UNIVERSITY OF NAIROBI

SCHOOL OF ECONOMICS

STRATEGIES TO POVERTY REDUCTION IN MWEA DIVISION

By

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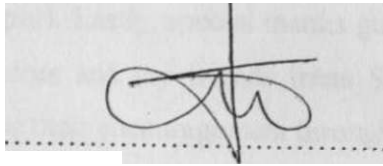

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DECLARATION

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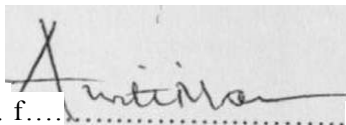
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DEDICATION

This research paper is dedicated to my lovely daughter Claris Karimi and my loving parents, Mr. David Muguchu and Mrs. Eleminia Njoki Muguchu for their undying love, care and sacrifice all through.

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LIST OF ABBREVIATIONS

UNECA	United Nations Economic Commission for Africa
MDGs	Millennium Development Goals
GDP	Gross Domestic Product
UNDP	United Nation Development Programme
CBS	Central Bureau of Statistics
KNBS	Kenya National Bureau of Statistics
FGT	Foster, Greer and Thorbecke
FHHs	Female-Headed Households
ERSWEC	Economic Recovery Strategy for Wealth and Employment Creation
ERS	Economic Recovery Strategy
MTP	Medium Term Plan
NES	National Exports Strategy
SRA	Strategy for the Revitalization of Agriculture
DGSP	Democratic Governance Survey Programme
LATF	Local Authority Transfer Fund
RMLF	Road Maintenance Levy Fund
FPE	Free Primary Education
REPLF	Rural Electrification Programme Levy Fund (REPLF
CDF	Constituency Development Fund
PSDS	Private Sector Development Strategy
MAPSKID	Master Plan for Kenya's industrial development

MSEs	Medium and Small Enterprises
FDSE	Free Day Secondary Education
ASAL	Arid and Semi Arid Lands'
YEDF	Youth Enterprise Development Fund
MFIs	Micro Finance Institutions
CDTF	Community Development Trust Fund
EU	European Union
CDP	Community Development Programme
CEF	Community Environment Facility
MRGM	Mwea Rice Growers Millers
NCPB	National Cereals and Produce Board

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ABSTRACT

Poverty reduction has been a major concern of development policy in Kenya and in the view of the social costs associated with poverty; its reduction is an important goal for development policy. Since independence the government identified poverty as a major problem and many policies, programmes and projects have been designed and implemented with the aim of poverty alleviation. In furthering this goal, the study investigates the poverty determinant factors in Mwea with the objective of coming up with strategies that can reduce poverty in Mwea. Strategies aimed at poverty reduction need to identify factors that arc strongly associated with poverty and that are amenable to modification by policy.

This research paper used primary data collected in 2009 in Mwea to examine probable determinants of poverty status by employing probit model. The study shows that poverty status is strongly associated with the level of education, household size, gender, marital status, engagement in agricultural activity and ownership of land. Poverty level was low for those with higher levels of education, those with a small household size, among the married, the male headed households and for those with diversified sources of income.

The study established that to reduce poverty levels in Mwea, the parents should encourage their children to pursue education as this will enable them to become self reliant in the long run and thus reduce the dependency levels. The study also established that majority of the residents depend on Agriculture for their living. To enhance and support this sector, it is important that the Government gives the residents subsidized farm inputs, affordable agricultural loans and sort out the problem of water shortage through employing qualified personnel in the scheme who can manage the infrastructure and build dams which can harvest water during the rainy seasons. It is also imperative that the residents diversify their sources of income to supplement their income from farming.

1.0 CHAPTER ONE: BACKGROUND OF THE STUDY

1.1 Introduction

Poverty remains a major concern of development polic\ in Africa and other developing regions. However, poverty in Africa is substantially higher, chronic and rising (UNECA. 2005). In view of the social costs associated with poverty, poverty reduction is an important goal for development policy. This is evidenced by the attention poverty is receiving in international development debate. For example, two World Development Reports (World Bank, 1990 and 2001), focused on poverty. Further, in the year 2000, leaders from 189 countries endorsed a set of Millennium Development Goals (MDGs) to be achieved by 2015, one of which was to 'halve' the number of people living in absolute income poverty relative to the 1990 levels. To achieve the goal, it is estimated that African countries must attain a GDP growth rate of at least 8 percent per annum.

1.2 Defining poverty.

Poverty is a multidimensional fact of life, and it manifests itself in various forms. Hence, no uniform standard is available for measuring it, even though it is widely viewed as the lack of sufficient income. Some groups in the population often face a combination of the predicaments associated with poverty—low income, illiteracy, premature death, early marriage, large families, malnutrition, illness and injury— which lock them into unacceptably low standards of living (World Bank 2000a).

Various reports (Republic of Kenya, 1997 and 2000a) define poverty in Kenya in the absolute sense—as a situation where individuals cannot raise the income required to meet a given level of basic needs, usually over a period of one month. This is the definition adopted in this paper. To determine absolute poverty, an absolute poverty line is needed, that is, an income level at which an individual just meets the cost of a specified bundle of basic needs. The critical role of a poverty line is to identify who the poor are in a society (Mwabu et al., 2000).

1.3 Poverty situation in Kenya

Efforts to address poverty can be traced back to the time of Kenya's independence in 1963. The government identified poverty as a major problem soon after independence (Republic of Kenya, 1965) and many policies, programmes and projects have been designed and implemented with the aim of poverty alleviation. The government committed itself to the alleviation of poverty among Kenyan's in general (Republic of Kenya, 1965). However, 44 years later, poverty is still rampant and afflicts a large proportion of the population especially those in rural areas.

Despite the rampant poverty, it was not until 1992 that government poverty monitoring activities and analysis were intensified in Kenya through the Welfare Monitoring Surveys. Three Welfare Monitoring Surveys (1992, 1994, and 1997) were carried out and analysis of poverty was undertaken using the three surveys (Republic of Kenya, 2000). Other initiatives at monitoring poverty were through getting the views of the poor on how poverty affects them and what can be done to alleviate it through the participatory approach to assessing poverty (AMREF, 1998a).

Studies based on the first and second welfare monitoring surveys revealed that 47 per cent of the rural population was food poor in 1994 compared to 72 per cent in 1992 (Republic of Kenya, 1998; Mwabu et a]., 2000). Absolute poverty was estimated at 47 per cent for 1999 and 1994. In urban areas, food poverty was estimated at 29 per cent. Absolute poverty rates were highest in North Eastern and Eastern Provinces at 56 and 58 per cent of the population respectively. Central Province had the lowest absolute poverty rates of around 32 per cent and food poverty rate of 28 percent, whereas Kisumu was the poorest of the urban areas with absolute and food poverty rates of 46 per cent and 44 per cent, respectively. Nairobi had the lowest rates of 27 per cent and 26 per cent for food and absolute poverty, respectively.

