15 to 64 was 91.7 percent for males and 86.2 percent for females; in 2004 the rates decreased to 90 percent for males and 86 percent for females (World Bank, 2006: 51). The difference reflects that there was an increasing proportion of people in Malawi who were unemployed during the 1990-2004 period. This means that Malawi has a seemingly low unemployment rate, but the rate is increasing. With unemployment comes rising poverty, as unemployed people do not have an alternative source of income.

Figure 2.6: Employment by Sector



Source: RBM cited in Malawi Government and World Bank, 2006: 201

As shown in Figure 2.6, the majority of economically active people are employed in the agricultural sector.

2.7 Conclusion

The overall economic performance of Malawi during the period 1990-2002 has been rather mixed, due to external shocks and poor domestic policy management. Economic growth has been volatile during the last decade and it has been mainly due to the effect of changing weather patterns on agriculture. The manufacturing sector has also been a contributing factor to low economic growth due to its poor performance. Agriculture is the largest sector of the economy, in terms of contribution to the country's GDP and employment. Furthermore, over the last decade, fiscal discipline has been rather poor. Increases in domestic borrowing have lead to government deficit. As a result of the increase in debt, government was on the brink of falling into a 'debt trap'. The increase in government borrowing also caused an increase in interest rates. The macroeconomic conditions in Malawi have not been generally favourable in the last 10

years. As a result, unemployment in the country has increased and this has contributed to a rise in the level of poverty. This issue of poverty will be examined in the next chapter.

CHAPTER THREE

LITERATURE REWIEW ON POVERTY

3.1 Introduction

Inequality in income is a major problem whilst the world takes on globalisation. Poverty exists everywhere in the world. Even the richest countries experience a large gap in income between the rich and the poor. Poverty is a multidimensional problem. It is partly subjective, partly relative and is partly related to lack of capabilities of individuals. The number of people living on less the US $1 fell slightly between 1990 and 1999, from 1,276 million to 1,151 million (United Nations Development Programme (UNDP), 2002). However, poverty continues to worsen as the world's population continues to grow. According to Cheru and Bradford (2005: 1), massive global poverty signifies many deep failures in the prevailing market-oriented system of global governance, the global economy and policy reform efforts.

This chapter looks at some of the concepts, measurements and causes of poverty. Further, the Millennium Development Goals will also be discussed.

3.2 Poverty Concepts and Definitions

As a multidimensional phenomenon, poverty can be defined in numerous ways. It is important to understand the meaning and nature of poverty because this aids in implementing the policies to be used to fight it. Poverty can be understood in many different ways. When people talk about poverty, they mainly talk about the deprivation of necessities for daily living, e.g., food, clothing, shelter, social needs (e.g., education), and unequal distribution of income and wealth (this, however varies in different parts of the world). According to Sachs (2006: 20), there are three degrees of poverty: extreme or absolute poverty, moderate poverty and relative poverty. When households experience extreme poverty, this means that they are not able to meet the basic needs for survival. They are seen to be chronically hungry, unable to access health care, lack the

amenities of safe drinking water and sanitation and cannot afford education for their children. The World Bank defines poverty in terms of three levels: extreme, moderate and relative. It defines extreme poverty as anyone with income or expenditure below US $1 a day. Moderate poverty, refers to conditions of life in which basic needs are met, but just barely, on income between US $1 to US $2 a day. Lastly, relative poverty is generally taken to mean that a household's income level is below a given proportion of average national income. Using a relative poverty definition, in 2005 in Malawi, 52.4 percent of the population was living below the poverty line. Poverty, in the official Malawian context, is defined as any household earning less than MK16,165 a year (NSO, 2005: 138). This is further covered in Chapter 4.

3.3 Measurements of Poverty

Poverty indicators can be an integral guiding part of national poverty reduction strategies and programmes. They reflect a country's definition of poverty and strategies or approaches that could be adopted to combat it (Shaoma and Ravallion, 2004: 6). There are two basic types of contrasting indicators that help differentiate families in poverty. These are, namely, means/ends and quantitative/qualitative indicators. The difference between "means" and "ends" depends on the base of the conceptual divide regarding poverty monitoring. "Means" can be defined as indicators of inputs intended to achieve an end result, while "ends" measure the ultimate outcome; for example, the cost of a minimum food basket is a means indicator while nutritional status (as measured by a variety of factors, such as weight-for-height and height-for-age ratios, and incidence of vitamin deficiencies) is of the ends type (Lok-Dessalliene, 2005: 7).

Quantitative data focuses on numbers and frequencies while qualitative data is concerned more with describing meaning and experience. Quantitative data can be combined into a single group whereas qualitative data usually cannot be combined. However, qualitative data relating to poverty may provide a consolidating picture of reality to support the quantitative data. The measurement of poverty is an indication of the well-being and living conditions in a country. Given the multiple dimensions of poverty, there are various theoretical aspects of poverty

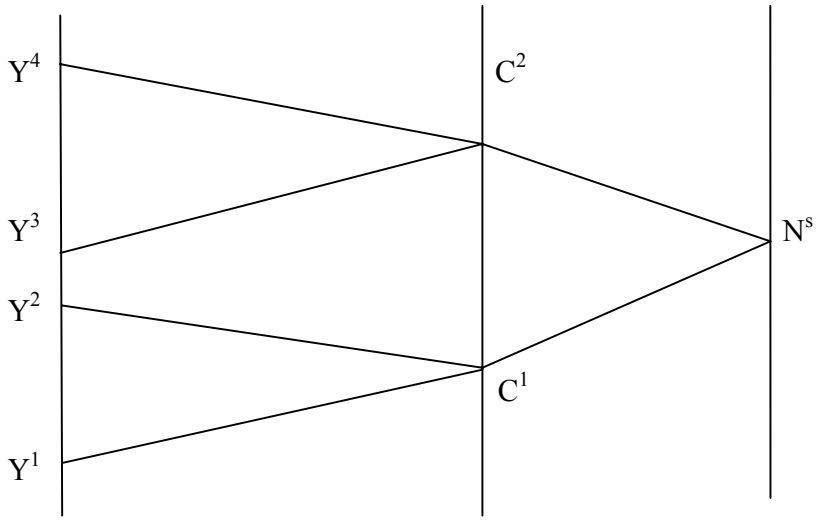
measurements that make use of both quantitative and qualitative indicators. These are considered in the following sections.

3.3.1 Monetary/ Income Approach

The monetary approach to poverty measurement assumes that individuals and households are poor if their income or consumption falls below a certain threshold or a minimum socially acceptable level (Lok-Dessallien, 2005: 10). The monetary approach to poverty can be justified in two different ways. Firstly, the minimum rights approach, where a certain basic income is regarded as a right without reference to utility but rather for the freedom of choice it provides. Secondly, the use of a monetary indicator is often invoked not because monetary resources measure utility, but because it can appropriately proxy other aspects of welfare (Laderchi, Saith and Stewart, 2003: 248).

The most commonly used income poverty indicators are the headcount index and per capita Gross National Product (GNP) which is calculated by adding the GDP and the net factor income from abroad. The headcount index is based on a poverty line that is established by using a minimum basket of essential goods for basic human survival. The poverty line is defined as the consumption level that is required to achieve a minimum acceptable standard of living in a society (Shaoma and Ravallion, 2004: 10). In other words, a person is considered poor if his or her expenditure or income level falls below the minimum level usually called the "poverty line". Poverty lines are different across countries. This is because the minimum acceptable consumption levels vary across countries. Once a poverty line is identified, data is required on distribution of income or consumption in order to find out the number of people below the poverty line.

Figure 3.1: Monetary Poverty: A Range



Source: Laderchi *et.al*, 2003: 251

Assuming that

N^s = the minimum "adequate" nutrition level for any individual;

C = the range of calories that may be needed to achieve this nutrition level;

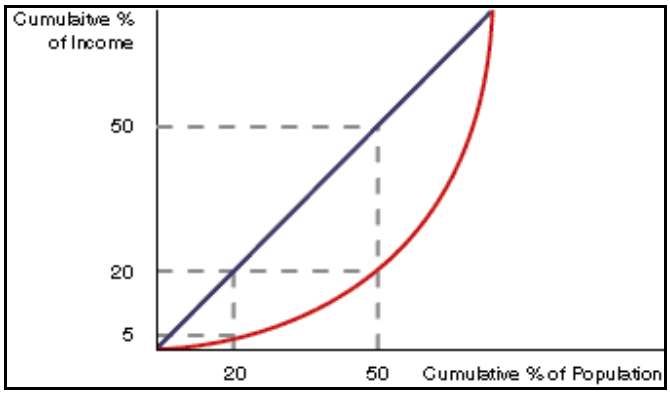
Y = income.

In order to achieve calorie consumption for an individual at C^1, household income of from Y^1 to Y^2 may be needed, depending on numbers in the household and household consumption and allocation patterns. For calorie consumption, C^2, household income of between Y^3 and Y^4 may be needed. Below household income Y^1, malnutrition is certain; above household income Y^4, adequate nutrition is certain. Therefore, anyone earning an income below Y^1, and not able to enjoy the minimum "adequate" nutrition level of N^s, is considered to be living in extreme poverty.

3.3.2 Gini Coefficient and the Lorenz Curve

A person earning a relatively low absolute level of income that does not allow him/her to meet the basic calorie or consumption needs is regarded as poor relative to someone earning a high level of income. Inequality in distribution of income is therefore related to poverty. Income inequality can be measured using the Gini coefficient and the Lorenz curve. The Gini coefficient measures the extent to which the actual distribution of income (or consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution (World Bank, 2006). It is the ratio of the area between the Lorenz curve and the diagonal (a straight-line through the origin showing a line of perfectly equal distribution). The Lorenz curve shows the share of total income received by any cumulative percentage of recipients and its shape indicates the degree of inequality in the income distribution.

Figure 3.2: The Lorenz Curve



Source: Wikipedia (2008)

The further away the curve is from the 45 degree line, the more unequal the distribution of income and the closer the curve is to the 45 degree line, the more equal the distribution of income. The Gini coefficient is between 0 and 1, where 1 represents complete inequality and 0 represents perfect equality. Perfect inequality, an extreme case whereby one person receives all the national income and all others receive nothing would be represented by the congruence of the

Lorenz curve with the bottom horizontal and right-hand vertical axis. No country exhibits either perfect equality or perfect inequality in its income distribution (Todaro, 2000: 156). Malawi's Gini coefficient is discussed further in Chapter 4.

3.3.3 Basic Needs Approach

There are millions of people who are defined as being poor because their basic needs are not being fulfilled. These basic needs, as indicated in Table 3.1, are health, education, food, water supply and housing. Basic needs are looked at in terms of the deprivation of requirements, mainly material, required to meet basic human needs, e.g., basic levels of literacy, safe drinking water, adequate levels of nutrition, access to health care, freedom from preventable diseases, sanitation facilities, employment opportunities, shelter and clothing (Lok-Dessallien, 2005: 11). In 1995, close to 49 million people in the world lived in households in which members had difficulty in satisfying basic needs (Europa, 2006).

Table 3.1: Core Basic Needs Approach

Basic Need	Quantitative Indicator
Health	Life expectancy at birth
Education	Literacy Primary school enrolment as percentage of population 5-14
Food	Calorie supply per head or as percentage of requirements
Water supply	Infant mortality (per 1000 births) Percentage of population with access to sanitation facilities
Housing	None

Source: Ingham, 1995: 238

3.3.4 Capabilities Approach

Capabilities are "ends" which are not reflected in things like income but the quality of people's lives. According to Sen (1999), poverty cannot be properly measured by income or utility. What matters is not the things a person has but what a person is, or can be or does (Todaro and Smith, 2006: 17). Sen (1999: 41) describes human development as the process of expanding education, health care and other conditions of human life. Sen argues that human development is important for the poor because it creates social opportunities that make a direct contribution to the expansion of human capabilities and the quality of life. Human development is mainly about creating an environment in which people are able to develop their full potential and lead productive and creative lives in accordance with their needs and interests. If an economy creates human development especially for poor people, their quality of life will be enhanced and productivity will increase, thus creating economic growth. This is because human development allows people in a society to participate more fully in economic activities and, as a result, people are able to contribute to and gain from the country's success (Verkerkl *et.al*, 2001: 49).

The capability approach presents three important factors: functionings, resources and capabilities. The functionings of a person are viewed as the important things that a person can do such as eating, being well-nourished and disease-free. Resources refer to various public health care provisions, as well as income and the natural resources people use (e.g., cycling is viewed as a functioning but a bicycle would be viewed as a resource). Lastly, the capability of a person is the combination of functionings the person can or cannot attain given the resources he/she has for example, the capability of being in good health, of having self-respect, or of preserving human dignity (Verkerkl *et.al*, 2001: 50-51).

3.3.5 Human Development Index (HDI)

The Human Development Index is an alternative to GDP per capita which is used as an indicator of relative socio-economic progress. It is a summary measure of human development which measures the average achievements in a country. The HDI was developed by the UNDP and combines indicators of life expectancy, educational attainment and income into a composite

index. According to Wikipedia (2008), the HDI represents the average of the following three general indices:

- Life Expectancy Index (LE) = $\frac{LE - 25}{85 - 25}$
- Education Index = $\frac{2}{3} \times ARL + \frac{1}{3} \times ER$
    - Adult Literacy Index (ALI) = $\frac{ALR - 0}{100 - 0}$
    - Gross Enrollment Index (EI) = $\frac{ER - 0}{100 - 0}$
- GDP Index = $\frac{\log(GDP_{pc}) - \log(100)}{\log(40000) - \log(100)}$

Where

LE = Life expectancy at birth;
ALR = Adult literacy rate (ages 15 and older);
CGER = Combined gross enrollment ratio for primary, secondary and tertiary schools;
GDPpc = GDP per capita at PPP in US dollars.

The HDI tries to rank countries on a scale of 0 to 1. HDI below 0.5 is considered to represent "low development" and HDI of 0.8 or more is considered to represent "high development". This includes all developed countries, such as those in North America, Western Europe, Oceania and Eastern Asia. The HDI for Malawi in 2005 was 0.437, considered in the low development category. This is further covered in Chapter 4.

One of major advantages of the HDI is that it reveals that a country can do much better than might be expected at a low level of income. Further, the HDI reminds us that by *development*, we clearly mean broad human development, not just higher income (Todaro and Smith, 2006: 61).

Having a high GDP does not necessarily mean that an economy has a high HDI. There are many economies which have a high GDP per capita but a low HDI and vice-versa. In addition to this, an increase of wealth does not mean there is enrichment in human lives. As shown in Table 3.2, some countries have experienced rapid economic growth but have not shown a corresponding high HDI index.

Table 3.2: The Human Development Index for Selected Countries

Countries	**Human Development index**		**Real GDP per capita (US$)**	
	1975	**1997**	**1975**	**1997**
Japan	0.851	0.924	13825	25084
Switzerland	-	0.914	22043	26441
Netherlands	0.856	0.921	12599	18369
United Kingdom	0.84	0.918	9310	14096
France	0.848	0.918	12763	18554
United States	0.865	0.927	16756	21541
Zambia	0.453	0.431	438	300
Kenya	0.453	0.544	322	372
India	-	0.545	251	465
Malawi	0.330	0.444	61	254

Source: Bized (2006), UNDP (2006) and Econstats (2007)

3.3.6 Human Poverty Index (HPI)

The Human Poverty Index looks at the level of deprivation and poverty being experienced in a country. The HPI was first implemented by the UNDP in 1997. To measure human poverty, the HPI looks at three main indicators: life expectancy, lack of basic education, and economic provisioning. The first deprivation represents the percentage of people expected to die before the

age of 40. The lack of basic education relates to the percentage of adults who are illiterate (cannot read or write). The last indictor looks at the percentage of people without access to health services and safe water plus the percentage of children under-five who are underweight (Todaro and Smith, 2006: 207). A low HPI is good because it shows that a small percentage of the population is deprived while a high HPI shows that a high percentage of the population is deprived, thus living under poverty conditions.

There are two types of HPI's which are commonly used: HPI-1 is used to measure absolute poverty mainly in developing countries and HPI-2 measures relative poverty and is commonly used in developed countries. The variables used in HPI-1 are the percentage of people expected to die before the age of 40, the percentage of adults who are illiterate (cannot read or write) and the deprivation experienced in the overall economy reflected by the percentage of people without access to health services and safe water and the percentage of underweight children. The HPI-2, on the other hand, determines the human poverty in developed countries. It mainly focuses on social exclusion (individuals or groups who are unable to fully participate in society, e.g., women) measured by low income and long-term unemployment (UNDP, 2006). The HPI-1 for Malawi in 2004 was 36.7. This is further covered in Chapter 4.