The districts with the highest levels of food poverty in 1994 were Marsabit (86 per cent), Turkana (81 per cent), Isiolo (81 per cent), Samburu (79 per cent) Tana River (71 per cent), Makueni (70 per cent), Machakos (66 per cent), Kilili (65 percent) and Kitui (64 percent). From the 1999 population and housing census and the 1997 welfare monitoring survey data, it was estimated that of the 56 per cent of the total population in Kenya that lived below the poverty line, about 52.9 per cent were in the rural areas and 49.2 per cent in the urban areas (Republic of Kenya, 2003). It was also estimated

that about 34.8 per ccnt of the rural population and 7.6 per cent of the urban lived in extreme poverty and therefore could not meet dietary needs even with their total spending devoted to food.

The Kenya integrated household budget survey conducted in 2005/06 indicates that absolute poverty declined to 45.9 per cent of the population in 2006. The survey further indicates that for rural areas, the Gini coefficient of expenditure per adult equivalent declined from 0.417 in 1997 to 0.380 in 2005/06, while the urban Gini coefficient rose from 0.426 in 1997 to 0.447 in 2005/06. The decline in the rural Gini coefficient indicates that income disparities in rural areas on average went down while the disparities in urban areas increased substantially (Republic of Kenya, 2007a).

Poverty estimates in Kenya have further been disaggregated by region. The geographical dimensions of poverty (Republic of Kenya 2003; 2005) show that the level of poverty differs across regions. Over time, Central Province has always registered lower levels of poverty whereas North Eastern. Nyanza and Coast Provinces have the highest levels of poverty.

Poverty estimates for the year 2000 indicate that Central Province had the lowest level of absolute poverty, estimated at 35.3 per cent, while North Eastern Province had the highest level of absolute poverty at 73.1 per cent as shown in Table 1.

Table 1.0: Changes in absolute poverty, 1997-2000

Province	Rural poverty line = Ksh 978.27, and for urban = Ksh. 1489.63			Rural poverty line = Ksh 1238.86. and for urban = Ksh 2648.04			Poverty estimates for 2000		
	1994*			1997			.		
	Pa = 0	Pa = 1	Pa = 2	Pu = 0	Pa = 1	Pa = 2	Pa = 0	Pa = 1	Pa = 2
Central (rural)	31.93	9.78	4.38	31.39	9.25	3.94	35.32	11.52	5.29
Coast (rural)	55.63	23.79	13.10	62.10	24.40	11.87	69.88	30.39	15.93
Eastern (rural)	57.75	24.29	13.49	58.56	22.37	10.71	65.90	27.86	14.37
North Eastern (rural)	58.00	23.77	13.10	65.48	28.83	15.85	73.06	34.77	19.67
Nyanza (rural)	42.21	14.39	7.06	63.05	23.43	11.43	70.95	29.19	15.34
Rift Valley (rural)	42.87	16.35	8.46	50.10	17.58	8.17	56.38	21.90	10.96
Western (rural)	53.83	22.05	12.11	58.75	22.81	11.16	66.11	28.41	14.97
Total (rural)	46.75	18.01	9.49	52.93	19.33	9.19	59.56	24.08	12.33
Nairobi	25.90	8.80	4.14	50.24	14.07	5.47	52.56	17.87	10.27
Urban poverty	28.95	9.69	4.63	49.20	15.67	6.86	51.48	19.90	12.88
National	43.84	14.93	7.69	52.32	18.74	8.81	56.78	23.23	13.39

Source: Values for 1994 and 1997 are from Republic of Kenya (1997, 2000a). except for the 1997 poverty estimates for North Eastern Province, which were predicted using 1994 as base year.

The latest household budget survey conducted in Kenya in 2005/06 indicate that absolute poverty in Kenya declined from 56.8 per cent in 2000 to 45.9 per cent in 2006 and that still absolute poverty is lowest in Central province, estimated at 30.4 per cent and highest in North Eastern, estimated at 73.9 per cent. Among the rural population, 49.1 per cent of the rural population was found to be absolutely poor, with the highest level of 73.9 per cent recorded for North Eastern province and the lowest level of absolute poverty of 30.4 per cent recorded for Central Province. The survey measured the incidence of poverty in urban areas to be lowest for Nairobi City at 21 per cent and the highest for Nakuru municipality at 50 percent (Republic of Kenya, 2007b).

Poverty has also a gender dimension as men and women are often poor for different reasons, experience poverty differently and have differing capacities to withstand and/or escape poverty. Gender inequalities and gender power relations interact with other inequalities and power relations to produce these differences. Studies have shown that female-headed households (FHHs) are poorer than male-headed ones.

The 2005/06 Kenya integrated household budget survey indicates that the incidence of poverty in rural areas for male-head households is estimated at 48.8 per cent and that of female-headed households of 50 per cent. In urban areas, the poverty incidence in Kenya for male headed households is estimated at 30 per cent and that of females at 46.2 per cent. Unlike the rural areas, the difference between the male headed and female headed household in urban areas is significant (Republic of Kenya, 2007b). The data on poverty measures by socio-economic group in Kenya is provided in Table 2.

Tabic 2.0. Poverty measures by socioeconomic group

Variable and social group	1997				2000			
	Rural $P_{\alpha}=0$	Urban $P_{\alpha}=0$	Rural $P_{\alpha}=1$	Urban $P_{\alpha}=1$	Rural $P_{\alpha}=0$	Urban $P_{\alpha}=0$	Rural $P_{\alpha}=1$	Urban $P_{\alpha}=1$
Overall rural	52.93	49.20	19.33	15.67	59.56	51.48	24.08	19.90
Gender of household head								
Male	52.50	45.90	19.00	15.20	59.08	48.02	23.67	19.30
Female	54.10	63.00	20.20	17.90	60.88	65.92	25.16	22.73
Marital status								
Male married	52.70	46.20	19.10	15.50	59.31	48.34	23.79	19.68
Male other	48.40	42.40	17.00	10.60	54.47	44.36	21.18	13.46
Female married	52.30	56.00	19.40	19.70	58.86	58.59	24.17	25.02
Female other	56.10	64.90	21.10	17.40	63.13	67.90	26.28	22.10
Education								
None	64.00	66.00	25.00	28.90	72.02	69.05	31.14	36.70
Primary	53.60	63.90	19.30	19.50	60.32	66.86	24.04	24.76
Secondary	33.40	38.80	10.20	11.70	37.59	40.60	12.71	14.86
Higher (form 5-university)	6.80	14.30	2.60	1.60	7.65	14.96	3.24	2.03
Higher (technical/informal)	38.90	42.40	14.90	14.00	43.78	44.36	18.56	17.78
Household size								
1-3 persons	35.50	37.80	12.60	11.00	39.95	39.55	15.69	13.97
4-6 persons	49.60	53.70	17.40	16.30	55.82	56.18	21.67	20.70
7+ persons	61.70	56.70	23.20	21.10	69.43	59.32	28.90	26.79
Age of head								
15-29	37.90	53.60	12.90	11.00	42.65	56.08	16.07	13.97
30-44	49.10	49.60	17.50	15.20	55.25	51.90	21.80	19.30
45-55	58.10	47.00	21.10	15.10	65.38	49.17	26.28	19.18
56+	57.70	37.80	22.10	17.00	64.93	39.55	27.53	21.59