3.4. Some Causes of Poverty

Poverty is caused by many factors. In most cases, the causes and effects of poverty work together. Factors that may lead to poverty include lack of economic growth, unequal distribution of resources, unemployment, inadequate education, low productivity, inadequate public expenditure and lack of assets. These factors will be examined below.

3.4.1 Lack of Economic Growth

Economic growth generally refers to a rise in national product or per capita income. With the progress of economic growth, the availability of goods and services in the economy will increase and, as a result, the level of living standards will increase. The World Bank (1995: 45) found

economic growth to be a major influence on the changes in income poverty. In 33 developing countries (including a number of African countries), it was found that poverty declined in 19 of the 24 countries experiencing positive growth, and poverty increased in all 9 countries that experienced declining GDP. It is important for governments to implement policies that promote economic growth, which in return creates an environment for more labour intensive employment and benefits the poor in society. In doing so, poor people are able to overcome their state of poverty by becoming employed and therefore earning an income. An example of a recent policy is the Accelerated Shared Growth Initiative for South Africa (ASGISA) put in place by South Africa in 2004. Sachs (2006: 56-64) believes that 8 major categories of problems can cause an economy to become stagnant or experience a decline in its economic growth, which in turn contributes to poverty.

1. *Poverty Traps* – in very poor countries, poor people do not have the ability to get out of poverty by themselves.
2. *Physical Geography* – many of the world's poorest countries are severely hindered by transportation costs due to the fact that they are landlocked, situated in high mountain ranges, or lack good natural harbours.
3. *Fiscal Trap* – governments may be unable to pay for the infrastructure on which economic growth depends.
4. *Governance Failures* – government must create an environment whereby private businesses are able to invest; government must practice self-restraint in demanding bribes or side payments.
5. *Cultural Barriers* – culture may be an obstruction to development. For example, a society may block the role of women and this, as a result, could mean that a major percentage of the population would be without economic or political rights and education.
6. *Geopolitics* – trade barriers enforced by foreign countries can slow down a poor country's economic development.
7. *Lack of Innovation* – even though poor countries are able to develop scientific approaches to meet economic needs, the innovation process usually never gets started. Governments are not able to afford to back the basic sciences in government labs and scientists usually leave the country.
8. *Demographic Trap* – half the world, including the rich world, is at or near the so called replacement rate of fertility. This is whereby each mother is raising one daughter on average to "replace" her in the next generation. In poor countries, with fertility rates of five or more, a mother raises at least two girls and in other cases three or more.

3.4.2 Inequality

Inequality occurs when people have unequal access to resources and opportunities. In many developing countries, high levels of inequality make it difficult to reduce the rate of poverty. As stated by the World Bank (2006: 84), if inequality falls during a growth spell, poverty generally falls by more than it would have if growth had been distribution-neutral and that the effectiveness of future economic growth in reducing absolute income poverty declines with initial income inequality. Africa has been shown to have large income inequalities and high levels of poverty. The poorest one-fifth of the population receive one-twentieth of total incomes which is less than one-tenth of the share enjoyed by the richest one-fifth. Table 3.3 illustrates the severity of inequality in selected African countries. As shown, the Gini coefficient is much higher in the selected African countries relative to Canada or USA.

Table 3.3: Shares of Total Income for Selected Countries

	Year	**Lowest 20%**	**Highest 20%**	**Gini Coefficient**
South Africa	2000	3.5	62.2	57.8
United States	2000	5.4	45.8	40.8
Malawi	**1997**	**4.9**	**56.1**	**50.3**
Malaysia	1997	4.4	54.3	49.2
Uganda	1999	5.9	49.7	43
Canada	2000	7.2	39.9	32.6

Source: World Bank, 2006

However, even though inequality and poverty go hand in hand they are not one and the same thing. The degree of poverty is affected by inequality. According to Landman *et.a*l (2003:5) the following can be looked at as differences between inequality and poverty.

1. A society with low levels of poverty can still have high levels of inequality.
2. A fairly equal society can have a high level of poverty.
3. As economies takeoff, there will be a period where people in the economy will move from being poor to being less poor and during this period the society will experience rising inequality.
4. Transforming the ownership and composition of the economy to reflect the country's demographics more accurately has the potential to worsen inequality within a particular racial group. The South African situation fits as an example of this.
5. Poverty and equality respond differently to economic growth. An increase in growth may reduce poverty but at the same time cause inequality to occur.

3.4.3 Unemployment

Many people are poor because they are unemployed and do not have a proper source of income. Employment is important because it is one of the main ways through which people earn income. Anyone can become unemployed but people living in rural and remote areas have a higher possibility of becoming poor. According to economic theory, prolonged unemployment should not exist in an economy with a flexible labour market, if demand for labour equals the supply of labour. Research has shown that an employment-intensive growth strategy, accompanied by a rise in productivity, is the key to reducing the level of poverty via the income effect in the short run and through raising the productive capacity of the future workforce in the long run. Policies must, therefore, be directed at productivity-enhancing investments and the establishment of labour-intensive industries to generate employment for unskilled and semi-skilled labour in both rural and urban areas (ILO, 2004).

3.4.4 Lack of Education

Education is seen as a basic human right. Education empowers people, increases the quality of life and is one of the key components for poor families to break out of poverty. Education plays a vital role in the life of a person and of a nation. Education is crucial as it equips people with the knowledge and skills to earn a living and to make a difference in the lives of others (South

African Government, 2003). When people are educated, communication and reasoning skills are developed. According to the World Bank (2008), education improves health and nutrition, increases productivity, earnings and reduces income inequality. For every year of schooling children have, their salary as an adult will increase by an average of 10 percent whether they are a girl or a boy. Education enhances an individual's eligibility for paid employment in the formal sector as well as progression once they are employed. Contrastingly, lack of education can limit the employment opportunities of an individual and make him/her vulnerable to poverty.

3.4.5 Low Productivity

In most developing countries, the levels of labour productivity are usually very low. This can be due to reasons like diminishing marginal productivity which states that if increasing amounts of a variable factor (labour) are applied to fixed amounts of other factors (e.g., capital, land materials), the marginal product of the variable factor declines beyond a certain number (Todaro and Smith, 2006: 64). Therefore, in order for productivity to increase, there must be an increase in domestic savings and foreign finance to create investment. Productivity is of critical importance for the long-term well-being of any country (Barker, 2003: 122). An increase in productivity increases people's incomes as well as economic growth. Therefore, low productivity contributes to slow growth and low wages. Rural areas in India have seen poverty levels decline substantially in recent decades. The percentage of the rural population fluctuated between 50 percent and 65 percent prior to the mid-1960s, but then declined steadily to about 33 percent in the early 1990s. Agricultural growth has been identified as an important contributing factor to this decline (Fan, Hazell and Throat, 2000: 1038). But much of agriculture in Africa is mired in low level productivity (Moss, 2007).

3.4.6 Inadequate Public Expenditure

Many economists believe that public investment is one of the ways of alleviating poverty. Investments are one of the major keys to economic growth. An increase in public investment leads to an increase in aggregate output. Productivity and other factors of production are also increased. Government spending can have both direct and indirect effects on poverty. Direct

effects would be the gains that poor people receive from expenditures on things like human capital development programs. The indirect effects arise when government investments in rural infrastructure, agricultural research, health and education of rural people stimulate agricultural and nonagricultural growth, leading to greater employment and income-earning opportunities for the poor and to cheaper food (Fan *et.al*, 2000: 1038).

In the long run, countries with higher levels of public investment will have higher levels of output per worker. In the short to medium-run, countries will experience higher rates of economic growth, ceteris paribus (Mankiw, 2003: 186). This in turn leads to higher income. Any increase in income, following from output expansions, contributes to greater consumption and assists in improving the well-being of individuals. An increase in public investment can also cause crowding-out of private investment, though aggregate demand and national income will increase. This may have long-term implications for poverty and the economic growth of a country.

3.4.7 Lack of Assets

An asset is something that has value and can be used without being used up. Lack of assets is an effect as well as a cause of poverty. Poor people without assets are more likely to be trapped in a cycle of poverty. Assets are a form of empowerment for poor people. This is because assets increase poor people's incomes. People without assets tend to be consumption poor because they rely mainly on selling their labour in poorly paid markets or to the landed class and have nothing to sell or mortgage in hard times (IFAD, 2001: 71). Sachs (2006: 244) believes that poor people lack major kinds of capital: human capital (health, nutrition and skills), business capital (machinery, facilities, motorized transport), infrastructure (roads, power, water and sanitation, environmental conservation), natural capital (arable land, healthy soils, biodiversity and well-functioning ecosystems), public institutional capital (commercial law, judicial system, government services and good police force), and lastly knowledge capital (scientific and technological know-how that increases productivity).

3.4.8 Health

Many individuals are poor because of their health situations. HIV/AIDS and Malaria are some of the major diseases in Africa. Tropical sub-Saharan Africa's HIV prevalence in 2001 was 7.3 percent; in every other world region it is below 1 percent. Out of all the tropical diseases, Malaria is most consequential. Of the 1 million to 3 million malaria-related deaths every year, it is estimated that 90 percent occur in sub-Saharan Africa, the great majority of them among children (Sachs *et.al*, 2004: 132).

South Africa has one of the highest HIV infection rates in the world. The percentage of adult deaths from HIV/AIDS related diseases increased from about 9 percent in 1995/ 1996 to about 40 percent in 2000/2001. HIV/AIDS has impacted negatively on the South African economy as it has resulted in low human capital realisation and skills availability and skills shortages (Woolard and Liebbrandt, 2002: 4). HIV/AIDS is having a similar adverse effect on the health and poverty conditions of individuals in many African countries.

3.5. Poverty Trap

A poverty trap is a bad equilibrium for a family, community or nation, involving a vicious cycle in which poverty and underdevelopment lead to more poverty and underdevelopment, often from one generation to the next (Todaro and Smith, 2006: 824). Kraay and Raddatz (2005: 1) focus on two mechanisms that can cause poverty traps: low savings and low levels of productivity at low levels of development. If saving or productivity is low at low levels of development, investment will be low. As a result countries will be at an equilibrium with low capital, low income and low output per capita. If levels of saving and/or productivity increase sharply, then countries are able to get to an equilibrium with high capital and output per capita.

As stated by Sachs (2006: 20), the poor in the world know about the development ladder but are not able to get a first foothold on the ladder, and so cannot even begin to climb out of poverty. Poor households, for example, can start with a very low level of capital per person. These

households end up trapped in poverty because the ratio of capital per person will gradually fall from one generation to the next. As the population grows faster than the capital accumulated, the level of per capita income declines.

3.6 Foreign Aid

Aid is often used as an immediate relief of poverty. It can be used to alleviate poverty in different ways. Firstly, it can contribute to growth by creating conditions that raise incomes and consumption for the poor. Secondly, it can improve the welfare of poor people through basic services like education, health, nutrition, housing and family planning programmes. Foreign aid can also assist in the processing of social change which gives assets to poor people. Lastly, aid can support policy reforms that benefit the poor (Cassen and associates, 1994: 5). However, the relationship between aid and growth can be seen to be rather weak. Economic traditionalists argue that aid has indeed promoted growth. On the other hand, critics have argued that aid does not promote faster growth but may retard it by substituting for, rather than supplementing, domestic savings and investment (Todaro and Smith, 2006: 729).

3.7 Redistribution with Growth and Growth with Poverty

As mentioned before, economic growth is one of the ways of reducing poverty in an economy. Redistribution with growth can be seen to aid in redistribution, to improve employment, to reduce poverty and achieve a more equitable income distribution. Since the 1950s analytical emphasis has been on probable tradeoffs between growth and income distribution. This was derived in part from the famous 'inverted-U hypothesis' (Kuznets 1955), which showed that inequality would rise in the initial phases of development, and then decline after some crucial level was reached (Dadeviren, Hoeven and Weeks, 2001). If the poor were provided with an appropriate mix of education, public facilities, access to credit, land reform, and so forth, investment in the poor could produce benefits in the form of higher productivity and wages in the organized sectors, as well as greater output and income for the self-employed poor (Jolly, 2006).

Todaro and Smith (2006: 220-221), on the other hand, state that a body of opinion argues that rapid growth is bad for the poor, because they would be bypassed and marginalized by the structural changes of modern growth. Todaro and Smith go on to say that if there is redistribution of income or assets from the rich to the poor, savings would fall. But the poor have a greater propensity to consume. This increased consumption can generate multiplier effects of further rounds of expenditure and income. Redistribution, from this angle, can be positive for poverty alleviation. However, redistribution can adversely affect entrepreneurship and generate a culture of entitlement or dependency among individuals. This may have long-term implications of squashing economic growth and aggravating poverty (Mahadea, 2003: 22).

3.8 Millennium Development Goals (MDG)

The Millennium Development Goals are goals that 189 member states of the United Nations (UN) signed in 2000 during the UN millennium summit. The targets of these goals are proposed to be met by all countries by 2015 in order to achieve global development. The MDGs are framed as a compact, which recognizes the contribution that developed countries can make through trade, development assistance, debt relief, access to essential medicines and technology transfer to the developing countries (World Health Organisation (WHO), 2008). As stated by Wolfowitz, reaching the Millennium Development Goals is a challenge that depends on having access to the best information available. In designing and targeting resources, it is important to know the number of people who are poor and where they live (World Bank, 2006: v). The Declaration outlines 8 goals and 18 targets to be achieved by the year 2015. Achievement of these targets will be monitored through a set of 48 indicators.

The goals are as follows:

1. Eradication of hunger extreme poverty, expecting the proportion of people with income per day less than a dollar to be reduced by half;
2. The attainment of universal primary education;
3. Empowering women, with sensitivity to gender equity;
4. Reducing child mortality;

5. Improving maternal health;
6. Combating diseases such as Malaria and HIV/AIDS;
7. Ensuring environmental sustainability with regard to access to drinking water and hygienic needs;
8. Developing a global partnership for development (UNDP, 2008).

3.9 Conclusion

Poverty is a multidimensional phenomenon. When people talk about poverty, they mainly talk about the deprivation of necessities. Sen's capability approach defines poverty in terms of deprivation of human capabilities. Persons are in poverty if they are unable to do many things they value doing. The measurement of poverty is very important as it is used as an indication of the well-being and living conditions of individuals in a country. Understanding the nature and extent of poverty is important because it aids in implementing the policies to fight it. There are various theoretical aspects of poverty measurements which different countries adopt. The World Bank uses one standard measurement for poverty, which is the poverty line of US $1 per day.

The next chapter gives an overview of the specific nature and distribution of poverty in Malawi

CHAPTER FOUR

POVERTY IN MALAWI

4.1 Introduction

Poverty in Malawi is widespread and severe. According to the first Integrated Household Survey (IHS) done by Malawi's National Statistics Office in 1997/1998, about two-thirds of Malawians were living in poverty and the figure improved to 52.4 percent in 2005. Unemployment, low levels of education, poor health status including HIV/AIDS, lack of or limited off-farm employment, rapid population growth, and gender inequalities are some of the contributing factors to poverty. Agriculture, being one of Malawi's biggest sectors, is unable to guarantee food security to Malawi's population. Almost half of poor households are self-employed and agriculture is the predominant economic activity, especially in the rural areas. However, most of the poor are constrained in terms of both land and labour. Close to 81 percent of the poorest 10 percent of households have landholdings of less than 0.5 hectare. By contrast, 64 percent of the richest 10 percent of households cultivate more than 1 hectare of land (IMF, 2002: 8). Due to the HIV/AIDS pandemic, and other deadly diseases, life expectancy continues to decline and both child and adult mortality rates continue to increase.

This chapter examines the nature and extent of poverty in Malawi. The chapter focuses on the period 1997-2005, due to the fact that poverty data is available for this time. The measurements and causes of poverty will also be examined, as well as challenges that Malawi faces in attaining the MDGs.

4.2 Distribution of Poverty in Malawi

The most valid generalization about the poor is that they are disproportionately located in rural areas, and are primarily engaged in agricultural and associated activities (Todaro and Smith, 2006: 225). Poverty in Malawi is more severe in rural areas than in urban areas. Malawi has 3 major regions: Northern, Central and Southern regions. Poverty in these regions is not evenly

distributed. As indicated in Table 4.1, poverty is concentrated in the Southern and Northern regions, which are mainly of rural character. In the urban region, there is only about 6 percent of the poor population

Table 4.1: Poverty Headcount and Percentage Distribution of Malawi's Poor (2004/05)

	Poverty Head Count	**Ultra poor**	**Percentage Regional distribution**
Rural Northern Region	56.3	25.9	10.9
Rural Central Region	46.7	16.2	33.9
Rural Southern Region	64.4	31.5	49.7
Urban	24.4	7.5	5.5
Malawi	54.4	22.4	100

Source: NSO, 2005: 140

4.3 Measurements of Poverty

In order to measure the level of poverty in Malawi, different measurements are used. One measure is the poverty headcount. The poverty headcount estimates a distribution of the poor population in Malawi by using poverty lines. These poverty lines help reflect the differences in the cost of living between areas. The poverty lines are used to classify people into 2 categories - the poor and the ultra poor (NSO, 2005: 138). This classification is based on income.

The poor can be defined as those whose consumption of basic needs (both food and non-food) is below the minimum level estimated at MK10,029 per year in 2005. As indicated in the Table 4.2, a person earning annually less than MK10,029 in 2005, was regarded as ultra poor, and someone earning MK16,165 was considered as poor. By using a relative poverty definition, in 2005 poverty was defined as anyone living in households earning less than MK16,165 a year. Specifically, this definition will be used in this study. In contrast to this, the World Bank uses an international measurement of US $1 per day to estimate the extent of poverty.

Table 4.2: Poverty Line in Malawi Kwacha (MK) per Person per Year

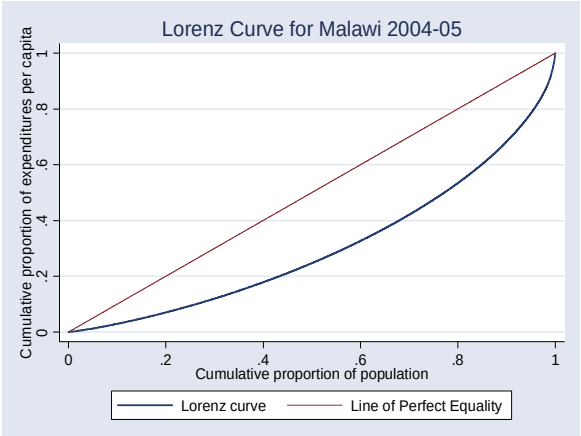
	Poverty line (MK per person per year)
Poor	MK16,165
Ultra poor	MK10,029

Source: NSO, 2005:138

Poor households spend most of their income on food. Food insecurity is considered to be a major attribute of a poor household. The rural poor also are likely to spend more on food than the urban poor. Thus, there is inadequate income to be spent on other basic needs as well as on productive means (IMF, 2002: 9).

The Gini coefficient and Lorenz were used to measure the level of income inequality in Malawi. However this method does not show absolute poverty. There is a great difference between incomes of the rich and poor in Malawi. Malawi's income inequality is reflected by its Gini coefficient of 0.38. The level of inequality is illustrated by the Lorenz curve for 2005 in Figure 4.1.

Figure 4.1: Inequality in Malawi (2004-2005)



Source: Malawi Government and World Bank, 2006: 11

The Lorenz curve above shows that while the bottom 50 percent of the population accounts for almost 25 percent of total income, the richest 5 percent accounts for 20 percent of the total income. The rich earn as much as 10 times more income than the average Malawian (NSO, 2005: 146). In spite of the lower incidence of poverty in the urban centres, it is important to note that the level of inequality in consumption is considerably higher in the urban centres than in the rural areas.

4.4 Determinants of Poverty in Malawi

Poverty is a complex multi-causal phenomenon. It is important to understand the causes of poverty in a geographical context, before strategies to combat it are put in place.

4.4.1 Demographic Characteristics

As stated by Todaro and Smith (2006: 292), rapid population growth lowers per capita income growth in many Less Developed Countries (LCDs), and countries that are already poor, depend heavily on agriculture and are experiencing pressure on land and natural resources. In 2005, Malawi's population was estimated at just over 12.9 million, with an annual growth rate of about 2.6 percent whereas in 1998 Malawi's population was estimated at just over 9.9 million with the growth rate of about 2 percent (NSO, 2005: 19). The escalating population growth rate is making the task of managing natural resources more demanding. The rapidly growing population is a key driver of Malawi's persistent poverty. Poor households in Malawi are generally larger than non-poor households, averaging 5.4 members compared to an average of 3.8 members in non-poor households (Malawi Government and World Bank, 2006: 28). Some traditional people still believe that having many children can be an insurance against their old age especially those with low levels of literacy. Poverty is also seen to be deeper and more severe in female-headed households, indicating that the poorest of the poor are more likely to be living in female-headed households (NSO, 2005:20).

Fertility is extremely high in Malawi. In 1998, the fertility rate was estimated to be at 6.5 children per woman, and in 2000 it was reported to have decreased marginally to 6.3 children per women (NSO, 2002: viii). A high fertility rate still exists in Malawi partly because of early marriages for women and a lack of education. The rapid population growth puts a heavy strain on Malawi's limited resources because of the resulting increase in demand, which will also affect the next generation to come. This will also cause the number of unemployed people to increase since it will be harder for the labour market to employ more people.

Malawi has a total land area of 9.4 million hectares, about half of which is suitable for agriculture. Most of the land, about 6.2 million ha, is divided amongst approximately 2.4 million smallholder households, under 'customary' rules of tenure (i.e., land allocated to them by village headmen and traditional authorities) (Malawi Government and World Bank, 2006: 200). With the increasingly growing population, landholding sizes are becoming smaller and fragmented, making some of the productivity-enhancing technologies impossible. The extent to which agricultural development can have greater impact on poverty also depends on the availability of land. Like in many low income countries, in Malawi farming systems are organised around family units on small farms whose tenure is apparently not well-defined. With excess supply of family labour in most households, productivity and returns to agriculture tends to be low on small farms. Therefore, land pressure is likely to increase, causing conflicts over land resources (Chirwa, 2004: 4).

HIV/AIDS has also been seen to have a major impact on the demography of Malawi. Malawi suffers from a heavy problem of HIV/AIDS. HIV/AIDS may lead to fertility reduction and high infant mortality rates, through things like mother-to-child transmissions. This virus has also resulted in population imbalance, a reduction in the income-generating group and an increase in the number of orphans (House and Zimalirana, 1992: 156). All these factors contribute to poverty.

4.4.2 Education

In 1994 the government of Malawi introduced free primary education, making it easier for children to go to school. The introduction of free education has been seen to be one of the contributing factors to the small decrease in poverty (Durston and Nashire, 2001: 79). However, there are fewer educational services in rural areas than in urban areas and women are less likely to attain higher levels of education than men (National Economic Council, 2000:19). In 2005, close to 64 percent of the population in Malawi was literate (able to read): 52.4 percent of women and 75.8 percent of men were literate (NSO, 2005: 19). According to the 2004 Malawi Demographic and Health Survey (MDHS), while 26 percent of men had attended secondary school, the corresponding proportion for women was only 16 percent. Literacy among adults has however been increasing.

In 2000, 56 percent of women were literate, compared to 44 percent in 1992. For men, literacy increased from 75 percent in 1992 to 79 percent in 2000 (Malawi Government and World Bank, 2006: 18). In 2004/5, 17 percent of household heads were reported to having secondary education qualification or above. More urban household heads (47 percent) had secondary education compared to rural household heads (13 percent). More male household heads had a secondary education qualification (20 percent) compared to female household heads (7 percent) (NSO, 2005:20). In an attempt at improvement, Icelandic International Development Agency (ICEIDA) has been supporting the Adult Literacy Project (ALP) in T/A Nankumba, Mangochi District. The objective of the project is to establish literacy circles in rural villages which encourage participants to engage actively in key issues regarding their surroundings, while at the same time learning how to read and write (ICEIDA, 2007).

However, poverty can make the acquisition of education difficult in many ways. For example, in some families, children cannot go to school since they are needed to help with farming and other work at home. There is a strong relationship between attaining higher levels of education and not being poor. High educational attainment is an important determinant that increases assets of the poor, employment and income. In addition to this, “the social impact of a mother’s education in particular is related to a decrease in under-five mortality (one year of a mother’s education being associated with a 9 percent decrease in under-five mortality) and an impact on fertility that

decreases with further years of schooling" (World Bank, 1990 cited in Durston and Nashire, 2001: 76).

Although free education was introduced in 1994, the education system in Malawi is not working effectively. Education has been affected by problems such as poor access, high repetition and drop-out rates, poor infrastructure, and inequity across regions, income groups, and gender (World Bank, 2000). The rapid increase in the growth of the population has resulted in more children seeking places in schools, therefore resulting in low quality of education and a lack of resources. The lack of resources in these schools is due to financial constraints. Infrastructure is not in place to cope with the demand for free education. The excess demand has affected the quality of education, as classrooms have become overcrowded and teaching materials scarce. Ndirande township, for example, has a population of about 80,000 school-age pupils, but only seven primary schools. Over 100 classes are held outdoors because of lack of space. Since most of the pupils learn outside, they do not learn in comfort and fail to focus their attention on their teachers. They are exposed to harsh weather conditions such as dust, sun, cold and heat. During the rainy season, teaching is greatly disturbed and, as such, absenteeism is high and so is pupil dropout. In addition to all this, there are few feeding programmes in schools in Malawi and many children end up learning on empty stomachs (National Economic Council, 2000:22). As Mukherjee and Benson (2003: 339) report, "this has been worsened by the current food crisis in the country. Most pupils do not have good clothes and shelter. Some of their guardians exacerbate their problems by forcing them to find piecework to supplement family incomes." Research indicates that Malawians who do not gain a minimum of three to four years of basic primary education can be destined to a life of poverty and deprivation, which happens to be the case with the great majority of Malawians at present (Essama-Nssah, 2004: 521). This may lead to a poor attendance at schools and a poor culture of learning during childhood years for many Malawians. This could be avoided if there was social welfare support for children.

There are a few organisations that play a big role in food aid in Malawi some of them being World Food Programme (WFP) and Food for Education (FFE). The WFP provides food to schools while the FFE includes a broader basket of interventions that aims to improve school enrolment, attendance, community-school links and learning (World Food Programme (WFP),

2006). The FFE programme provides in-school meals or snacks to reduce short-term hunger and the associated cognitive impediments. In addition, the FFE programme provides take-home rations targeted at girls, orphans and other vulnerable children who attend school regularly. The FFE intervention uses a food-for-work scheme targeted at teachers and parents to improve schooling outcomes. All these have helped empower the capabilities of the average learner and augment their nutritional intake and acquisition of skills, which are fundamental for combating poverty.

In 2004, there was an overall increase of 37.7 percent in the enrolment of girls, which was attributed to the fact that girls, and not boys, were given take-home rations. Girls' enrolment in non-project schools declined by 9.7 percent, boys' enrolment in project schools increased by 24.4 percent, compared with a drop of 7.7 percent in non-project schools. The increase in enrolment has meant that the teacher-to-pupil ratio has increased, placing additional pressure on existing teachers, as well as generating an increased demand for more teaching and learning materials in schools (Roka, 2004: 8).

4.4.3 Health

Health is essential to the well-being of individuals. Health can be seen as an important part of growth and development. Health is a prerequisite for increases in productivity (Todaro and Smith, 2006: 363). Poor health sometimes contributes to the impoverishment of people. Diseases are seen to be more prevalent among lower income groups. Most of these diseases include tuberculosis, diarrhoea and fever. Close to 80 percent of the population in Malawi is estimated to live within approximately 8 kilometers of a health facility and immunization coverage for children aged 6 to 59 months is said to be close to 80 percent. These figures might suggest that the health services of the nation are doing an important job in providing children with protection against diseases. However, there are usually shortages of necessary drugs, doctors, nurses and medical assistance (Essama-Nssah, 2004: 518).

The staple food in rural areas is *nsima*, or maize porridge. Even though it is sometimes eaten with vegetables or fish, malnutrition is still prevalent. Results from the 2004/5 IHS, revealed that child survival differs a little between wealth groups. Women who are non-poor are reported to be

less likely to have a child die but children born to poor women are slightly less likely to still be alive (Benson, Machinjili and Kachikopa, 2004: 422). Children from non-poor households are less likely to be in a poor nutritional condition than those from households under the poverty line.

HIV/AIDS, just like poverty, has become a worldwide challenge. Most sectors in Malawi have been affected by the HIV/AIDS epidemic. The HIV/AIDS epidemic has caused over 650,000 deaths in Malawi and continues to be responsible for the deaths of many people. An average of 267 people a day are infected with HIV (United Nations International Children's Emergency Fund (UNICEF), 2006). In 2002, when Malawi suffered its worst food crisis, HIV was seen as one of the factors that contributed greatly to famine and poverty. By the end of 2005, almost one million people in Malawi were living with HIV. This has also been seen as the leading cause of death amongst adults and is a major factor in the country's low life expectancy of 38.5 years.

Around 60 percent of adults living with HIV in Malawi are female (Advert, 2008). Women in Malawi are socially and economically subordinate to men. This subordination fuels HIV infection, as traditional gender roles allow men to sleep with a number of sexual partners and put women in a position where they are powerless to encourage condom use. Many women are brought up to never refuse sex with their husbands, and sexual abuse and coerced sex are common in Malawi (United States Agency for International Development (USAID), 2007). The majority of HIV infections have been seen to occur amongst young people, particularly those between the ages of 13 and 24. Sadly, the epidemic has heavily affected children. An estimated 91,000 children in 2005 were living with HIV, and over half a million children had been orphaned by AIDS (Advert, 2008). HIV/AIDS is a significant contributor to poverty in Malawi.

4.4.4 Gender Inequalities

Apart from inequalities in income distribution, society often suffers from gender inequalities. Gender inequalities exist all over the world. Gender inequality puts women in a subordinate

position in society, limiting their access to inputs and their share in the benefits of production. Women are disadvantaged politically, socially and economically and the poverty alleviation policy framework recognises that gender inequality is a major cause of poverty (UNDP, 1998). Inequalities between men and women increase poverty between the two groups. In Malawi women are disadvantaged in terms of access to health care, education, credit and agriculture inputs. At the sectoral level, studies in Malawi show that efficiency is lost when women have less access to productive resources. Women's labor tends to be under-utilized in formal production processes, and is over-utilized in informal sector activities (Semu, Ngwira and Kamchedzera, 2003). In addition to this, households headed by women in Malawi (of which 58 percent of people living in female-headed households are poor), have fewer assets, limited access to productive inputs and land, a greater burden of dependants, limited opportunities for off-farm employment and longer periods of food insecurity (IFAD, 2007). The average life expectancy of a Malawian woman is 39.6, slightly below that of her male counterpart which is 40. Adult literacy statistics in Malawi show that only 52.4 percent of women can read and write compared with 75.8 percent of men (NSO, 2005).

Malawi's government has committed itself to addressing gender inequality by implementing a programme called The National Platform of Action which was launched in March, 1997. This programme calls for the integration of gender perspectives in all policies and programmes and focuses on strategic objectives and actions to address four priority areas of concern for Malawi. These are: poverty eradication and empowerment; the girl child; violence against women; and peace. In addition to this, within the UN system, a Malawi UN Gender Policy Statement was approved in 1996 and it is an integral part of the implementation process of the programme (UNDP, 1998).

4.4.5 Human Development Index (HDI)

Malawi's Human Development Index has not changed much in the last few years. In 2006, the HDI for Malawi was 0.457, therefore ranking the country at 162 out of 179 countries by the UN,

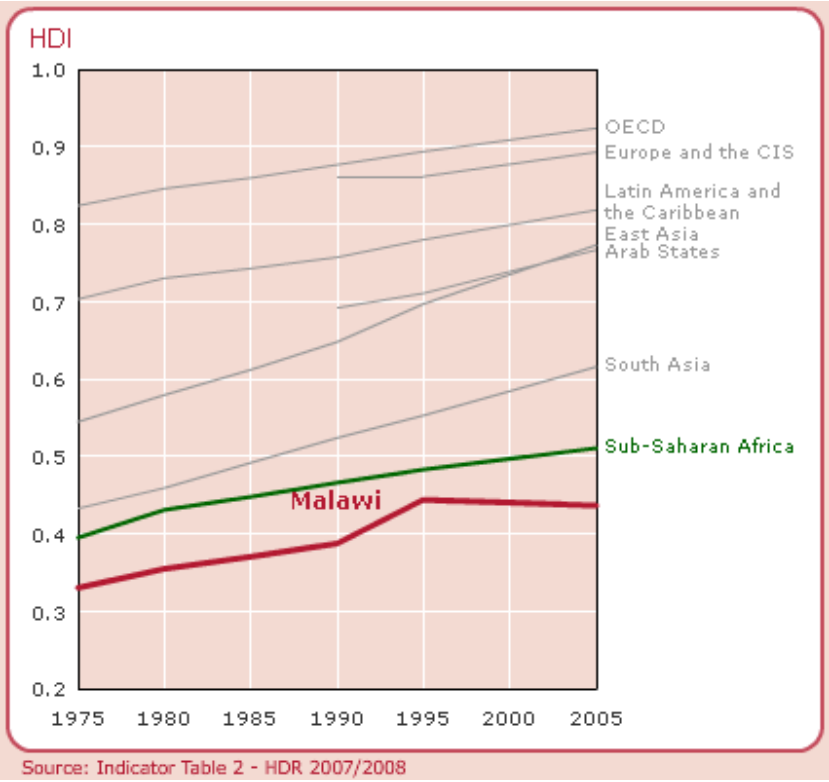
showing very low achievement in human development. The HDI ranks all countries into 3 groups: low human development (0.0 to 0.499), medium development (0.50 to 0.799) and high human development (0.80 to 1.0) (Todaro and Smith, 2006: 59). As shown in Table 4.3, Malawi's HDI indicators are ranked quite low as compared to other countries. Its life expectancy at birth is rather low at 47, ranking the country at 167 out of 179 countries (Table 4.3).