Note: The measures for 1997 are from Republic of Kenya (2000)

The development strategies that the country pursued aimed at poverty reduction, placed emphasis on income growth, job creation and provision of basic social services. However, poverty continues to afflict a large segment of the Kenyan population. It is estimated from the latest Household Budget Survey that **45.9** per cent of the population lives below the poverty line (KNBS, 2007), such that they cannot meet their food needs even with their entire resources devoted to food and this percentage is likely to have increased due to post-election violence. Approximately 49.1 per cent of

the population in rural areas and 33.7 per cent in urban areas were poor in 2005 (KNBS, 2007). The high poverty incidence in Kenya poses a major development challenge.

1. 4 Pro-poor growth

Over the past few years, there has been intense debate among researchers and policy makers about the meaning of pro-poor growth and its elements (Lopez, 2004), which is an attempt to examine the extent of gains to the poor from economic growth. While it is widely agreed that economic growth is critical for poverty reduction, the response of poverty to economic growth differs across countries. Three reasons are advanced for the lack of response of poverty to economic growth in Africa (UNECA, 2005). First, the rates of growth so far achieved are inadequate to make a noticeable contribution to poverty reduction. Second, the growth sectors have low labour absorption capacity and; third there is inequality in the distribution of opportunities generated by economic growth.

Given the central position of growth in poverty reduction efforts, this section presents the trend of Kenya's economic growth since independence and the pro-poor growth initiatives undertaken by the government in an effort to reduce the levels of poverty in the country. Although growth is a major factor in poverty reduction, there is concern that growth may be inadequate to reduce poverty substantially, hence the need to accelerate growth.

The trend in growth rates achieved in Kenya shows that, growth has been declining over time until the year 2000, before picking up in the first half of 2000s. It is important to note that between 1966 and 2006, Kenya achieved an economic growth rate of about 6 per cent and above in only 6 years out of the 40 years - with all the six years falling within the period of 1960s and 1970s as shown in Table 3.

Table 3.0. Grow th rates achieved by Kenya since independence (%)

Period	Average growth rate	lowest growth rate for the period	highest growth rale for the period
1966-1970	7.2	3.12	12.84
1971-1980	4.9	2.90	8.13
1981- 1990	4.3	0.35	5.97
1991-2000	2.1	-0.33	4.82
2001-2006	4.2	0.60	6.10

Source: Economic Survey, various issues,

For the remaining years, economic growth rate was below 6 per cent. And for the first time since 1978. the economy registered a growth rate of 6.1 per cent in 2006 and 7.0 per cent in 2007 then declined to 1.7 percent in 2008 (Republic of Kenya, 2008). Table 3 highlights two points. First, it seems that it is not easy to attain and sustain a high economic growth rate. Whenever Kenya attains a relatively high economic growth rate, it is not sustained over time.

The growth rates recorded since 2000 are below the level of growth required to ensure substantial gains in poverty reduction. UNECA (1999) estimated that for African countries to reduce poverty by half by 2015, they need to attain and sustain a GDP growth rale of 8.0 per cent per annum starting from the year 2000. The average growth rate lor Kenya between 2001-2006 is 4.2 per cent. This has been increasing and if the same effort is maintained, the country could move towards 7 per cent. However, it is important to note that attaining growth rate of 8 per cent will require greater effort if the targeted reduction in poverty by 2015 is to be achieved. Kenya's Vision 2030 proposes to accelerate and sustain a 10 per cent growth rate for the next 22 years. Willi the data showing that Kenya attained a growth rate greater than 10 per cent in 1966, this means it can be done.

However, there arc indications that even the periods 1960s and 1970s when Kenya achieved relatively high levels of economic growth did not translate into substantial reduction in poverty. This suggests that growth is necessary but not by itself sufficient. Therefore, there is need to address other issues such as income inequality and economic structures for growth to effectively address the problem of poverty.

1.4.1   Pro-poor growth initiatives

1.4.1.1   Accelcrating and sustaining economic growth

Rapid economic growth is viewed as the key to alleviating poverty. All core public policy documents emphasize rapid economic growth as a way of alleviating poverty. These include; the 9th National Development Plan (2002-2008) and the National Poverty Eradication Plan (1999-2015) whose focus is poverty eradication mainly through high and sustained economic growth, the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC) 2002-2007 whose objective included the reduction of poverty levels by about 5 per cent; achieving high real GDP growth rate of 7 per cent by 2006, and creating 500,000 jobs annually. The ERSWEC was succeeded

by Vision 2030: First Medium Term Plan (MTP). 2008-2012. which aims at increasing real GDP growth from the estimated 7 per cent in 2007 to 10 per cent by 2012 (Republic of Kenya. 2008; Wambugu et al.,2009).

1.4.1.2 Devolved Funds

The decentralized funds include the Constituency Development Fund (CDF), Community Development Trust Fund, Poverty Reduction Fund, Youth Enterprise Development Fund, the Women's Enterprise Development Fund, Local Authority Transfer Fund (LATF), HIV/AIDS Fund, Rural Electrification Programme Levy Fund (REPLF), Secondary School Education Bursary Fund, Road Maintenance Levy Fund (RMLF), and the Free Primary Education (FPE). The funds are aimed at reducing regional disparities and taking care of emerging developmental challenges such as HIV/AIDS, youth unemployment and the negative impact of the failure of past government programmes (Republic of Kenya, 2008; Wambugu ct al,, 2009).

1.4.1.3 Sectoral Policies and Initiatives

The sectors targeted included; Agriculture, Manufacturing, Tourism, and Education. In the agricultural sector, the government rolled out the Strategy for the Revitalization of Agriculture (SRA) 2003-2007 which focused on liberalization and policy reform. The SRA recognized that expansion of agriculture is crucial for poverty reduction in Kenya. One element of the changes was the reinvigoration of government intervention in the agricultural sector, including the rehabilitation of several firms that had ceased operations (for example, the Kenya Meat Commission). Nevertheless, the agricultural sector is still constrained by a number of factors, including high cost of inputs, limited adoption of technology, weak farmer institutions, over dependence on rain-fed agriculture, and inadequate credit facilities (Republic of Kenya, 2008; Wambugu et al., 2009).

In the Manufacturing sector the Investment Promotion Act of 2004 was enacted which also established the Kenya Investment Authority as a one-stop-shop for the licensing and registration of businesses; and formulation of the National Exports Strategy (NES) for enhancing competitiveness. The manufacturing sector grew by an annual average of 5.5 per cent and employment in the formal manufacturing sector grew by an annual average of 2.6 per cent (Republic of Kenya. 2008; Wambugu et al., 2009).