Table 4.3: Malawi's Human Development Index (2006)

HDI value	**Life expectancy at birth (years)**	**Adult literacy rate (% ages 15 and older)**	**Combined primary, Secondary and tertiary gross enrollment ratio %**	**GDP per capita (PPPP US$)**
1. Iceland (0.968)	1. Japan (82.4)	1. Georgia (100.0)	1. Australia (114.2)	1. Luxembourg (77,089)
160. Gambia (0.471**)**	165. Botswana (48.9)	110. Egypt (71.4)	129. Uganda (62.3)	166. Togo (792)
161.Benin (0.459**)**	166. Cote d'voire (46.5)	111. Nigeria (71.0)	130. Equatorial Guinea (62.0)	167. Mozanbique (739)
162. Malawi (0.457)	**167. Malawi (47.0)**	**112. Malawi (70.9)**	**131. Malawi (61.9)**	**168. Malawi (703)**
163. Zambia (0.453)	168. Nigeria(45.8)	113. Madagascar (70.7)	132. Lesotho (61.5)	169. Ethiopia (700)
164. Eritrea(0.442)	169. Congo (Democratic Republic of the) (46.1)	114. Zambia (68.0)	133. Trinidad and Tobago (61.1)	170. Central African Republic (679)
177. Sierra Leone (0.329)	179. Swaziland (40.2)	147. Mali (22.9)	179. Djibouti (25.5)	178. Congo (Democratic Reblic of the) (281)

Source: UNDP, 2008

Figure 4.2: Human Development Index Trends



Source: UNDP, 2006

Since 1990, the HDI for Malawi has stagnated, partly because of economic reversal but mainly because of the catastrophic effect of HIV/AIDS on life expectancy.

4.4.6 Human Poverty Index (HPI)

Among 108 developing countries, Malawi ranked 79th with an HPI-1 value of 36.7 in 2004. The Human Poverty Index for developing countries focuses on the proportion of people below a threshold level. A low HPI is good because it indicates that a small proportion of the population is deprived. About 27 percent of people had no access to an improved water source in 2004 (Table 4.4). But the probability of people not surviving past the age of 40, which is an indicator of human poverty, is rather high at 44.4 percent in Malawi (Table 4.4).

Table 4.4: Selected Indicators of Human Poverty for Malawi (2004)

Human Poverty Index (HPI-1) 2004	Probability of not surviving past age 40 (%) 2004	Adult illiteracy rate (%ages 15 and older) 2004	People without access to an improved water source (%)2004	Children underweight for age (% ages 0-5) 2004
1. Chad (56.9)	1. Zimbabwe (57.4)	1. Burkina Faso (76.4)	1. Ethiopia (78)	1. Nepal (48)
28. Burundi (37.6)	8. Mozambique (45.0)	25. Sudan (39.1)	40. Turkmenistan (28)	41. Uganda (23)
29. Nigeria (37.3)	9. Rwanda (44.6)	26. India (39.0)	41. Djibouti (27)	42. Tanzania (United Republic of) (22)
30. Malawi (36.7)	**10. Malawi (44.4)**	**27. Malawi (35.9)**	**42. Malawi (27)**	**43. Malawi (22)**
31. Rwanda (36.5)	11. Botswana (44.0)	28. Rwanda (35.1)	43. Rwanda (26)	44. Ghana (22)
32. Pakistan (36.2)	12. Congo (Democratic Republic of the) (41.1)	29. Uganda (33.2)	44. Bangladesh (26)	45. Solomon Islands (21)
108. Barbados (3.0)	173. Iceland (1.4)	164. Estonia (0.2)	125. Hungary (1)	134. Chile (1)

Source: UNDP, 2006

4.5 Food Security

USAID defines food security as a situation when all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life (Riely, Mock, Cogill, Bailey and Kenefick, 2003). For a country to be food secure there should be enough food supplied and households must be able to have access to the food supplies. Households can have access to food through their own production, the market and other sources. Vulnerability to food insecurity co-exists with multiple vulnerabilities such as HIV/AIDS, poverty, gender issues, illness and crime. According to the Malawi National Vulnerability Assessment Committee (2003: 11), in the last 10 years Malawi has changed from being a

nationally self-sufficient producer of maize in non-drought years to being dependent on commercial food imports and foreign assistance to achieve a national food balance. This has been as a result of poor crop production from poor rainfall, higher maize production costs and increases in the price of maize. Smallholder farmers, as a result, have been affected by becoming more vulnerable to food insecurity due to decreased purchasing power. The current increases in the price of food have had a negative effect on the poor, especially the poor who do not produce their own food as a larger proportion of their expenditure is allocated to food. Higher food prices limit a person's ability to obtain not only food but also other essential goods and services, including education and health care (UN, 2008). Consequently, most poor people have adopted coping strategies, such as selling household possessions and livestock, borrowing money, migrating to find work and begging. Most households are food secure only for eight to ten months of the year. During the hungry season from December to February, poorer households regularly go without eating for an entire day, and when they do eat, most of them consume fewer than two full meals a day (Rural Poverty Portal, 2007).

On October 15, 2005, President Bingu wa Mutharika declared a food crisis across all 28 districts of Malawi. It was reported that Malawi would need to assist 4.6 million people with emergency food security through the March 2006 harvest. Poor rainfall across Malawi's Southern, Central, and Northern regions during the critical maize development and maturation period combined with inadequate supplies of fertilizer, adversely affected Malawi's 2004/2005 maize crop, the primary staple food. As a result, Malawi produced approximately 1.2 million metric tons (MT) of maize during the 2004/2005 agricultural season, which was 36 percent less than the recent 5-year production average. The worst-affected districts were in the Southern and Central regions (USAID, 2005). This affected the levels of poverty as the majority of poor people were faced with hunger.

4.6 Foreign Aid to Malawi

Malawi depends on foreign aid to improve its economy and overcome food shortages. In the last 10 years, foreign aid in the form of loans and grants has amounted to 14 per cent of Malawi's GDP (Rural Poverty Portal, 2007). Poverty reduction and education have also been heavily

dependent on international assistance. A number of donor Governments provide direct aid to Malawi, such as the US, the UK, Canada, Norway and the European Union. The World Bank has lent around US $35 million to Malawi as part of its Multi-Sector AIDS programme. The Global Fund to fight AIDS, Tuberculosis and Malaria, has so far approved grants of around US $228 million to Malawi. Among other things this funding has allowed the Malawian Government to implement its Anti Retro Viro (ARV) treatment programme. The President's Emergency Plan for AIDS Relief (PEPFAR) provides Malawi with US $15 million dollars annually. It has funded Voluntary Counselling and Testing (VCT), condom distribution and mother-to-child prevention programmes, amongst other initiatives (Advert, 2008). All these contribute positively on improving the quality of life of the average suffering Malawian person.

Aid can have a number of effects on fiscal aggregates that will impact, directly or indirectly, on growth and poverty reduction. Foreign aid in Malawi has had a positive long-run impact on the development budget and has a negative long-run effect on domestic borrowing. Overall, an increase in grants and donor assistance appears to have had a largely positive fiscal impact. (Fagernäs and Schurich, 2004:1). Much of development expenditure in Malawi is foreign-funded. Assistance by the World Bank resulted in good progress in removing regulatory obstacles to investment and production. The effectiveness of infrastructure assistance has been limited, but good progress been made in increasing social expenditures. The projects have been introduced towards expanding the primary school network as well as health facilities in some rural areas in Malawi (Rural Poverty Portal, 2007).

However, foreign donors are increasingly a part of the corruption problem in Malawi. Many donors show results by how much they have managed to spend in a country, but not necessarily in terms of how many people have benefited from the help. Inadvertently, this spending sets up an environment for corruption by providing incentives for simply using up money without showing any strongly positive outcomes. Approximately three quarters of the government's income comes from foreign aid and money donated to various public officials is not properly monitored. Nobody tracks which donor has paid whom, and for what. Moreover, more than

$75million in aid was suspended in 2002 by the IMF and other donor countries due to overspending (Gorman, 2008: 4). This has had an impact on the poor as funds used to implement poverty alleviation programmes have been cut down. Governments in economies like Malawi destroy economies through corruption (Easterly, 2002: 143).

4.7 Measures of Support to the Poor

Since Malawi became democratic in 1994, poverty alleviation has always been one of its main policies. In October 1995, the policy framework for the Poverty Alleviation Programme (PAP) was released. In order for poverty alleviation programmes to be implemented, a clear understanding of the characteristics of the poor, the causes of their poverty and where they were located, had to be made. Poverty Reduction Strategy Papers (PRSP) describe a country's macroeconomic, structural, and social policies and programmes to promote growth and reduce poverty, as well as associated external financing needs. PRSPs are prepared by governments through a participatory process that involves civil society and development partners, including the World Bank and the IMF (World Bank, 2008). The Malawi Poverty Reduction Strategy (MPRS) implemented in 2002-2005, was built around four major pillars, namely:

- Sustainable pro-poor growth;
- Human capital development;
- Improving the quality of life of the most vulnerable;
- Good governance.

The goal of the MPRS was to achieve sustainable poverty reduction through empowerment of the poor and economic growth. The MPRS has recognized that public sector reform is necessary for an efficient and effective service delivery in the country. The following strategies were to be pursued in order to improve the public sector: improving public sector conditions of service and work ethics, reviewing the structure of the civil service, addressing capacity constraints across government, strengthening public policy by a decentralization process and improving the effectiveness of parastatals (IMF, 2005). The Programmes implemented with regard to the 4 pillars were as follows:

Sustainable pro-poor growth

Since agriculture is the key source for pro-poor growth, the MPRS planned to improve agricultural productivity (crops and livestock) and increase incomes through activities such as expanding credit through Savings and Credit Cooperatives (SACCOs) and through Public Works Programs (PWP) (Ministry of Economic Planning and Development, 2006: 36).

Human capital development

Facilities to improve the quality of primary school teachers through in-service training were constructed, and guidelines were prepared for the deployment of teachers from urban to rural areas. More secondary schools were built and university intake was substantially increased through the introduction of parallel programs. Access to the university by disadvantaged pupils was improved through the introduction of a loan trust fund (Ministry of Economic Planning and Development, 2006: 36).

Improving the quality of life of the most vulnerable

The main goal under this pillar was to improve and maintain the quality of life of the most vulnerable in society through the provision of social safety nets. The safety nets were implemented in three forms:

- Productivity enhancing interventions - two main approaches employed were the Targeted Input Programme (TIP) and the Public Works Programmes (PWP). These strategies targeted resource constrained households. Specifically, TIP targeted resource constrained but land abundant households while PWP targeted the land constrained but labour abundant households;
- Welfare support interventions - The welfare support interventions were of three types. These were the provision of food supplements and therapeutic feeding (targeted nutrition program), implementation of direct welfare transfers and implementation of capacity building programs;
- Improving disaster management - The plan was to improve disaster preparedness, prevention, mitigation, relief as well as rehabilitation programmes (Ministry of Economic Planning and Development, 2006: 37).

Good governance

The MPRS aimed to improve good governance through safety, security and access to justice to ensure safety of assets and wealth. The following activities were identified for implementation:

• Construction of more court rooms in all districts;
• Ensure adequate judicial staff and support;
• Conduct awareness campaigns on judicial independence, for political leaders and the public;
• Design and implement separate funding system for Judiciary (to strengthen the independence of the Judiciary);
• Encourage and sustain community service for petty offences;
• Sensitise public on rights and responsibilities in the constitution and access to
Justice (Ministry of Economic Planning and Development, 2006: 37).

Yet, the implementation of MPRS has not been very successful. Corruption has been one of the biggest problems experienced in Malawi. Since corruption involves use of public resources that could have been utilised for social welfare services, it robs a country of its capital for investment, which is necessary for economic development. Furthermore, corruption oppresses the poor, since it perpetuates poverty and augments income inequalities in developing countries (Hussein, 2005:24). The Corruption Perception Index (CPI – ranging from 10 being non-corrupt to 1 being totally corrupt) scores Malawi with 2.8 in its most recent 2005 report as compared to 4.1 in 2000 (Rice, 2006). Under the first pillar of the MPRS, sustainable pro-poor growth strategies were insufficient to achieve sustained annual economic growth of at least 6 percent. The PRSP did not focus on eliminating all obstacles to growth on the economy. Some parts of civil society (i.e., rural organizations and non-governmental organizations) face problems in economic participation. As mentioned in Chapter 2, government has failed to achieve its goal of having a sustainably stable macroeconomic environment. In addition to this, the running of budget deficits has resulted in heavy domestic borrowing, which in turn has resulted in high interest rates. As a result of high interest rates, the private sector was discouraged from borrowing, thus slowing down economic growth. In 2004, Malawi was faced with drought, contributing to hunger in different rural areas. This also contributed to the slow-down process of the MPRS. Other outcomes of the MPRSP were as follows:

- Exports (in local currency) grew by an average of 5.5 percent in real terms but only 0.5 percent in US$ in the period 2002/3 to 2004/5.
- Foreign Direct Investment (FDI) was low in Malawi.

- Poverty insignificantly went down from 65.3 percent in 1998 to 52.4 percent in 2004. (Ministry of Economic Planning and Development, 2006: 45)

4.8 The Malawi Growth Development Strategy (MGDS)

More recently, Malawi has introduced a "new" growth and development strategy (MGDS) that is likely to have a further impact on poverty reduction. This is an operational medium-term strategy for a five year period, from 2006/07 to 2010/11. The main objectives of the MGDS are the creation of wealth through economic growth, infrastructure development and poverty reduction. The MGDS is based on five broad strategic themes. These are explained below.

1. Sustainable economic growth

Economic growth is to be achieved through improving the major sectors in the economy. These sectors are as follows: tourism, mining, manufacturing and agriculture. Concentrating on these sectors will yield an increase in employment in the medium term. Improving the private sector is seen as a contributing factor to growth. The aim of poverty alleviation through the private sector is to increase the number of firms producing goods that are competitive in both regional and international markets, and this would also increase the supply of goods for the domestic market. Making sure the country is food secure will mean that all Malawians have sufficient quantities of food and lastly achieving sustainable growth through economic empowerment. This will enhance employment and income, especially by increasing the number of women and youths who actively participate in economic activities.

2. Social protection and disaster management

This is mainly concerned with protecting the most vulnerable who may not be able to benefit from growth and protecting them from the negative consequences of disasters. In order to achieve this, the following steps are envisaged:

- Caring for the most vulnerable who are malnourished-under five children, school-going children, orphans, pregnant or lactating mothers and destitute families;
- Preventing the vulnerable from slipping into poverty due to economic shocks;

- Increasing the assets of the poor to enable them to engage in growth;
- Preventing disasters where possible and reducing the negative impact of disasters on the vulnerable.

3. Social development

Social development will be achieved through essential health care, improved service delivery, improved quality, relevance, access, and management of education at all levels, fostering an improved utilization of nutritious foods and tackling HIV/AIDS and other deadly diseases.

4. Improving infrastructure

Infrastructure is critical to achieving the growth and social objectives of the Government and the strategy is focused on five main areas. These are: transport, energy, water and sanitation, information, communication technologies and science and technology research.

5. Good governance

Good governance requires the following actions to be taken: achieving and sustaining macroeconomic stability, strengthening public policy formulation, improving service delivery and accountability at the local level through decentralization, developing a strong justice system and rule of law, ensuring personal security and establishing an institutional setting for good corporate governance (Economic Planning and Development, 2006).

4.9 Malawi's Millennium Development Goals

Malawi signed the Millennium Declaration in September 2000. According to the UN (2008), the MDGs are achievable with the right combination of policy action and policy sequencing. The MDGs in Malawi are set to be achieved through implementation of the MPRS (2002-2005) and the MGDS (2006-2010). However, despite signing the declaration, Malawi might not attain all the Millennium Development Goals by 2015 as the country mainly relies on the agricultural

sector and this is vulnerable to exogenous factors, such as droughts and downfall in overseas demand due to recessionary or technological factors (UN, 2005).