The Tourism sector being the leading foreign exchange earner and accounting for about a tenth of Kenya's GDP. a recovery programme was initiated in 2003 to revitalize the sector. Between 2003 and 2007, the number of domestic and international tourists grew rapidly and employment generation within the sector grew by an average of over 3 per cent annually.

In the Education sector several policy initiatives were undertaken which include: the introduction of free primary education (FPE) in 2003; development of the Sessional Paper no. 1 of 2005 on Policy Framework for Education. Training and Research; the development of the Kenya Education Sector Support Programme (KESSP); and the Free Day Secondary Education (FDSE).Others arc the school feeding programme, development and implementation of education sector II1V/AIDS policy, special support in Arid and Semi Arid Lands (ASAL) primary and secondary education, and support to special needs education. The outcome was positive at least as far as access to education (at all levels) is concerned (Republic of Kenya, 2008; Wambugu et a)., 2009).

1.4.1.4 Land Settlement Programmes/Schemes and Land Reforms

The government has conducted programmes of land distribution mainly through settlement schemes in which thousands of landless people were provided with small scale landholdings mainly in the former White Highlands. This allowed households that were displaced by the colonialists to be resettled, but due to the relatively high population growth the initiative had a limited scope in alleviating poverty (Manda et al., 2001).

1.4.1.5 Specially Targeted Projects

The methods used to specially target the poor include sectoral and geographical targeting of the poor. A number of targeted projects initiated include: Urban Slum Development of Nairobi. Street Children's Fund, Constituency Education Bursary Programme, and the Micro and Small Enterprises (MSES) Programme, among others. The main issue with targeted social programmes is to ensure leakage to ineligible groups is minimized (Republic of Kenya, 2008; Wambugu et al., 2009).

1.4.1.6 Youth Enterprise Development Fund

Youth Enterprise Development Fund (YEDF) is a recent initiative by the Kenya government, whose purpose is to reduce youth unemployment. It focuses on enterprise development as a strategy to increase employment opportunities and participation by youth in productive activities. The objectives of the fund are to; provide loans to micro finance institutions (MF'Is) for on-lending to

youth enterprises, support medium and small enterprises of the youth to develop linkages with large firms, facilitate marketing of products and services of youth firms in Kenya and abroad, facilitate employment of youth in the international labour markets and provide business development services to young entrepreneurs (Republic of Kenya, 2008; Wambugu et al., 2009).

1.4.1.7 **Women's Enterprise Development Fund**
This was conceived in 2006 and launched in 2007 by the government as a strategic move towards poverty alleviation through socio-economic empowerment of women. The fund's core purpose is to improve women's access to finance, especially for the MSEs. The funds are mainly channeled through financial institutions. In the financial year 2007/2008, the government set aside Kshs 1 billion for the Women's Fund (Republic of Kenya, 2008; Wambugu et al., 2009).

The persistence of poverty throughout Kenya's history despite the government's efforts to combat il, suggests that the adopted policies have not been effective or adequate in addressing the problem. The programmes and projects undertaken have important poverty alleviation aims. However, most seem to have problems at the implementation stage, constantly leading to failure to alleviate poverty as envisaged. This implies that misconceptions remain about the poor, why they are poor and what is needed to help them come out of poverty.

Poverty reduction is now a big national challenge. Its persistence and spread is now recognized as a major threat to a very significant section of the Kenyan society with worrying consequences for security and economic wellbeing. This challenge demands a comprehensive review of the extent and causes of poverty, the characteristics of the people it afflicts, an evaluation of previous and current attempts aimed at alleviating poverty, and identification of areas that require further research. This research seeks to understand the causes of poverty in Mwea from the resident's perspective, and the initiatives that can be undertaken to reduce the levels of poverty.

1.5 Brief historical background of Mwca Settlement Scheme

Mwea Irrigation Schemc is situated in Kirinyaga district, in the Central province of Kenya. The Scheme is about 100 Km South East of Nairobi. Farming in the scheme started in 1956 and rice has been the predominant crop in the scheme. The schemc has a gazetted area of 30,350 acres. A total of 16,000 acres has been developed for paddy production. The rest of the scheme is used for settlement.

public utilities, subsistence and horticultural crops fanning. The scheme is served by two main rivers; Nyamindi and Thiba rivers. Irrigation water is abstracted from the rivers by gravity with the help of fixed intake weirs, conveyed and distributed in the scheme through unlined open channels.

Since inception till 1998 the scheme was being run by various government agencies. In 1998, the scheme management was taken over by a Mwea Rice Farmer's Cooperative Society. However, the farmers realized that they could not go it alone due to: unskilled personnel, lack of finances, and lack of machinery for scheme maintenance. During this brief period when the scheme was run by the Cooperative Society, the infrastructure deteriorated. In 2003, the farmers approached the government for assistance in the scheme management.

Marketing of rice is open for farmers to decide where to sell but the farmer's society and the National Cereals and Produce Board (NCPB) are presently the main players. At the moment farmers do not have a stable credit provider since the farmer's savings and credit society collapsed. Farmers in the meantime are making do with commercial banks and microfinance institutions.

The challenges faced by the residents of Mwea include; Water shortages - since 1998. about 4000 acres of land has been developed into paddy cultivation. This expansion was not planned in terms of water supply and control of the infrastructure in the scheme needs rehabilitation. In the expansion area, there is no infrastructure; especially the roads are poor condition. According to Kabuage et al., 2004, the highest ranked problems in the community include poor health (Malaria), poor nutrition, poverty and shortage of livestock food which is a major constraint to livestock production.

Within provinces, there are marked differences in well being among the people. Central Province has an average rural poverty rate of 31 per cent. Mwea constituency has the largest proportion of poor people at 44 per cent in the Central Province. Rural residents in Mwea are almost three times more likely to be poor, compared to those living in Kabelc. About 44 per cent of the people in Mwea need Kshs 173 each to climb above the rural poverty line of Kshsl, 239 per person each month. This amount is considered the minimum needed for basic needs. This study will cover Mwea constituency which has a population of 137,461 persons. In this region people live in villages since population density is high compared to the total size of the land (Muriithi, 2005).

1.6 Problem Statement

Inspite of the initiatives taken by the government since 1963 to alleviate poverty in the country, Mwea settlement scheme has continued to experience increased levels of poverty. This suggests that the adopted policies have not been effective or adequate in reducing poverty. In view of this it is important to establish the root causes of poverty in Mwea and strategies that can be used to reduce the levels of poverty according to the Mwea residents.

1.7 Objectives of the Study

The broad objective of the study is to carry out a comprehensive review of the causes of poverty in Mwea and identify strategies that can be used to reduce the poverty levels. The specific objectives are as follows.

i)   To identify the main causes of poverty in Mwea.

ii)   Identify the economic activities Mwea residents engage in for a living.

iii)   Identify the challenges Mwea residents encounter as they try to improve their standards of living.

iv)   Identify the strategies that can reduce the levels of poverty in Mwea.

v)   To make policy recommendations and suggest areas for further research.

1.8 Kescarch Questions

This research seeks to answer the following questions:

(i)   What are the causes of poverty in Mwea?

(ii) What economic activities do Mwea residents engage in?

(ii) What challenges do they encounter as they try to improve their standard of living?

(iii) What strategies can be used to overcome the challenges hence reduce the levels of poverty?

(v)   What are some of the policy recommendations from the research?

1.9 Significance of the Study

Previous research carried out in Mwea settlement schemc have concentrated on issues of poor health particularly malaria and nutrition which have been a major problem in the scheme but researchers have not looked into the root causes of poverty. This study is important as it seeks to understand the livelihoods of the people in Mwea, establish the challenges they face which may have aggregated the levels of poverty and identify the strategies that can be used to see the people walk out of poverty and have sustainable livelihoods. This study will be relevant to the body of knowledge as it will give a better understanding of why poverty levels are high in Mwea inspite of the many initiatives the government has used to eradicate poverty and give policy recommendations on the areas that need immediate attention if the standard of living of the people in Mwea is to improve.

2.0 CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section will discuss both the theoretical and empirical literature review on the causes of poverty and strategics that can be used to reduce levels of poverty in the country. The theoretical section will concentrate on the various theories on poverty. Hie empirical section will concentrate on various studies done on poverty in Kenya and the findings by various researchers.

2.2 Theoretical Literature review

2.2.1 Poverty Caused by Individual Deficiencies Theory.

This first theory of poverty is a large and multifaceted set of explanations that focus on the individual as responsible for their poverty situation. Typically, politically conservative theoreticians blame individuals in poverty for creating their own problems, and argue that with hard work and better choices the poor could have avoided (and now can remedy) their problems. Other variations of the individual theory of poverty ascribe poverty to lack of genetic qualities such as intelligence that are not so easily reversed.

The belief that poverty stems from individual deficiencies is old. The core premise of this dominant paradigm for the study of the conditions leading to poverty is that individuals seek to maximize their own well being by making choices and investments, and that (assuming that they have perfect information) they seek to maximize their well being. When some people choose short term and low-payoff returns, economic theory holds the individual largely responsible for their individual choices. For example, to forego college education or other training that will lead to belter paying jobs in the future (Bradshaw, 2006).

2.2.2 Poverty Caused by Cultural Belief Systems that Support Sub-Cultures of Poverty Theory.

The second theory of poverty roots its cause in the "Culture of Poverty". This theory is sometimes linked with the individual theory of poverty or other theories to be introduced below, but it recently has become so widely discussed that its special features should not be minimized. This theory suggests that poverty is created by the transmission over generations of a set of beliefs, values, and skills that are socially generated but individually held. Individuals are not necessarily to blame because they are victims of their dysfunctional subculture or culture. Once the culture of poverty has

come into existence it tends to perpetuate itself. By the time slum children are six or seven they have usually absorbed the basic attitudes and values of their subculture. Thereafter they are psychologically unready to take full advantage of changing conditions or improving opportunities that may develop in their lifetime (Bradshaw, 2006).

2.2.3 Poverty Caused by Economic, Political, and Social Distortions or Discrimination Theory

Theorists in this tradition look not to the individual as a source of poverty, but to the economic. political, and social system which causes people to have limited opportunities and resources with which to achieve income and well being. Much of the literature on poverty now suggests that the economic system is structured in such a way that poor people fall behind regardless of how competent they may be. A parallel barrier exists with the political system in which the interests and participation of the poor is either impossible or is deceptive. Poor people are less involved in political discussions, their interests are more vulnerable in the political process, and they are excluded at many levels. Coupled with racial discrimination, poor people lack influence in the political system that they might use to mobilize economic benefits and justice (Bradshaw, 2006).

2.2.4 Poverty Caused by Geographical Disparities Theory.

Rural poverty, ghetto poverty, urban disinvestment, southern poverty, third-world poverty, and other framings of the problem represent a spatial characterization of poverty that exists separate from other theories. While these geographically based theories of poverty build on the other theories, this theory calls attention to the fact that people, institutions, and cultures in certain areas lack the objective resources needed to generate well being and income, and that they lack the power to claim redistribution. Recent explanations include disinvestment, proximity to natural resources, density, diffusion of innovation, and other factors (Bradshaw, 2006).

2.2.5 Poverty Caused by Cumulative and Cyclical Intcrdependencies Theory.

This theory looks at the individuals and their community as caught in a spiral of opportunity and problems, and that once problems dominate they close other opportunities and create a cumulative set of problems that make any effective response nearly impossible (Bradshaw, 2000). The cyclical explanation explicitly looks at individual situations and community resources as mutually dependent, with a faltering economy, for example, creating individuals who lack resources to participate in the economy, which makes economic survival even harder for the community since people pay fewer taxes. This theory has its origins in economics in the work of Myrdal (1957:23) who developed a

theory of "interlocking, circular, interdependence within a process of cumulative causation" that helps explain economic underdevelopment and development. Myrdal notes that personal and community well being are closely linked in a cascade of negative consequences, and that closure of a factory or other crisis can lead to a cascade of personal and community problems including migration of people from a community. Thus the interdependecce of factors creating poverty actually accelerates once a cycle of decline is started.

This cycle also repeats itself at the individual level. The lack of employment leads to lack of consumption and spending due to inadequate incomes, and to inadequate savings, which means that individuals can not invest in training, and they also lack the ability to invest in businesses or to start their own businesses, which leads to lack of expansion, erosion of markets, and disinvestment, all of which contribute back to more inadequate community opportunities. Health problems and the inability to afford preventive medicine, a good diet, and a healthy living environment become reasons the poor fall further behind.

The theories above are a good foundation upon which poverty reduction strategies in Mwea can be based. This is because they depict the situation in Mwea where some people are poor due to making wrong choices like dropping out of school; the residents are less involved in political discussions hence lack influence in the political system that they may use to mobilize economic benefits and justice and personal and community well being are closely linked due to the cascading effect.

2.3 Empirical Literature Review

The increasing incidence of poverty and the drive to discover its causes and solutions has led many researchers to be involved in poverty analysis.

Previous studies in Kenya (Mwabu et al., 2000; Greer and Thorbecke, 1986a, 1986b; Republic of Kenya, 1998 and 1999) show that the poor are clustered into a number of social categories including the landless, the handicapped, households headed by females, households headed by people without formal education, subsistence farmers, pastoralists in drought prone districts, unskilled and semi-skilled casual labourers, AIDS orphans, street children and beggars.