Research done by the Malawi Government and World Bank (2006: 21) states that Malawi is unlikely to attain the first, second and fifth MDG. However, over the last 10 years there has been some progress in addressing extreme poverty. Food shortages have resulted in food insecurity, hunger and malnutrition in certain regions. Education faces challenges such as lack of infrastructure, high dropout and repetition rates, especially among females, and poor quality of teachers (UN, 2005). Further, there has been little improvement made in achieving the fifth MGD. Maternal mortality in Malawi increased between 1992 and 2000. According to a recent demographic health survey, maternity mortality reached 1,120 per 100,000 live births, in 2000, which was almost double the rate of 620 per 100,000 live births estimated in 1992. However, since 2000, maternity mortality has been decreasing. Results from a later survey (2004) showed that maternal mortality has declined to 960 per 100,000 live births. However, this rate of reduction is insufficient for the realization of the MDG (Malawi Government and World Bank, 2006: 22).

On the other hand, Malawi may attain the third goal, which is related to gender equality and women's empowerment. Progress has been made with regard to improving enrolment of both boys and girls at primary schools. Some success has been attained in completing the fourth goal. Infant mortality dropped by 36 percent between 2000 and 2004, from 104/1000 live births to 76/1000 live births (UN, 2005). Progress has also been made in reaching the sixth MGD. Programmes have been implemented to reverse the increase of HIV/AIDS and the incidence of Malaria, by providing effective Malaria preventions to most people. Lastly, slight progress has been made in achieving the seventh goal. In 2005 67 percent of the population had access to safe drinking water. This is an improvement from 47 percent in 1985 (UN, 2005).

4.10 Conclusion

Poverty is found to be more severe in rural areas, where the majority of the population live, than in urban areas. Indicators such as demographic characteristics, education, health, agriculture, the HDI and HPI, show that there is a high level of poverty in Malawi. Just over 50 percent of the people live below the poverty line.

The Malawian government has implemented poverty reducing strategies in recent years. The poverty reduction programmes are built on four strategic pillars: promoting sustainable pro-poor economic and structural transformation; developing human capital; ensuring that the quality of those at risk is improved and maintained; and, lastly, ensuring that public institutions and systems protect and benefit the poor by adopting good governance. Unfortunately, these poverty reduction strategies have not been 100 percent successful due to negative influences like corruption, which has been one of Malawi's biggest problems. In terms of the MDGs, Malawi is most likely to achieve the third, forth and sixth MDG by 2015, as long as further improvement is made in these areas. However, achieving the other MDGs by 2015 seems doubtful.

The next chapter looks at an econometric analysis of poverty. A regression analysis will be conducted to determine the influence of government spending on a selected set of socioeconomic services, GDP growth and foreign aid on poverty in Malawi.

CHAPTER FIVE

ECONOMETRIC ANALYSIS

5.1 Introduction

In the previous chapter a theoretical approach to poverty was examined. There are different ways in which poverty can be alleviated, but it is important to note that poverty alleviation programmes can have a different effect for every country. This chapter looks at a research methodology, to identify key variables that have a bearing on alleviating poverty in Malawi. A regression analysis is undertaken to determine the relationship that GDP growth, foreign aid and government expenditure on socioeconomic services have on levels of poverty, using data covering the period 1995 to 2005. Owing to data constraints, the poverty level for Malawi was interpolated for some years. This is described in the second section of the chapter. It is expected that higher levels of GDP growth, foreign aid and government spending on socioeconomic services such as education, health, housing and social security and welfare will contribute to a reduction in poverty. Given the data limitations, a similar regression analysis was undertaken for Botswana covering the same period, 1995-2005. On the basis of the results of the regression model, policy recommendations will be made on poverty alleviation in Malawi.

5.2 Research Methodology

The regression analysis is concerned with the study of the dependent variable, on one or more other (explanatory) variables, with a view to estimating or predicting the (population) mean or average value of the former in terms of the known or fixed (in repeated sampling of the latter) (Gujarati, 2003: 18). The aim of this regression analysis is to try and estimate the value of one variable on the fixed values of our selected variables.

The methodology used in this study focuses on whether or not there is a relationship between poverty (dependent variable) and certain macroeconomic variables, namely, GDP growth,

foreign aid and government expenditure on social security and welfare, housing, education and health (independent or explanatory variable).

5.2.1 Method of Regression Analysis

The method involves the following steps:

1. Determine the dependent and independent variables;
2. Regress poverty on selected government expenditure variables, foreign aid and GDP growth using SPSS. This should help obtain a proper model. (How does a change in X affect Y, ceteris paribus?);
3. Test the model:
   a. Test the significance of the model (the significance of slope) by looking at the computed t value and the p-value;
   b. Test the goodness of fit of the model by looking at the R-square;
4. Interpret results;
5. Suggest policy recommendations (Wonje, 2000).

5.2.2 Objectives of the Study

The objectives of this study are to examine the effect of:

- Government expenditure on education, health, social security and welfare and housing on poverty;
- GDP growth on poverty;
- Foreign aid on poverty.

5.2.3 Data

Data are materials from which academic and research work is built. The heart of any piece of research work is the data collection, analysis and interpretation of results. Data can be classified as both primary and secondary data (Chaudhry, 2003:180). Primary data is collected by means of surveys. In the present study we will use secondary data.

The secondary data used in the regression analysis was obtained from the Reserve Bank of Malawi, the National Statistics Office in Malawi and the World Bank. Data on headcount poverty (percentage of population living below the poverty line) was obtained from the National Statistics Office for the periods 1998 and 2005, as well as data for government expenditure for the periods 1995 to 2005. Data on GDP growth was obtained from the Reserve Bank of Malawi for the periods 1995 to 2005. Lastly, data on foreign aid (Official Development Assistance) was obtained from the World Bank for the years 1995 to 2005.

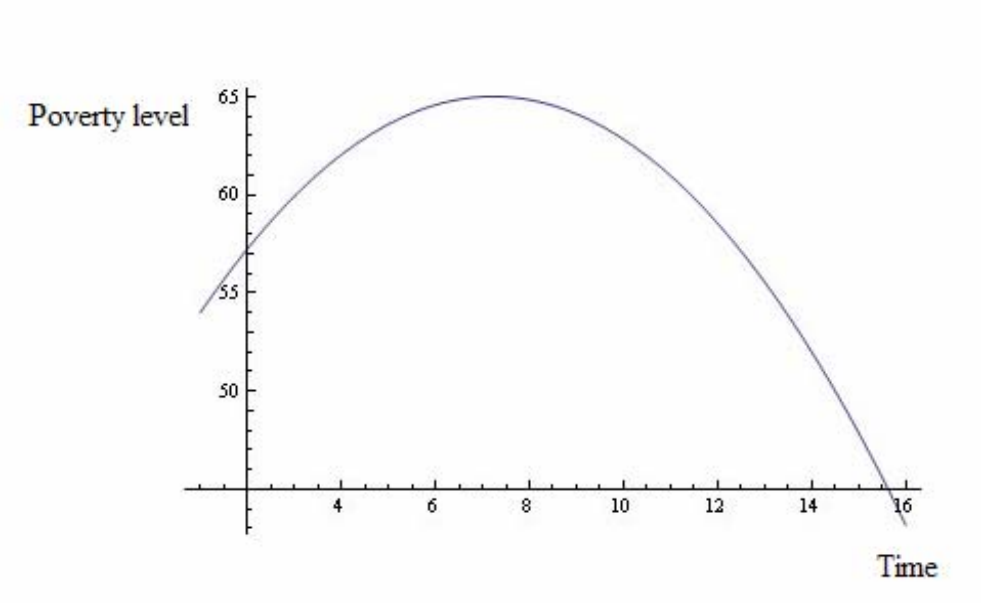
Transformation of data

Data on headcount poverty was limited to 2 periods, only 1998 and 2005 as these were the only ones available. Given that the data only covers a limited number of years, it is necessary to "interpolate" to those years for which we do not have data. If one had one data point, it would be impossible to do this. Two points make a linear relationship feasible. However, we have enough data points that are consistent, at least, with a polynomial relationship. While this might not be the only relationship in truth, it is one that can provide poverty levels for the intervening years. As such it is an estimate, but an estimate that is better than an infinite number of relationships (if one had only one observation) on a linear relationship, which would be based on only two years of poverty measurement. Possible future research could elaborate on the robustness of this polynomial interpolation.

This thesis uses an algorithm that finds the polynomial that best fits the limited poverty data for Malawi. Given this best fitting polynomial we are then able to interpolate 2 data points that are consistent with the polynomial and use them as "pseudo" observations in a regression analysis. A programme called Mathematica was used to determine the missing data. Below is a formula that was used to interpolate the poverty figures.

$$\textit{Poverty index} = 54 + (11/6 - 155/546\,(-7 + \textit{year}))\,(-1 + \textit{year}) \qquad (1)$$

Figure 5.1: Interpolated Poverty Figures for Malawi



The data was plotted to demonstrate the trend of poverty.

Table 5.1: Data on Poverty, GDP Growth, Foreign Aid and Government Expenditure on Socioeconomic Services in Malawi (1995-2005)

Year	*Poverty*	*GDP Growth*	*Foreign Aid*	*Government Expenditure*			
				Education	*Health*	*Social Security and Welfare*	*Housing*
1995	64	13.8	435	370.4	265.8	1.0	247.1
1996	65	10.0	492	146.4	63.1	12.4	248.7
1997	65	6.6	344	350.4	135.0	5.1	219.5
1998	65.3	1.1	435	772.5	951.6	88.3	1,290.9
1999	64	3.5	447	838.6	534.4	97.0	1,809.8
2000	63	0.8	446	2,490.57	1,749.65	1,198.87	118.36
2001	61	-4.1	404	4,300.18	3,365.57	4,362.99	247.21
2002	59	2.1	377	5,968.29	3,589.17	1,466.12	376.30
2003	56	4.2	498	6,310.09	3,692.42	2,105.68	356.72
2004	52	5.0	476	8,631.88	5,247.59	2,706.40	395.83
2005	52.4	2.3	575	9,500.83	11,057.86	2,221.30	1,325.64

The poverty headcount and GDP growth are both measured in percentages. Foreign aid is in millions of US dollars and government expenditure on all selected variables are in millions of Malawi Kwacha (MK).

5.2.4 Economic Model

The regression analysis shows how the levels of poverty change when certain variables are added to the regression. Therefore, poverty is a function of GDP growth, foreign aid and government expenditure on education, health, social services and welfare and housing, as shown in the equation 2.

POV = f (GDP growth, foreign aid, government expenditure on education, health, social security and welfare and housing) (2)

In accordance with theory and economic literature partly reflected in Chapter 2, the variables are all expected to have a negative relationship with poverty. This means that an increase in any of the independent variables is expected to cause a decrease in the level of poverty in Malawi.

5.2.5 Econometric Model

The econometric model is an example of a linear regression. The econometric function hypothesises that the dependent variable (Y) is linearly related to the explanatory variables (X's), but the relationship between the variables is not exact: it is subject to individual variation (Gujarati, 2003: 5). The econometric model can be written as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 - \beta_6 X_6 + \mu_i \quad (3)$$

In the model, the betas (β) are the regression coefficients. Respectively, β_0 is known as the intercept and $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are known as the slope coefficients. The intercept tells us that if the slope coefficients are zero then Y would be the value of the intercept. The slope coefficients reflect the relationship between X and Y, ceteris paribus. They also indicate the average increase in Y for a unit change in X. The variable μ_i, is known as the disturbance, or error term. It is a random (stochastic) variable that has well-defined probabilistic properties. There are many reasons as to why the error term is used. Some of these reasons include the vagueness of theory, unavailability of data, core variables versus peripheral variables, intrinsic randomness in human behaviour, poor proxy variables, principle of parsimony and wrong functional form. The error term plays an important role in regression analysis as it is a non-systematic component that captures the unknown variables (Gujarati, 2003: 45-46).

The econometric model is formally represented as:

$$POV = \beta_0 - \beta_1 GDP\_G - \beta_2 F\_AID - \beta_3 EDU - \beta_4 HOUS - \beta_5 SOC\_S - \beta_6 HTH + \mu_i \quad (4)$$

Where

POV is the poverty headcount;
GDP_G is GDP growth;
F_AID is foreign aid from all donors;
EDU is government expenditure on education;
HOUS is government expenditure on housing;
SOC_S is government expenditure on social security and welfare;
HTH is government expenditure on health.

5.3 Results

According to Gujarati (2003: 485), a sample size of 15 to 20 observations is considered to be a small sample. However, due to the limitation of availability of data on poverty, this problem of a small sample size cannot be overcome. Accordingly, the results have to be interpreted carefully.

The following table shows the regression results that were attained when the headcount poverty was regressed on GDP growth, foreign aid and government expenditure on selected social services: education, health, social services and welfare and housing. Further results are shown in appendix A1.

Table 5.2: Initial Regression Results

Model	Unstandardized Coefficients	T	Sig.	Collinearity Statistics	
	B			Tolerance	VIF
(Constant)	69.840	30.040	.000		
GDP_G	-.222	-2.474	.069	.320	3.127
F_AID	-.005	-.888	.425	.415	2.409
EDU	-.002	-7.619	.002	.109	9.205
HTH	.000	1.288	.267	.105	9.494
SOC_S	.000	-.984	.381	.194	5.158
HOUS	-.001	-1.231	.286	.452	2.213

$R^2 = 0.991$ Adjusted $R^2 = 0.977$ DW = 2.126 F = 70.701 p-value = 0.001

$POV_t = 69.840 - 0.222GDP\_G_t - 0.005F\_AID_t - 0.002EDU_t + 0.000HTH_t + 0.000SOC\_S - 0.001HOUS_t$ (5)

As mentioned before, the dependent variable is expected to have an inverse relationship between the independent variables. Therefore, we expect all the independent variables to have negative signs. As shown in Table 5.2, all the variables show the expected signs except for government expenditure on health.

The Variance-Inflating Factor (VIF) shows how the variance of an estimator is inflated by the presence of multicollinearity. VIF is determined by looking at the value of R^2. As R^2 gets closer to 1, the VIF approaches infinity. This therefore means that as the extent of collinearity increases, the variance of an estimator increases, and in the limit it can become infinite (Gujarati, 2003: 351). If the largest VIF is greater than 10 then there is cause for concern (Myers, 1990; Bowerman and O'Connell, 1990).

The tolerance (TOL) is the inverse of the VIF. This can be defined as

$TOL_j = \frac{1}{VIF_j} = (1 - R_j^2)$

When $R_j^2 = 1$ (perfect collinearity), $TOL_j = 0$ and $R_j^2 = 0$ (no collinearity), TOL_j is 1 (Gujarati, 2003: 351). Tolerance below 0.1 indicates a serious problem (Menard, 1995). In this study, none of the variables had a tolerance level below 0.1.

The estimated values show that a minor problem of multicollinearity may exist in this model. This is perhaps in the case of government expenditure on health and education. 2 variables have high VIF values (around 9) and low TOL values (0.105 – 0.109). This shows that there may be a strong linear relationship among some of the variables of the regression model (Gujarati, 2003: 342).

The correlation matrix (in appendix A1) shows that a significantly high correlation exists between expenditure on health and expenditure on education (r = .913). Due to the suspected multicollinearity problem, the "misbehaving" variable (expenditure on health) has been removed from the regression analysis. The results of the "reduced" model are summarised in Table 5.3.

Second Regression

Table 5.3 below shows the regression results that were attained when the headcount poverty was regressed on GDP growth, foreign aid and government expenditure on selected socioeconomic services excluding expenditure on health. Further results are shown in appendix A2.

Table 5.3: Regression Results of "Best" Model

Model	Unstandardized Coefficients	T	Sig.	Collinearity Statistics	
	B			Tolerance	VIF
(Constant)	68.399	31.541	.000		
GDP_G	-.237	-2.503	.054	.325	3.074
F_AID	-.002	-.361	.733	.503	1.988
EDU	-.001	-10.614	.000	.321	3.117
SOC_S	.000	-.979	.373	.194	5.148
HOUS	-.001	-.917	.401	.474	2.109

$R^2 = 0.987$ Adjusted $R^2 = 0.974$ DW = 1.969 F = 74.667 p-value = 0.000

$$POV_t = 68.399 - 0.237GDP\_G_t - 0.002F\_AID_t - 0.001EDU_t + 0.000SOC\_S - 0.001HOUS_t \quad (6)$$

The overall results are not significantly different from the previous findings.

After removing the 'misbehaving' variable, the new model does not indicate a problem of multicollinearity. According to Myers (1990) and Bowerman and O'Connell (1990), if the VIF is greater than 10, then there is a possible problem of multicollinearity. Further, if the TOL level is below 0.1, there is a serious problem of multicollinearity (Menard, 1995). In the current "reduced" regression model, the VIF values are well below 10 and the TOL statistics are all above 0.1 (Table 5.3). Accordingly, one can safely conclude that there is no collinearity in the "reduced" model.