Mwabu et al.. (2000) study identified the following as important determinants of poverty: mean age of household head, size of household, place of residence (rural versus urban), level of schooling, livestock holding and sanitary conditions.

(Manda, Kimenyi and Mwabu, 2001) study on poverty emphasize different poverty determinants including economic growth, income inequality, inequality in access to productive resources such as land, natural shocks (e.g. droughts. Hoods and fire), rural-urban migration, poor implementation of development programmes, lack of effective social security policies and safety nets, and heavy disease burden.

In addition to knowledge about the extent of poverty, formulation of effective poverty alleviation policies and programmes also require knowledge about the characteristics of the poor (Manda et al.. 2001). The poor are disproportionately found in: rural Kenya, households headed by less educated persons, large households, certain occupations such as small scale farming, unskilled public and private sector workers, unpaid family workers, households headed by widows and women in polygamous households. In addition, the poor in Kenya are less likely to report health problems or to seek treatment compared to the non-poor.

Rural poverty is marked by its common connection to agriculture and land, whereas urban poverty is more heterogeneous in how incomes are generated. The rural poor depend very much on agriculture than the non-poor (Quibria and Srinivasan, 1991; Reardon et al., 1992). Also, the few non-farm activities in the rural areas derive their prosperity on forward and backward production linkages with agriculture. Poverty in the rural areas tends to be explained more by low access to physical assets (particularly land), low agricultural productivity, inadequate non-farm employment opportunities, and low access to healthcare and schooling while labour market distortions tend to explain poverty in the urban areas.

Other causes of poverty identified in previous studies include lack of good governance and weak democratic institutions (Ikiara and Tostensen, 1995), who argue that the single-party political system that was in place until the early 1990s did not allow free discussion of issues or formulation of truly representative governance organs in the society. This made it difficult for the poor to effectively

raise issues of concern with relevant authorities. With the opening up of the political system and the increasing competition in the political arena, the trend seems to be changing, creating hope that the voices of the poor people will be louder, and their concerns will be taken seriously in the design and implementation of anti-poverty programmes in the country.

(Kabubo-Mariara and Kiriti. 2002) analysis of the impact of macroeconomic reform on poverty indicates that with remarkable improvements in macroeconomic policies poverty declines. However, when there is deterioration in macroeconomic policy poverty levels increases. Their results supported Demery and Squire (1996). whose findings indicated that an improvement in macro policy reduces poverty while deterioration in policy increases poverty. The latter is particularly important for Kenya, which is one of the countries that have not performed too well in terms of economic reforms.

The institutional bottlenecks that hinder economic reform are a major cause of poverty and should be addressed if Kenya is to alleviate poverty. These include, for example, the government needs to address corruption and other political malpractices, which frequently lead to suspension of donor aid. Second, there is a large non-market sector in Kenya, which is unlikely to benefit much from economic reform policies. In most cases, these are the groups that are affected adversely in terms of lack of access to services such as education and health. In this regard, they recommended that poverty alleviation policies be pursued hand in hand with reforms so as to ensure equitable distribution of the long-term benefits of growth that may spring from economic reform. Specifically, national social safety valves should be introduced to cushion the poor from the effects of structural adjustment, since available evidence indicates that structural adjustment programmes have shifted the burden of health care financing to the consumer. On the other hand, the study recommended targeting poor families (through bursary schemes, fee waivers, scholarships and grants) as children from well-off families take up opportunities in learning institutions while their poor counterparts drop out (Kabubo- Mariara and Kiriti, 2002).

(Manda et al.,2001) study states that much of empirical knowledge about the characteristics of the poor in Kenya is in the form of bivariate correlation e.g. rural-urban residence, male- female headed households, education of the household head, land holding size, access to health care, access to

water and sanitation, etc. The report makes a distinction between a poverty indicator and a poverty determinant. For example, when education attainment is the reason why people are poor or non-poor, education becomes a determinant rather than an indicator of poverty. The report cites some determinants of poverty to include lack of good governance and weak democratic institutions, corruption, structural adjustment measures may also hurt the poor through short-term reduction in their purchasing power (e.g. decontrol of prices and removal of government subsidies), while in the long-term the chronically poor are unlikely to enjoy the expected benefits from the liberalization process because they operate outside the formal, organized economic sectors

A recent important cause of poverty in Kenya is HIV/AIDS. The overriding poverty-related HIV/AIDS concerns arc the AIDS orphans, population size and growth factors, costs of health care, and child mortality. This is likely to create a huge strain on the coping ability of the social system of the poor, in addition to the burden at the extended-family level (Republic of Kenya. 1994). The extreme case would be the increase in the incidence of the phenomena of child-headed families and urban street families. With the spread of AIDS, the cost of hospital care for AIDS patients would increase dramatically, adding an extra burden on the already inadequate public health-care system in meeting the health requirements of the rest of the population (Okeyo et al., 1996).

Gender related poverty vary by marital status (Mwabu et al., 2000). Poverty rate is highest among households headed by widows and by women from polygamous households. National poverty rale for women heads from polygamous households is about 51 percent, which is higher than the rate for widows (45.3 percent). This profile persists in the urban and rural areas where women heads of polygamous families are poorer than widows. Widowhood is the primary reason for female headship of families. Polygamous households are most common in Nyanza, Western and the Rift Valley provinces.

Poverty rates among polygamous households headed by men are as high as in polygamous households headed by women (50 percent). Polygamous families are generally larger than other family structures. Poverty rises as the household size increase in both rural and urban areas (Del Ninno, 1994). Since poverty is much higher in large households, this explains why poverty is exceptionally high among polygamous households for they tend to be large. Most of the members in

such households are young and are faced with low consumption or income due to high dependence ratio and this explains why most of these households are poor (Mukui 1993; Mwabu et al., 2000; Oyugi, 2000).

People in certain occupations such as subsistence farmers, pastoralists. unskilled workers, unpaid family workers and among people without well defined occupations are faced with a high incidence of poverty (Republic of Kenya, 1998). Evidence from the 1994 Welfare Monitoring Survey shows that about 46 percent of subsistence farmers and 60 percent of pastoralists are poor. The subsistence farmers, however, account for about a half the poor in the country. Poverty rates are also high among the unskilled workers in both the private and public sector.

(Mwabu et a!., 2000; Oyugi, 2000) using the 1994 WMS II identified the following determinants of poverty: education level, time spend collecting water and firewood, land and livestock holding, family size, sector of employment, and unobserved region specific factors. Education reduces incidence of poverty as well as the poverty depth and severity. Costs of obtaining water and firewood are positively correlated with poverty but the size of assets (e.g., land and livestock) owned are negatively associated with poverty incidence and severity. Employment in the formal sector is strongly correlated with poverty reduction.