R^2 measures the goodness of fit, showing how well the sample regression line fits the data. R^2 tells us the proportion of variation in the dependent variable explained by the explanatory variable(s) and therefore provides an overall variation in the other. When the value of $R^2 = 1$, this means that the regression line fits exactly. If the R^2 is close to 0, then there is no apparent relationship between Y and X (Gujarati, 2003: 87). In the second regression results, the adjusted R^2 shows that 97 percent of the variation in the yearly poverty headcount is explained by yearly GDP growth, foreign aid and government spending on selected social services: education, social security and welfare and housing. This model explained almost the same proportion of variation in poverty as the previous one which had an adjusted R^2 of 97.7 percent.

The F-test, which determines the overall significance of the regression model, shows that the regression is significant. This is shown by the calculated F-value of 74.667 and p-value of 0.000. The null hypothesis, which states that the variables together have no effect on poverty, is rejected. This suggests that $\beta 1, \beta_2, \beta_3, \beta_4$ and β_5 are simultaneously not equal to zero.

The Durbin Watson d test is used to detect autocorrelation. As a rule of thumb, if d is found to be around 2, one may assume that there is no first-order autocorrelation, either positive or negative (Gujarati, 2003: 469). In the second regression model, DW is equal to 1.969. This shows that there is no evidence of serial correlation (of the first order).

Only *t* ratios for GDP_G (-2.503) and EDU (-10.614) show that the estimated regression coefficients are statistically significant. GDP_G is statistically significant at both 5 and 10 percent (p-value = 0.054) and EDU is statistically significant at 1 and 5 percent levels (p-value = 0.000). This means that GDP growth and government expenditure on education have an effect on the level of poverty. The p-values for both these variables are statistically significant and have the right negative signs. In equation 6, all the variables carry the right signs and these variables impact on poverty reduction, but not at a statistical level of significance. However, of these variables, only GDP growth and government expenditure on education are seen to have a high level of significance and thus make a statistically significant impact on reducing headcount poverty in Malawi.

According to the model, if GDP growth is increased by 1 percent on average, this would decrease the headcount poverty by 0.237 percent, ceteris paribus.

This model also shows that, on average, a K1 million increase in government expenditure on education will decrease the headcount poverty by 0.1 percent, ceteris paribus.

Foreign aid, government expenditure on social services and welfare and housing are seen not to be significant (with small *t* ratios and big p-values) in explaining the variability in headcount poverty. This, therefore, means that these variables have not contributed significantly to the reduction of poverty, but they all have the right (-) signs.

5.4 A Note on an Additional Comparative Analysis: The Case of Botswana

In view of the fact that the regression analysis was based on interpolated data, on account of the critical data constraints, another analysis of a similar type was undertaken for a similar country in Africa. Initially the chosen country was Zambia because of similarities in macroeconomic and poverty conditions between Zambia and Malawi. The unavailability of data still posed a

problem, especially with regard to government expenditure in Zambia. Accordingly, a second country had to be chosen. The chosen country was Botswana which shares to a certain extent similar economic attributes as Malawi.

Botswana is a country located in the south of Africa. It remains one of Africa's most stable countries with success stories of sustained economic growth, which is anchored on good governance, political stability and prudent macroeconomic management. Economic growth has been strong over the past years, with strong revenue from the diamond sector prudently utilised to boost growth (Organisation for Economic Co-operation and Development (OECD), 2006: 1). In 2008, Botswana's population was estimated at 1.9 million with an annual population growth rate of about 1.4 percent (UN, 2008). The rate of poverty as measured by the Headcount ratio reduced from about 47 percent in 1993 to 30.3 percent in 2003 (Botswana Central Statistics Office, 2008). Using a relative poverty definition, in 2003, poverty was defined as anyone living in a household earning less than 104.10 Pula (P) per month (Botswana Central Statistics Office, 2008).

In the comparative analysis for between Botswana, the same variables as those of Malawi are used in the regression analysis to determine the relationship GDP growth, foreign aid and government expenditure on socioeconomic services will have on the level of poverty. The data covers the same period, 1995 to 2005. It is expected that increases in the levels of GDP growth, foreign aid and government spending on socioeconomic services such as education, health, housing and social security and welfare will also contribute to a reduction in poverty in Botswana.

5.4.1 Data

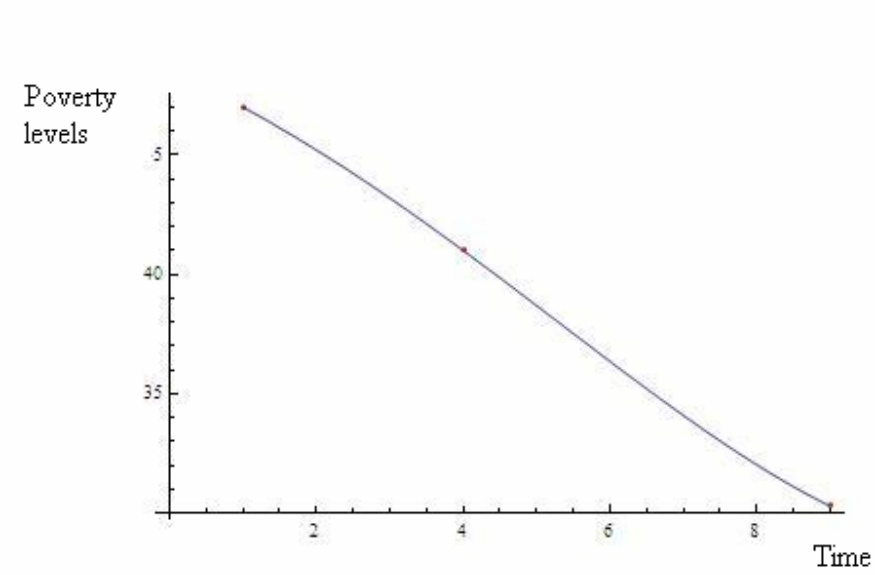
Similar to Malawi, data on headcount poverty was limited to 2 periods. Household Income and

Expenditure Survey's (HIES) were only conducted in 1993 and 2003. Therefore given that the data only covers a limited number of years, it is necessary to "interpolate" to those years for which we do not have data.

As mentioned before, this thesis uses an algorithm that finds the polynomial that best fits the unlimited poverty data. A programme called Mathematica was once again used to determine the missing data. Below is a formula that was used to interpolate the poverty figures.

Poverty index = 0.000800766 (216.592 - 25.9279 x + x^2) (279.886 + 25.3475 x + x^2)

Figure 5.2 Interpolated Poverty Figures for Botswana



The data was plotted to demonstrate the trend of poverty.

Table 5.4 Data on Poverty, GDP Growth, Foreign Aid and Government Expenditure on Socioeconomic Services in Botswana (1995-2005)

Year	*Poverty*	*GDP Growth*	*Foreign Aid*	*Government Expenditure*			
				Education	*Health*	*Social Security and welfare*	*Housing*
1995	47	4.4	90	257	1,167	0	406
1996	45.2	5.6	75	299	1,518	0	386
1997	43.2	6.9	122	391	1,842	0	746
1998	41	6	106	468	2,276	321	670
1999	38.7	5.4	61	543	2,458	372	734
2000	36.4	7.6	31	630	2,872	424	762
2001	34.1	5.2	29	803	3,409	463	827
2002	32	4.4	38	1,103	3,597	350	1,218
2003	30.3	5.4	30	1,447	4,497	518	1,340
2004	29.1	6.2	343	2,041	4,711	123	1,487
2005	28.5	4	71	2,501	5,122	83	1,368

Source: World Bank, 2005 and 2007; IMF, 1998 and 2006; Central Statistics Office, 2008

The poverty headcount and GDP growth are both measured in percentages. Foreign aid is in millions of US dollars and government expenditure on all selected variables are in millions of Pula (P).

5.4.2 Regression Results for Botswana

After regressing poverty on GDP growth, foreign aid and government expenditure on health, education, social security and housing, the estimated values showed that a problem of multicollinearity existed in the model. High values of the VIF were present for government expenditure on health (100.668), education (148.449), social security and welfare (12.391) and housing (15.611) and low TOL values (0.007-0.81). This shows that there may be a strong linear relationship among some of the variables of the regression model (Gujarati, 2003: 342). These results are made transparent in appendix A3. Due to the multicollinearity problem, one of the "misbehaving" variables (expenditure on health) was removed from the regression analysis and therefore "reducing" the model.

However, despite removing one of the 'misbehaving' variables, the new regression results still showed that multicollinearity was present in the new model. Government expenditure on education and housing had high values of VIF (around 13) and low TOL values (0.072-0.074). The correlation matrix shows that a significantly high correlation exists between expenditure on education and expenditure on housing (r = .954). This is made transparent in appendix A4.

Once again, the "misbehaving" variable (expenditure on housing) was removed from the regression analysis, and further reducing the model. The results of the "reduced" model are summarised in Table 5.5 below.

Table 5.5 'Reduced' Regression Model

Model	Unstandardized Coefficients	T	Sig.	Collinearity Statistics	
	B			Tolerance	VIF
(Constant)	52.096	22.532	.000		
GDP_G	-.006	-.015	.989	.682	1.466
F_AID	-.002	-.332	.751	.494	2.025
EDU	-.005	-13.091	.000	.544	1.837
SOC_S	-.005	-1.931	.102	.466	2.145

$R^2 = 0.984$ Adjusted $R^2 = 0.973$ DW = 2.007 F = 90.240 p-value = 0.000

$$POV_t = 52.096 - 0.006GDP\_G_t - 0.002F\_AID_t - 0.005EDU_t - 0.005SOC\_S \quad (7)$$

Due to data limitations, the results have to be interpreted carefully. Table 5.5 shows the regression results that were attained when the headcount poverty was regressed on GDP growth, foreign aid and government expenditure on education and social security and welfare. Further results are shown in appendix A5.

Similar to the analysis for Malawi, the dependent variable is expected to have an inverse relationship between the independent variables. Therefore we expect all variables to have a negative sign. As shown in Table 5.5, all the variables show the expected signs (-).

After removing the 'misbehaving' variables, the new model does not indicate a problem of multicollinearity. In Table 5.5, the VIF values are well below 10 and the TOL statistics are all above 0.1 (Table 5.5). Accordingly, one can safely conclude that there is no collinearity in the "reduced" model.

In the current regression results, the adjusted R^2 shows that 97 percent of the variation in the yearly poverty headcount is explained by yearly GDP growth, foreign aid and government spending on education and social security and welfare.

The F-test, which determines the overall significance of the regression model, shows that the regression is significant. This is shown by the calculated F-value of 90.240 and p-value of 0.000. The null hypothesis, which states that the variables together have no effect on poverty, is rejected. This suggests that $\beta 1, \beta_2, \beta_3$ and β_4 are simultaneously not equal to zero. $\beta 1, \beta_2, \beta_3$ and β_4 are GDP growth, foreign aid, government expenditure on education and social security and welfare.

Only the *t* ratio for EDU (-13.091) shows that the estimated regression coefficient is statistically significant. EDU is statistically significant at 1 and 5 percent levels (p-value = 0.000). This means that government expenditure on education, during the time period of the study, has an effect on the level of poverty. The p-value for this variable is also statistically significant. In equation 7, all the variables carry the right signs and these variables impact on poverty reduction, but not at a statistical level of significance. However, of these variables, only government expenditure on education is seen to have a high level of significance and thus make a statistically significant impact on reducing headcount poverty in Botswana.

This model therefore shows that, on average, a P1 million increase in government expenditure on education will decrease the headcount poverty by 0.5 percent, ceteris paribus.

GDP growth, foreign aid and government expenditure on social security and welfare have all the right (-) signs, suggesting that these variables do impact on reducing poverty. However, the results do not seem to be significant (with small *t* ratios and big p-values) in explaining the variability in headcount poverty in the time frame studied.

Education is virtually free in Botswana. However, the education system is apparently constrained due to the high number of untrained teachers. The country suffers from shortages of skilled manpower. In order to address many of the shortages of skilled manpower currently experienced, more emphasis is being placed on conventional and technical education (OECD), 2006: 1). The government of Botswana hence needs to increase budgetary allocation towards education especially in rural areas where the poor are found. The regression results for Botswana are therefore consistent with the regression results for Malawi as they both indicate that education is highly significant in poverty reduction.

5.5 Interpretation and Discussion

The discussion of the results is based mainly on the findings of the Malawi regression. The central 'unit' of analysis is Malawi and not Botswana. The Botswana results serve to confirm the consistency that human empowerment through education is critical for the expansion of one's capabilities and for poverty alleviation. As shown in the second regression results (Table 5.3), headcount poverty is significantly affected by government expenditure on education and GDP growth. Government expenditure on social security and welfare, housing and foreign aid under the study tend to contribute to a reduction in poverty, but the results in the latter case are found to be weak and not statistically significant.

GDP growth

The regression results show that GDP growth is significant ($t = -2.503$; p-value = 0.054). The size of effect ($\beta = -0.237$) shows that growth of GDP is an important poverty reduction strategy. It shows that during the period under study, on average, a 1 percent increase in GDP growth results in a 0.237 percent decrease in poverty. As a country experiences positive economic growth, more output is produced annually and, as a result, more income is generated for households and possibly more employment, ceteris paribus. In Chapter 3 economic growth was described as the increase in the availability of goods and services in the economy. As a result, this increases the level of living standards. This, therefore, supports the view that increases in the average income levels contribute to increasing the average standard of living and, therefore, if

poor people have access to incomes then they are able to buy goods and services that could aid in the improvement of the quality of their lives (Dua-Agyeman, 2005: 117). Therefore the level of real GDP should be increasing and growing at a faster rate than population growth. Redistribution is not achievable and sustainable without growth in real GDP per head.

Government expenditure on education

The regression also shows that government expenditure on education is highly significant (t = -10.614; p-value = 0.000). The size of effect (β = -0.001) indicates that a K1 million increase in expenditure on education will on average cause poverty to decrease by 0.1 percent. For that reason government should invest more in education, especially in rural areas where the majority of the poor are found. Poor households are also seen to have more children than nonpoor households. Thus, it is important that they receive a higher percentage of the education expenditure than nonpoor households. It is also important not only for government to increase expenditure on education but also to improve the quality of education. Education helps people to break out of the poverty cycle. Education empowers people with human capital. Increased human capital improves an individual's opportunity for paid employment and, therefore, increases the prospects of people earning incomes. In addition, an increase in education will aid Malawi in achieving the MDG that is related to universal access to primary education.

Government expenditure on housing, social services and welfare

Government expenditure on housing (t = -0.917; p-value = 0.401) and social services and welfare (t = -0.979; p-value = 0.373) is generally important in explaining the reduction in poverty, but these variables have low values of the *t* ratio and high p-values. This shows that these variables have not contributed significantly to the reduction of poverty in Malawi. This could reflect that there may be misallocation of resources, in that more resources could be reaching the nonpoor than the poor. Public health expenditure is consequently not equally distributed to the very poor in society and they are, therefore, receiving fewer benefits of health expenditure than the rich. This may also suggest that resources do not satisfy the weakest version

of equity (that each group receive benefits in proportion to their population size) (Mehrotra and Delamonica, 2007: 142). However, results like these could indicate that a significant part of the government expenditure on housing, social services and welfare may have been used in administration and for the payment of salaries in relevant government departments, instead of being used for the benefit of the poor (Dua-Agyeman, 2005: 121).

Further, there are several factors supporting the inequality in distribution in government spending. Firstly, the political process through which budgets are determined usually favours the groups that are most visible, especially those that have a stronger voice in the capital or other important centers. Consequently, fiscal resources are channelled to the districts where these groups live and to the services they prefer. This results in government showing a tendency to allocate large shares of their budgets to higher-level services, which are not widely used by the poor (Mehrotra and Delamonica, 2007: 149).

Foreign aid

Lastly, the model shows that foreign aid does impact on poverty reduction, but the relationship is not significant (t = -0.361; p-value = 0.733). As foreign aid rises, complementary resources may be taken away from domestic uses. Further, foreign aid received may be of a technical nature, the benefits of which flow to the donor country. According to Browne (2006) cited in Mehrotra and Delamonica, 2007: 322, aid is not correlated with human development levels of countries. Secondly, aid is not correlated with a country's income levels. Thirdly, aid is volatile. Fourthly, the size of aid depends on donor concerns of affordability. Aid gets cut when donors face fiscal constraints. Finally, aid is usually related to the non-developmental objectives of donors – commercial, geographical or strategic/security ones.

What can donors do?

1. Donors could put a higher proportion of their aid into directly poverty-oriented projects.
2. Donors could incorporate income distribution effects so that aid does not widen income inequalities, a cause of poverty.

3. Donors could support the involvement of local firms in the implementation of the assisted capital projects.
4. Donors could refrain from the range of practices which could be damaging to the interests of the poor.
5. Donors could identify and make special efforts to overcome particular obstacles to poverty-oriented development, especially where these do not involve huge resources (Cassen and associates, 1994: 228).