Education is considered as a vehicle for poverty reduction. Mwabu et al.. (2000) show that poverty is highest among people without any schooling. According to their study, there was virtually no poverty among households headed by university graduates. However, the precise mechanism through which education reduces poverty is not well known. Although education increases the chances of escaping poverty, it is not a guarantee in avoiding poverty altogether. In the 1997 Welfare Monitoring Survey, nearly two thirds of the urban poor had attained secondary-level education, and **63.1%** of the poor had reached primary-level education, the highest educational level for the rural poor (Republic of Kenya, 2000b).

Access to social services is welfare improving. (Oduro et al.. 2004) argue that education and skill acquisition are critical factors for explaining the pattern of rural poverty. Education contributes to the process of moulding attitudinal skills and developing technical skills, and also facilitates the

adoption and modification of technology Oduro et al,, (2004). An unhealthy population cannot participate effectively in employment and other production activities. Access to health facilities and medication are therefore crucial determinant of household welfare (Kabubo-Mariara, 2004).

Considerations of risk and vulnerability are key to understanding the dynamics of poverty. The study by Christiaensen and Subbarao (2004) conceives vulnerability as expected poverty and illustrates a methodology to empirically assess household vulnerability using the 1994 and 1997 Welfare Monitoring Surveys and rainfall data from secondary sources. The report highlights the gains that can be obtained from directly including information on the shocks together with historical information on their distribution in the analysis. Application of the methodology to data from rural Kenya shows that in 1994. rural households faced on average a 40% chance of becoming poor in the future. Households in arid areas that experience large rainfall volatility appear more vulnerable than those in non-arid areas, and malaria emerges as a key risk factor. Possession of cattle appears less effective in protecting consumption against shocks in comparison with sheep/goats, especially in arid zones. Households with access to non- farm employment consume more on average, and tend to face less fluctuation in their income, especially in the arid and semi-arid areas. Of the policy instruments simulated, interventions directed at reducing the incidence of malaria, promoting adult literacy, availability of electricity, and improving market accessibility (through provision of infrastructure e.g. roads) hold most promise to reduce vulnerability in rural Kenya both in non-arid and arid zones. Market accessibility promotes market integration, and substantially reduces transaction costs, thereby facilitating, for example, food and food aid flows (which stabilize and lower food prices), as well as temporary out-migration to urban centers in case of droughts.

The paper by Nyangena (2001) surveys existing literature on poverty and deforestation and attempts to provide understanding to the links from a socioeconomic and ecological perspective. The destruction of forests is mainly due to the gathering of firewood, the conversion of forestland and woodland to pasture and cropland, and commercial logging. The paper outlines various hypotheses on the link between poverty and resource degradation. The first (popular notion) is that poverty causes environmental degradation. A second argument traccs environmental degradation to greed, power and wealth. This can take the form of exemption from taxation of virtually all agricultural incomes (which might provide incentives for the acquisition of forestlands by the wealthy) and lack

of internalization of environmental externalities e.g. pollution. Other theories trace environmental degradation to market failures and policies that send the wrong signals to the actors, and institutional failures (e.g. security of tenure in the conservation of a resource). The scenario becomes more complicated if the various conditions are working in tandem e.g. market and institutional failures, power and wealth, and poverty all working on the environment. In addition, environmental scarcity has a big role in promoting resource-based conflict, as has happened in Kenya in the last decade.

The Government undertook the first Participatory Poverty Assessment (PPA) in the first half of 1994 to complement the statistical studies of poverty in Kenya. The purpose of the PPA was to understand poverty as seen by the poor, as a guide in the design of interventions to alleviate poverty. The PPA covered communities in seven poor rural districts (Busia, Bomet, Kisumu, Kitui. Kwale, Mandera and Nyamira) and Nairobi (the adjacent slums of Mathare Valley and Korogocho). The main factors seen as increasing poverty were inflation, social breakdown (e. g. emergence of female-headed households), cost- sharing strategy especially in education and health, and demographic pressure (land fragmentation, breakdown of homes, unemployment, large family sizes). The report shows the social dynamics that create and sustain mass poverty. For example, the feminization of poverty was attributed to lack of property rights (e.g. loss of property in case of divorce), discrimination at the household level in access to education, and the devastating effects of HIV/AIDS. The recommendations were mainly in the areas of access to social services by the poor (mainly education and health), fees payable by the poor for most services (including low-cost water supplies), credit for the poor, and slum upgrading (structures, water and sanitation, road networks, and solid waste management).

The second PPA was carried out during November-December 1996 and covered seven districts (Mombasa, Nakuru, Kisumu, Kajiado, Taita Taveta, Makueni and Nyeri). PPA-1I differed from PPA-I in the composition of researchers. Unlike PPA-I where only a few Government personnel participated, PPA-I1 incorporated more government staff in order to enhance capacity building in the application of participatory methodologies to the study of poverty in Kenya. One of the important findings of PPA-II was the sharp contrast between communities and district-level leaders and decision makers regarding the causes of poverty, poverty alleviation mechanisms and escape routes: "While communities point to a wide range of physical, economic, institutional factors, district- level

decision-makers emphasize community characteristics as the major causes of poverty. District-level leaders think the services provided arc leading to poverty reduction while communities think otherwise. Communities see crcdil and institutional support as paths to poverty reduction while the decision-makers see the removal of socio-cultural obstacles as critical to poverty reduction" (Mukui, **1993).**

Kristjanson et al. (2004) and Krishna et al. (2004) examined poverty dynamics in 20 western Kenya villages between 1978 and 2003 using a community-based 'stages of progress' methodology. The primary assumption in this methodology is that knowledge about changes in the situation of particular households is widely shared among members of close-knit communities. Thus, eliciting information from community members can assist in re-constructing the sequence of events associated with household welfare mobility. In these studies, escape from poverty was associated with diversification of income sources through formal employment, livestock farming, and small businesses. Another important reason citcd was small family sizes. On the other hand, reasons for descent into poverty included: poor health and health-related expenses; heavy funeral expenses; low levels of education; large family size; unproductive land; death of income earner; high dependencies; low paying jobs; and small land holdings

Mango et al. (2004) examines the social aspects of dynamic poverty traps in Vihiga, Baringo. and Marsabit districts. The research approach was qualitative. It involved community level workshops, case studies, and interviews with key informants. The results obtained were not significantly different from other earlier studies. Escape from poverty was associated with education, getting a well paying job, diversification in on-farm and off-farm activities, and wider social networks (clan support or farmer groups). Reasons for falling into poverty included: death of income earner; poor health and health-related expenses; loss of employment; reduced land sizes; unproductive land; increased dependencies; and frequent natural catastrophes (droughts and floods).

Barret et al. (2006) examines risk management, marginal returns on productive assets, and asset dynamics across settings distinguished by different agro-ecological and market access conditions in Kenya. The results indicate that exit rates from poverty are low. The study associates persistence of

poverty with unskilled labor power and low asset holding and loss. There was also evidence of geographic poverty traps in less-favored regions.