5.6 Limitations

Like most studies, the present one too suffers from certain limitations. Availability of data poses a problem to this study. Data could be obtained only for the period 1995 to 2005. Only 11 observations were obtained and this amount of data is rather small for a regression analysis. In addition, for the period 1995 to 2005, data for headcount poverty was only available for two years, 1998 and 2005. This is due to the limited household surveys that have been conducted in Malawi. Accordingly, some interpolation had to be done for obtaining data on poverty levels and a comparative analysis of another country (Botswana) was also undertaken. We cannot, as a result, have an 'ideal' poverty reduction strategy unless we have regular poverty surveys and long-term time series data. With the interpolation of data the number of observations was increased. The method of increasing data can lead to some anomalies and possible multicollinearity in the estimated model. We also intended to look at the role of unemployment with poverty, but due to limited data this was not possible. Lastly, economic data are generally available at a highly aggregate level. Such highly aggregated data may not tell us much about the individual or micro units that may be the ultimate object of study (Guajarati, 2003: 30).

5.7 Conclusion

The chapter examines how GDP growth, foreign aid and government spending on socioeconomic services can have an effect on the level of poverty. The regression model shows that government expenditure on education and GDP growth have a significant effect on

alleviating poverty in Malawi. The comparative analysis between Malawi and Botswana shows that there is consistency in the results, as both findings show government expenditure on education is highly significant in reducing poverty levels. This is shown by the *t* ratios and the p-values. Foreign aid, government expenditure on social security and welfare and housing are shown to make a contribution to poverty reduction, but the relationship is not significant. This could suggest that public resources are not adequately reaching the poor. This may partly reflect the Matthew effect: not only do the wealthier groups usually receive a higher share of the benefits of public spending, they receive better quality too (Mehrotra and Delamonica, 2007: 149). Additionally, the effectiveness of government expenditure on socioeconomic services, housing and social security and welfare may depend on the quality of governance within public sector institutions. If the quality of state institutions and governance is poor, increased government expenditure may not necessarily lead to improved performance, with regard to poverty and improving the lives of the poor.

These results therefore imply that government should devote resources to education and improve its efficiency in the allocation of resources with regard to housing and social security and welfare. The MDGs that were implemented in 2000 can only be achieved if allocative efficiency in public social spending improves (Mehrotra and Delamonica, 2007: 81). It is also important for there to be an increase in the growth of GDP. With economic growth, more output is produced, more people are absorbed in the labour market, and as a result, more income is generated for households, enabling them to meet basic needs and overcome poverty.

Although this study suffers from certain data limitations, the results are sufficiently encouraging. Policy recommendations follow from the econometric results. These will be covered in the concluding chapter.

CHAPTER SIX

RECOMMENDATIONS AND CONCLUSION

Combating poverty is a major challenge to the government of Malawi. The government has put in place various redistributive measures to address the problem of poverty and to attain the MDGs. An expanding economy generates more resources for the redistribution process. Poverty reduction goes beyond fiscal redistribution. Barrett and Reardon (2001: 3) observe that poverty policy generally aims to improve the asset holdings of the poor, either by endowing them with additional assets or by increasing the productivity of the assets they already hold, or both. The recommendations are to be based not only on the results acquired from the previous chapter but also on other ways to alleviate poverty due to the fact that poverty is a multifaceted problem.

6.1 Recommendations

Growth

Economic growth was found to be a critically significant factor in reducing poverty in this study. Thus policy should focus on enhancing the economic growth of Malawi, without overlooking human aspects of development.

6.1.1 Sustainable economic growth is not possible unless there is macroeconomic stability. In order for this to happen, inflation, unemployment, a declining exchange rate, and low capacity utilization should be avoided. This will lead to environmental stability, much needed for poverty alleviation.

6.1.2 Poverty alleviation is not possible unless the economy creates opportunities for investment, entrepreneurship, job creation and sustainable livelihoods. For this to work, poor people should have access to capital. In this way they will be able to save and invest.

6.1.3 The government of Malawi needs to be committed to the implementation of economic reforms that promote economic growth, while at the same time assisting in diversifying the economy. By so doing, less reliance would be placed on subsistence agriculture, and more focus would be on commercial agriculture and manufacturing in Malawi. Debt should be managed properly so that resources can be used in other places, like the social sector.

6.1.4 Rapid agricultural growth will contribute to industrial growth in many ways: by generating demand for industrial goods, and by making available wage goods and thus keeping the low price of wage goods (Mehrotra and Delamonica, 2007:66). Agriculture contributes to almost 40 percent of Malawi's GDP. Expanding agricultural production through technological change and trade creates important demand for the outputs of other sectors. Economic growth in the Third World can lead to industrialization. People are drawn into industry from agriculture without reducing the output of food (Marris, 1999: 49). Increasing productivity in agriculture also enables income to rise and therefore achieves growth in incomes, especially for rural people.

Expenditure on education

Expenditure in education was found to be a consistently significant factor in reducing poverty, in both Malawi and Botswana.

6.1.5 Accordingly, government should continue to devote increasing resources to education. Primary school education should be made compulsory so that Malawi can achieve the second MDG.

6.1.6 Government should build more schools in rural areas. As a result there will be an increase in job opportunities, earning power and improvements in health and this will, therefore, improve living standards.

6.1.7 The quality of education should be improved, as this can enhance the employability of citizens. This could be done by providing the relevant infrastructure, equipment, teaching and learning materials and qualified teachers.

6.1.8 Government could consider introducing school feeding programmes. This will encourage more children to attend school and to be able to concentrate on their studies and enhance their capabilities.

Other Recommendations

These recommendations are not directly drawn from the regression findings. They are put forward because poverty has a multidimensional nature.

6.1.9 Women should be empowered with education, skills, capabilities and opportunities to enable them to participate in the labour market and strategic decision making.

6.1.10 It is important for the civil society and the general public to play a role in ensuring that poverty reduction programmes are on track, especially when foreign aid flows into Malawi.

6.1.11 Local producers and entrepreneurs should be promoted and empowered so that there is a higher rate of output expansion (GDP) and employment creation in the country.

6.1.12 Government should provide better support to local communities, community-based organisations, informal sector firms and social organisations in building political and social empowerment so that people are able to express their views and participate in the development processes that have an impact on poverty reduction and quality of life.

6.1.13 Local as well as central authorities should be accountable to the general public. Authorities must consult with the general public about their needs, requirements, preferences, and satisfaction with services. This can help governments prioritize public expenditures that have a bearing on living conditions and poverty (World Bank, 1995).

6.1.14 Government should continue making MDGs a priority in its budget allocation to MDG related expenditures in the national budget and ensuring that such increased allocations are in line with international commitments and recommendations (Kaluzi, 2007).

6.2 Conclusion

The objectives of this research were to provide an overview of the problem of poverty in Malawi and to examine

- the relationship between poverty reduction and fiscal redistribution in Malawi;
- the relationship between GDP growth and poverty reduction in Malawi;
- the relationship between foreign aid and poverty reduction in Malawi;
- the constraints to the attainment of the Millennium Development Goals.

Poverty is a complex phenomenon which may prevent an individual from enjoying a good life. Results of this study show that there is a significant relationship between fiscal redistribution through government spending on education, growth in real GDP and poverty reduction.

Malawi is among the poorest countries in the world. The level of poverty showed a slight decrease between 1997 and 2005: 65.3 percent in 1997 and 52.4 percent in 2005. Malawi's economy is heavily dependent on the agricultural sector, which accounts for about a third of the country's GDP and is the main source of livelihood mostly for poor people. Poverty is more severe in the rural areas. Malawi's income inequality is shown by the Gini coefficient of 0.38. In 2005, the HDI for Malawi was 0.437, therefore ranking the country at 165 out of 177 countries

by the UN, showing very low achievement in human development. Accordingly, greater focus should be placed on human capacity empowerment.

Malawi has made efforts to try to achieve all the Millennium Development Goals by 2015. However, due to certain limitations, the first, second and fifth MDGs are unlikely to be met. In addition to this little progress has been made in obtaining the seventh goal. Malawi on the other hand is likely to attain the third, fourth and sixth MDGs.

This study has shown that for levels of poverty to decrease, GDP growth and expenditure on education has to grow. Positive economic growth results in more output being produced and generates more income for households, ceteris paribus, and in turn increases the level of living standards. Education empowers people, increases the quality of life and is one of the key routes through which poor families can break out of poverty. According to the World Bank (2008), education improves health and nutrition, increases productivity and earnings and reduces income inequality. For every year of schooling children have, their salary as an adult will increase by an average of 10 percent whether they are a girl or a boy. Education enhances an individual's eligibility for paid employment in the formal sector as well as progression once they are employed. Further, an increase in access to education will aid Malawi in achieving goal 2 of the MDGs which is to achieve universal primary education. Accordingly, for Malawi to reduce its level of poverty and meet some of its MGDs, it has, inter alia, to inject considerable public expenditure resources into education and pursue a GDP strategy with a human development face.

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APENDIX A1

INITIAL REGRESSION RESULTS for MALAWI

Descriptive Statistics

	Mean	Std. Deviation	N
POV	60.609	5.0475	11
GDP_G	4.118	4.8031	11
F_AID	448.09	62.837	11
EDU	3607.2855	3512.13831	11
HTH	2786.5600	3264.77888	11
SOC_S	1296.8327	1443.36420	11
HOUS	603.2782	580.29945	11

Correlations

		POV	GDP_G	F_AID	EDU	HTH	SOC_S	HOUS
Pearson Correlation	POV	1.000	.216	-.566	-.978	-.881	-.662	-.037
	GDP_G	.216	1.000	.074	-.369	-.356	-.642	-.209
	F_AID	-.566	.074	1.000	.497	.633	.179	.343
	EDU	-.978	-.369	.497	1.000	.913	.729	.032
	HTH	-.881	-.356	.633	.913	1.000	.615	.225
	SOC_S	-.662	-.642	.179	.729	.615	1.000	-.212
	HOUS	-.037	-.209	.343	.032	.225	-.212	1.000
Sig. (1-tailed)	POV	.	.262	.035	.000	.000	.013	.457
	GDP_G	.262	.	.414	.132	.141	.017	.269
	F_AID	.035	.414	.	.060	.018	.299	.151
	EDU	.000	.132	.060	.	.000	.005	.463
	HTH	.000	.141	.018	.000	.	.022	.253
	SOC_S	.013	.017	.299	.005	.022	.	.266
	HOUS	.457	.269	.151	.463	.253	.266	.
N	POV	11	11	11	11	11	11	11
	GDP_G	11	11	11	11	11	11	11
	F_AID	11	11	11	11	11	11	11
	EDU	11	11	11	11	11	11	11
	HTH	11	11	11	11	11	11	11
	SOC_S	11	11	11	11	11	11	11
	HOUS	11	11	11	11	11	11	11

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	HOUS, EDU, GDP_G, F_AID, SOC_S, HTH(a)	.	Enter

a All requested variables entered.
b Dependent Variable: POV

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.995(a)	.991	.977	.7713

Change Statistics					
R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
.991	70.701	6	4	.001	2.126

a Predictors: (Constant), HOUS, EDU, GDP_G, F_AID, SOC_S, HTH
b Dependent Variable: POV

ANOVA(b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	252.389	6	42.065	70.701	.001(a)
	Residual	2.380	4	.595		
	Total	254.769	10			

a Predictors: (Constant), HOUS, EDU, GDP_G, F_AID, SOC_S, HTH
b Dependent Variable: POV

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	69.840	2.325		30.040	.000
	GDP_G	-.222	.090	-.211	-2.474	.069
	F_AID	-.005	.006	-.067	-.888	.425
	EDU	-.002	.000	-1.117	-7.619	.002
	HTH	.000	.000	.192	1.288	.267
	SOC_S	.000	.000	-.108	-.984	.381
	HOUS	-.001	.001	-.088	-1.231	.286

95% Confidence Interval for B		Correlations			Collinearity Statistics	
Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
63.385	76.295					
-.471	.027	.216	-.778	-.120	.320	3.127
-.022	.011	-.566	-.406	-.043	.415	2.409
-.002	-.001	-.978	-.967	-.368	.109	9.205
.000	.001	-.881	.541	.062	.105	9.494
-.001	.001	-.662	-.441	-.048	.194	5.158
-.003	.001	-.037	-.524	-.059	.452	2.213

a Dependent Variable: POV

Coefficient Correlations(a)

Model			HOUS	EDU	GDP_G	F_AID	SOC_S	HTH
1	Correlations	HOUS	1.000	.088	.590	-.341	.570	-.217
		EDU	.088	1.000	-.190	.142	-.396	-.813
		GDP_G	.590	-.190	1.000	-.443	.713	.130
		F_AID	-.341	.142	-.443	1.000	-.180	-.418
		SOC_S	.570	-.396	.713	-.180	1.000	.044
		HTH	-.217	-.813	.130	-.418	.044	1.000
	Covariances	HOUS	3.91E-007	1.16E-008	3.31E-005	-1.28E-006	1.37E-007	-3.12E-008
		EDU	1.16E-008	4.44E-008	-3.60E-006	1.80E-007	-3.20E-008	-3.94E-008
		GDP_G	3.31E-005	-3.60E-006	.008	.000	2.46E-005	2.68E-006
		F_AID	-1.28E-006	1.80E-007	.000	3.63E-005	-4.16E-007	-5.80E-007
		SOC_S	1.37E-007	-3.20E-008	2.46E-005	-4.16E-007	1.47E-007	3.85E-009
		HTH	-3.12E-008	-3.94E-008	2.68E-006	-5.80E-007	3.85E-009	5.30E-008

a Dependent Variable: POV

Collinearity Diagnostics(a)

Model	Dimension	Eigenvalue	Condition Index
1	1	4.918	1.000
	2	1.194	2.029
	3	.524	3.063
	4	.283	4.169
	5	.044	10.532
	6	.032	12.389
	7	.004	33.930

Variance Proportions						
(Constant)	GDP_G	F_AID	EDU	HTH	SOC_S	HOUS
.00	.00	.00	.00	.00	.00	.00
.00	.07	.00	.00	.01	.02	.01
.00	.06	.00	.00	.00	.01	.28
.01	.06	.00	.02	.07	.09	.00
.05	.67	.02	.00	.05	.77	.62
.00	.01	.00	.93	.64	.10	.04
.95	.11	.97	.04	.24	.01	.05

a Dependent Variable: POV

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	52.421	65.840	60.609	5.0238	11
Residual	-.8400	1.0037	.0000	.4878	11
Std. Predicted Value	-1.630	1.041	.000	1.000	11
Std. Residual	-1.089	1.301	.000	.632	11

a Dependent Variable: POV

APPENDIX A2

SECOND REGRESSION RESULTS FOR MALAWI

Descriptive Statistics

	Mean	Std. Deviation	N
Poverty	60.609	5.0475	11
GDP_G	4.118	4.8031	11
F_AID	448.09	62.837	11
EDU	3607.2855	3512.13831	11
SOC_S	1296.8327	1443.36420	11
HOUS	603.2782	580.29945	11

Correlations

		Poverty	GDP_G	F_AID	EDU	SOC_S	HOUS
Pearson Correlation	Poverty	1.000	.216	-.566	-.978	-.662	-.037
	GDP_G	.216	1.000	.074	-.369	-.642	-.209
	F_AID	-.566	.074	1.000	.497	.179	.343
	EDU	-.978	-.369	.497	1.000	.729	.032
	SOC_S	-.662	-.642	.179	.729	1.000	-.212
	HOUS	-.037	-.209	.343	.032	-.212	1.000
Sig. (1-tailed)	Poverty	.	.262	.035	.000	.013	.457
	GDP_G	.262	.	.414	.132	.017	.269
	F_AID	.035	.414	.	.060	.299	.151
	EDU	.000	.132	.060	.	.005	.463
	SOC_S	.013	.017	.299	.005	.	.266
	HOUS	.457	.269	.151	.463	.266	.
N	Poverty	11	11	11	11	11	11
	GDP_G	11	11	11	11	11	11
	F_AID	11	11	11	11	11	11
	EDU	11	11	11	11	11	11
	SOC_S	11	11	11	11	11	11
	HOUS	11	11	11	11	11	11

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	HOUS, EDU, GDP_G, F_AID, SOC_S(a)	.	Enter

a All requested variables entered.
b Dependent Variable: Poverty

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.993(a)	.987	.974	.8206

Change Statistics					
R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
.987	74.667	5	5	.000	1.969

a Predictors: (Constant), HOUS, EDU, GDP_G, F_AID, SOC_S
b Dependent Variable: Poverty

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	251.402	5	50.280	74.667	.000(a)
	Residual	3.367	5	.673		
	Total	254.769	10			

a Predictors: (Constant), HOUS, EDU, GDP_G, F_AID, SOC_S
b Dependent Variable: Poverty

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	68.399	2.169		31.541	.000
	GDP_G	-.237	.095	-.226	-2.503	.054
	F_AID	-.002	.006	-.026	-.361	.733
	EDU	-.001	.000	-.963	-10.614	.000
	SOC_S	.000	.000	-.114	-.979	.373
	HOUS	-.001	.001	-.068	-.917	.401

95% Confidence Interval for B		Correlations			Collinearity Statistics	
Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
62.825	73.974					
-.481	.006	.216	-.746	-.129	.325	3.074
-.017	.013	-.566	-.159	-.019	.503	1.988
-.002	-.001	-.978	-.979	-.546	.321	3.117
-.001	.001	-.662	-.401	-.050	.194	5.148
-.002	.001	-.037	-.379	-.047	.474	2.109

a Dependent Variable: Poverty

Coefficient Correlations(a)

Model			HOUS	EDU	GDP_G	F_AID	SOC_S
1	Correlations	HOUS	1.000	-.155	.638	-.487	.594
		EDU	-.155	1.000	-.147	-.375	-.619
		GDP_G	.638	-.147	1.000	-.432	.714
		F_AID	-.487	-.375	-.432	1.000	-.178
		SOC_S	.594	-.619	.714	-.178	1.000
	Covariances	HOUS	4.22E-007	-1.32E-008	3.93E-005	-1.84E-006	1.57E-007
		EDU	-1.32E-008	1.70E-008	-1.82E-006	-2.85E-007	-3.30E-008
		GDP_G	3.93E-005	-1.82E-006	.009	.000	2.76E-005
		F_AID	-1.84E-006	-2.85E-007	.000	3.39E-005	-4.24E-007
		SOC_S	1.57E-007	-3.30E-008	2.76E-005	-4.24E-007	1.66E-007

a Dependent Variable: Poverty

Collinearity Diagnostics(a)

Model	Dimension	Eigenvalue	Condition Index
1	1	4.207	1.000
	2	1.054	1.998
	3	.524	2.834
	4	.166	5.030
	5	.043	9.873
	6	.005	27.850

Variance Proportions					
(Constant)	GDP_G	F_AID	EDU	SOC_S	HOUS
.00	.00	.00	.01	.00	.01
.00	.08	.00	.02	.03	.00
.00	.07	.00	.01	.01	.29
.01	.07	.00	.50	.06	.03
.05	.68	.02	.29	.89	.52
.93	.10	.98	.17	.00	.15

a Dependent Variable: Poverty

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	51.814	65.493	60.609	5.0140	11
Residual	-.9450	.9644	.0000	.5803	11
Std. Predicted Value	-1.754	.974	.000	1.000	11
Std. Residual	-1.152	1.175	.000	.707	11

a Dependent Variable: Poverty

INITIAL REGRSSION RESULTS for BOTSWANA

APPENDIX A3

Descriptive Statistics

	Mean	Std. Deviation	N
POV	36.864	6.6158	11
GDP_G	5.555	1.0894	11
F_AID	90.55	89.565	11
HTH	953.00	748.646	11
EDU	3042.64	1338.156	11
SOC_S	241.27	202.008	11
HOUS	904.00	386.642	11

Correlations

		POV	GDP_G	F_AID	HTH	EDU	SOC_S	HOUS
Pearson Correlation	POV	1.000	.186	-.147	-.881	-.984	-.465	-.945
	GDP_G	.186	1.000	.222	-.331	-.224	.116	-.185
	F_AID	-.147	.222	1.000	.347	.203	-.443	.327
	HTH	-.881	-.331	.347	1.000	.941	.037	.909
	EDU	-.984	-.224	.203	.941	1.000	.355	.954
	SOC_S	-.465	.116	-.443	.037	.355	1.000	.271
	HOUS	-.945	-.185	.327	.909	.954	.271	1.000
Sig. (1-tailed)	POV	.	.292	.333	.000	.000	.075	.000
	GDP_G	.292	.	.255	.160	.254	.367	.294
	F_AID	.333	.255	.	.148	.275	.086	.163
	HTH	.000	.160	.148	.	.000	.457	.000
	EDU	.000	.254	.275	.000	.	.142	.000
	SOC_S	.075	.367	.086	.457	.142	.	.210
	HOUS	.000	.294	.163	.000	.000	.210	.
N	POV	11	11	11	11	11	11	11
	GDP_G	11	11	11	11	11	11	11
	F_AID	11	11	11	11	11	11	11
	HTH	11	11	11	11	11	11	11
	EDU	11	11	11	11	11	11	11
	SOC_S	11	11	11	11	11	11	11
	HOUS	11	11	11	11	11	11	11

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	HOUS, GDP_G, SOC_S, F_AID, HTH, EDU(a)	.	Enter

a All requested variables entered.
b Dependent Variable: POV

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.993(a)	.987	.968	1.1916

Change Statistics					
R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
.987	50.710	6	4	.001	2.541

a Predictors: (Constant), HOUS, GDP_G, SOC_S, F_AID, HTH, EDU
b Dependent Variable: POV

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	432.006	6	72.001	50.710	.001(a)
	Residual	5.679	4	1.420		
	Total	437.685	10			

a Predictors: (Constant), HOUS, GDP_G, SOC_S, F_AID, HTH, EDU
b Dependent Variable: POV

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	53.070	2.906		18.263	.000
	GDP_G	.110	.474	.018	.231	.829
	F_AID	.000	.007	-.005	-.060	.955
	HTH	.003	.005	.311	.543	.616
	EDU	-.006	.003	-1.118	-1.611	.182
	SOC_S	-.001	.007	-.046	-.228	.831
	HOUS	-.002	.004	-.143	-.635	.560

95% Confidence Interval for B		Correlations			Collinearity Statistics	
Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
45.002	61.137					
-1.208	1.427	.186	.115	.013	.532	1.881
-.019	.018	-.147	-.030	-.003	.413	2.420
-.011	.017	-.881	.262	.031	.010	100.668
-.015	.004	-.984	-.627	-.092	.007	148.449
-.020	.017	-.465	-.113	-.013	.081	12.391
-.013	.008	-.945	-.303	-.036	.064	15.611

a Dependent Variable: POV

Coefficient Correlations(a)

Model			HOUS	GDP_G	SOC_S	F_AID	HTH	EDU
1	Correlations	HOUS	1.000	.193	.284	-.401	.330	-.579
		GDP_G	.193	1.000	.253	-.499	.468	-.410
		SOC_S	.284	.253	1.000	.099	.909	-.891
		F_AID	-.401	-.499	.099	1.000	-.176	.211
		HTH	.330	.468	.909	-.176	1.000	-.954
		EDU	-.579	-.410	-.891	.211	-.954	1.000
	Covariances	HOUS	1.48E-005	.000	7.19E-006	-1.01E-005	6.42E-006	-7.65E-006
		GDP_G	.000	.225	.001	-.002	.001	-.001
		SOC_S	7.19E-006	.001	4.31E-005	4.26E-006	3.01E-005	-2.01E-005
		F_AID	-1.01E-005	-.002	4.26E-006	4.28E-005	-5.81E-006	4.75E-006
		HTH	6.42E-006	.001	3.01E-005	-5.81E-006	2.55E-005	-1.65E-005
		EDU	-7.65E-006	-.001	-2.01E-005	4.75E-006	-1.65E-005	1.18E-005

a Dependent Variable: POV

Collinearity Diagnostics(a)

Model	Dimension	Eigenvalue	Condition Index
1	1	5.875	1.000
	2	.639	3.032
	3	.340	4.156
	4	.125	6.868
	5	.012	22.549
	6	.010	24.677
	7	.001	88.638

Variance Proportions						
(Constant)	GDP_G	F_AID	HTH	EDU	SOC_S	HOUS
.00	.00	.00	.00	.00	.00	.00
.00	.00	.15	.00	.00	.02	.00
.01	.01	.05	.00	.00	.00	.00
.03	.01	.48	.00	.00	.10	.00
.38	.66	.05	.03	.00	.00	.14
.33	.14	.23	.04	.00	.08	.55
.26	.18	.05	.93	1.00	.80	.31

a Dependent Variable: POV

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	28.555	46.776	36.864	6.5727	11
Residual	-1.1739	1.5951	.0000	.7536	11
Std. Predicted Value	-1.264	1.508	.000	1.000	11
Std. Residual	-.985	1.339	.000	.632	11

a Dependent Variable: POV

SECOND REGRESSION RESULTS for BOTSWANA

APPENDIX A4

Descriptive Statistics

	Mean	Std. Deviation	N
POV	36.864	6.6158	11
GDP_G	5.555	1.0894	11
F_AID	90.55	89.565	11
EDU	3042.64	1338.156	11
SOC_S	241.27	202.008	11
HOUS	904.00	386.642	11

Correlations

		POV	GDP_G	F_AID	EDU	SOC_S	HOUS
Pearson Correlation	POV	1.000	.186	-.147	-.984	-.465	-.945
	GDP_G	.186	1.000	.222	-.224	.116	-.185
	F_AID	-.147	.222	1.000	.203	-.443	.327
	EDU	-.984	-.224	.203	1.000	.355	.954
	SOC_S	-.465	.116	-.443	.355	1.000	.271
	HOUS	-.945	-.185	.327	.954	.271	1.000
Sig. (1-tailed)	POV	.	.292	.333	.000	.075	.000
	GDP_G	.292	.	.255	.254	.367	.294
	F_AID	.333	.255	.	.275	.086	.163
	EDU	.000	.254	.275	.	.142	.000
	SOC_S	.075	.367	.086	.142	.	.210
	HOUS	.000	.294	.163	.000	.210	.
N	POV	11	11	11	11	11	11
	GDP_G	11	11	11	11	11	11
	F_AID	11	11	11	11	11	11
	EDU	11	11	11	11	11	11
	SOC_S	11	11	11	11	11	11
	HOUS	11	11	11	11	11	11

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	HOUS, GDP_G, SOC_S, F_AID, EDU(a)	.	Enter

a All requested variables entered.
B Dependent Variable: POV

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.993(a)	.986	.972	1.1044

Change Statistics					
R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
.986	70.767	5	5	.000	2.432

a Predictors: (Constant), HOUS, GDP_G, SOC_S, F_AID, EDU
b Dependent Variable: POV

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	431.587	5	86.317	70.767	.000(a)
	Residual	6.099	5	1.220		
	Total	437.685	10			

a Predictors: (Constant), HOUS, GDP_G, SOC_S, F_AID, EDU
b Dependent Variable: POV

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	52.296	2.348		22.273	.000
	GDP_G	-.011	.389	-.002	-.029	.978
	F_AID	.000	.006	.003	.039	.971
	EDU	-.004	.001	-.759	-3.918	.011
	SOC_S	-.005	.003	-.145	-1.871	.120
	HOUS	-.003	.003	-.183	-.931	.394

95% Confidence Interval for B		Correlations			Collinearity Statistics	
Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
46.260	58.332					
-1.010	.988	.186	-.013	-.002	.681	1.469
-.015	.016	-.147	.017	.002	.426	2.345
-.006	-.001	-.984	-.869	-.207	.074	13.452
-.011	.002	-.465	-.642	-.099	.466	2.148
-.012	.006	-.945	-.384	-.049	.072	13.909

a Dependent Variable: POV

Coefficient Correlations(a)

Model			HOUS	GDP_G	SOC_S	F_AID	EDU
1	Correlations	HOUS	1.000	.047	-.040	-.369	-.929
		GDP_G	.047	1.000	-.470	-.479	.136
		SOC_S	-.040	-.470	1.000	.631	-.191
		F_AID	-.369	-.479	.631	1.000	.148
		EDU	-.929	.136	-.191	.148	1.000
	Covariances	HOUS	1.13E-005	6.09E-005	-3.44E-007	-7.43E-006	-3.00E-006
		GDP_G	6.09E-005	.151	.000	-.001	5.07E-005
		SOC_S	-3.44E-007	.000	6.42E-006	9.55E-006	-4.63E-007
		F_AID	-7.43E-006	-.001	9.55E-006	3.57E-005	8.48E-007
		EDU	-3.00E-006	5.07E-005	-4.63E-007	8.48E-007	9.16E-007

a Dependent Variable: POV

Collinearity Diagnostics(a)

Model	Dimension	Eigenvalue	Condition Index
1	1	5.071	1.000
	2	.624	2.851
	3	.174	5.397
	4	.114	6.663
	5	.011	21.771
	6	.006	30.334

Variance Proportions					
(Constant)	GDP_G	F_AID	EDU	SOC_S	HOUS
.00	.00	.00	.00	.00	.00
.00	.00	.18	.00	.12	.00
.02	.05	.01	.01	.01	.01
.02	.00	.51	.01	.66	.01
.96	.94	.23	.01	.20	.02
.00	.00	.07	.97	.01	.96

a Dependent Variable: POV

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	28.372	46.617	36.864	6.5695	11
Residual	-1.2846	1.5831	.0000	.7809	11
Std. Predicted Value	-1.293	1.485	.000	1.000	11
Std. Residual	-1.163	1.433	.000	.707	11

a Dependent Variable: POV

THIRD REGRESSION RESULTS for BOTSWANA

APPENDIX A5

Descriptive Statistics

	Mean	Std. Deviation	N
POV	36.864	6.6158	11
GDP_G	5.5545	1.08937	11
F_AID	90.55	89.565	11
EDU	3042.64	1338.156	11
SOC_S	241.27	202.008	11

Correlations

		POV	GDP_G	F_AID	EDU	SOC_S
Pearson Correlation	POV	1.000	.186	-.147	-.984	-.465
	GDP_G	.186	1.000	.222	-.224	.116
	F_AID	-.147	.222	1.000	.203	-.443
	EDU	-.984	-.224	.203	1.000	.355
	SOC_S	-.465	.116	-.443	.355	1.000
Sig. (1-tailed)	POV	.	.292	.333	.000	.075
	GDP_G	.292	.	.255	.254	.367
	F_AID	.333	.255	.	.275	.086
	EDU	.000	.254	.275	.	.142
	SOC_S	.075	.367	.086	.142	.
N	POV	11	11	11	11	11
	GDP_G	11	11	11	11	11
	F_AID	11	11	11	11	11
	EDU	11	11	11	11	11
	SOC_S	11	11	11	11	11

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	SOC_S, GDP_G, EDU, F_AID(a)	.	Enter

a All requested variables entered.
b Dependent Variable: POV

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.992(a)	.984	.973	1.0921

Change Statistics					
R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
.984	90.240	4	6	.000	2.007

a Predictors: (Constant), SOC_S, GDP_G, EDU, F_AID
b Dependent Variable: POV

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	430.529	4	107.632	90.240	.000(a)
	Residual	7.156	6	1.193		
	Total	437.685	10			

a Predictors: (Constant), SOC_S, GDP_G, EDU, F_AID
b Dependent Variable: POV

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	52.096	2.312		22.532	.000
	GDP_G	-.006	.384	-.001	-.015	.989
	F_AID	-.002	.005	-.025	-.332	.751
	EDU	-.005	.000	-.926	-13.091	.000
	SOC_S	-.005	.003	-.148	-1.931	.102

95% Confidence Interval for B		Correlations			Collinearity Statistics	
Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
46.438	57.753					
-.933	.945	.186	.006	.001	.682	1.466
-.015	.012	-.147	-.134	-.017	.494	2.025
-.005	-.004	-.984	-.983	-.683	.544	1.837
-.011	.001	-.465	-.619	-.101	.466	2.145

a Dependent Variable: POV

Coefficient Correlations(a)

Model			SOC_S	GDP_G	EDU	F_AID
1	Correlations	SOC_S	1.000	-.469	-.619	.664
		GDP_G	-.469	1.000	.486	-.497
		EDU	-.619	.486	1.000	-.567
		F_AID	.664	-.497	-.567	1.000
	Covariances	SOC_S	6.27E-006	.000	-5.42E-007	9.12E-006
		GDP_G	.000	.147	6.53E-005	-.001
		EDU	-5.42E-007	6.53E-005	1.22E-007	-1.09E-006
		F_AID	9.12E-006	-.001	-1.09E-006	3.01E-005

a Dependent Variable: POV

Collinearity Diagnostics(a)

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
		(Constant)	GDP_G	F_AID	EDU	SOC_S	(Constant)	GDP_G
1	1	4.129	1.000	.00	.00	.01	.00	.01
	2	.624	2.572	.00	.00	.21	.00	.12
	3	.144	5.350	.03	.05	.22	.09	.20
	4	.093	6.671	.01	.01	.33	.49	.46
	5	.011	19.828	.96	.94	.22	.41	.21

a Dependent Variable: POV

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	28.134	46.613	36.864	6.5615	11
Residual	-1.8886	1.3246	.0000	.8460	11
Std. Predicted Value	-1.330	1.486	.000	1.000	11
Std. Residual	-1.729	1.213	.000	.775	11

a Dependent Variable: POV