In a participatory poverty assessment in Makueni District (AMREF 1998b). lack of family planning awareness was identified as the determinant of large families and poverty, as large families tend to devote a disproportionately large share of their budget on food, leaving little for education and other investments.

Rapid population growth is generally viewed as one of the main causes of deterioration in living standards. The total fertility rate is the number of children a woman is expected to have in her lifetime. In 1994, poor women had a significantly higher fertility rate of 6.6 children than non-poor women, whose rate was *6.1*. The data show also that rural woman, irrespective of whether they were poor or not, had a higher fertility rate than urban women.

The 1997 welfare monitoring survey (Republic of Kenya, 2000b) found that female-headed households were poorer than male-headed ones. In the rural areas, 31.2% of the poor households were female headed, while in urban areas this was 25.5%. The respective percentages for males were 17.3% and 29.8%.Makueni District with 70% of its population as food poor was the poorest district in 1997. followed by Machakos, Kitui, Taita-Taveta, Kilifi. Bomet, Nyamira, Homa Bay. Busia and West Pokot. Central Province had the lowest percentage of food-poor people (33%), while Eastern Province had the highest prevalence of food poverty (60%), followed by North Eastern Province (57%).

Many poor people are unable to educate their children beyond the primary school level. The poor also tend to send their children to inexpensive, ill-equipped schools. A poverty assessment in Kenya (World Bank 1995) found that at the primary school level the bottom expenditure decile had a net school enrolment of 63%, compared with 76% for the top decile, and at the secondary school level, the bottom decile had a net enrolment of 2%, compared with about 20% for the top decile.

A poverty-assessment exercise in Kiliii District (TIAPD 1999) found that most people in the low-income group attained only lower primary education and. consequently, their employment opportunities were limited. This group had the highest percentage of unemployed youth. People in the high-income group, constituting 17% of the households, had attained the highest educational levels (Kimalu et al., 2002).

Place et al. (2003) attempted to distinguish the chronic poor from transient poor and to identify correlates of chronic poverty in 120 rural households in western Kenya. The duration between data collection was only two years. Chronic poverty was estimated using four different yardsticks: intake of energy requirements; intake of protein requirements; non-food expenditures per capita; and value of liquid assets. The study established that secondary education was important in reducing chronic poverty. Chronic poor households were likely to be headed by women and were less likely use fertilizer or animal manure. With the protein measure, the chronic poor were distinguished by their lack of credit access.

Large disparities in rural poverty incidence have also been documented for a number of countries including Kenya. The regional disparities in the incidcnce of rural poverty are strongly associated with rainfall and dependence on rainfed agriculture (Webb et al. 1991). In Kenya, for example, poverty incidence is high in arid and semi-arid areas of the country like Marsabit, Turkana, lsiolo, Samburu and Tana River districts (Republic of Kenya, 1998).

Oyugi (2000) estimates a probit model using data of the 1994 Welfare Moni- toring Survey data. The explanatory variables (household characteristics) include: holding area, livestock unit, the proportion of household members able to read and write, household size, sector of economic activity (agriculture, manufacturing/industrial sector or wholesale/retail trade), source of water for household use. and off-farm employment. The results of the probit analysis show that almost all variables used are important determinants of poverty in rural areas and at the national level, but that there are important exceptions for urban areas (Oyugi, 2000).

2.4 Overview of Literature

This section gives a summary of the findings of various studies done on poverty in Kenya 011 the causes and the initiatives that can he undertaken to reduce the levels of poverty in the country.

Some of the key findings include, categorization of the poor into a number of social categories including the landless, the handicapped, households headed by females, households headed by people without formal education, HIV AIDS, subsistence farmers, pastoralists in drought prone districts, unskilled and semi-skilled casual labourers, Aids orphans, street children and beggars, size of household, place of residence (rural versus urban), level of schooling, livestock holding and sanitary conditions, economic growth, income inequality, inequality in access to productive resources such as land, natural shocks (e.g. droughts, floods and fire), rural-urban migration, poor implementation of development programmes, lack of effective social security policies and safety nets, and heavy disease burden, certain occupations such as small scale farming, unskilled public and private sector workers, unpaid family workers, households headed by widows and women in polygamous households, low access to physical assets (particularly land), low agricultural productivity, inadequate non-farm employment opportunities, and low access to healthcare and schooling while labour market distortions tend to explain poverty in the urban areas.

Lack of good governance and weak democratic institutions. This makes it difficult for the poor to effectively raise issues of concern with relevant authorities. Corruption arises when there is inadequate accountability in the public sector, as has been the case in Kenya. The lack of accountability has made it easy to divert public funds for either personal use or to public projects of low priority, which often hurts the interest of the poor.

2.4.1 Suggested initiatives towards reduction of poverty levels

Education is considered as a vehicle for poverty reduction. Poverty is highest among people without any schooling. According to their study, there was virtually no poverty among households headed by university graduates. Education contributes to the process of moulding attitudinal skills and developing technical skills, and also facilitates the adoption and modification of technology.

The institutional bottlenecks that hinder economic reform should be addressed if Kenya is to alleviate poverty. These include, for example, the government needs to address corruption and other political malpractices, which frequently lead to suspension of donor aid.

Promoting adult literacy, availability of electricity, and improving market accessibility (through provision of infrastructure e.**g.** roads) hold most promise to reduce vulnerability in rural Kenya both in non-arid and arid zones. Market accessibility promotes market integration, and substantially reduces transaction costs, thereby facilitating, for example, food and food aid flows (which stabilize and lower food prices), as well as temporary out-migration to urban centers in case of droughts.

Escape from poverty is associated with diversification of income sources through formal employment, livestock farming, and small businesses.

Market accessibility promotes market integration, and substantially reduces transaction costs, thereby facilitating, for example, food and food aid Hows (which stabilize and lower food prices), as well as temporary out-migration to urban centers in case of droughts.

Formulation of effective poverty alleviation policies and programmes require knowledge about the characteristics of the poor. Poverty alleviation policies should be pursued hand in hand with reforms so as to ensure equitable distribution of the long-term benefits of growth that may spring from economic reform.

3.0 CHAPTER THREE: METHODOLOGY

3.1. Introduction

This section describes the methodology that was used in the research process. The process involved questionnaire development; sampling technique; questionnaire administration, dala collection and data analysis.

3.2. Theoretical Framework

This study borrowed heavily from the Foster, Greer and Thorbecke (1984) measure of poverty which strives to inform on the status of poverty and specifically makes use of the FGT measure of the incidence of poverty that informs on the poor and the non poor persons based on the overall and the food poverty lines. Food poverty line is the amount of expenditure required to meet the recommended daily average allowance of 2250 calories given the agreed food basket. A household with food expenditure less than the food poverty line is deemed to be food poor. Overall poverty encompasses the food and non-food consumed by households falling in the band of a certain percentage of the food poverty line. The hardcore poor are defined as those who would not meet their minimum calorie requirement even if they concentrated all their resources spending on food. The poverty lines help identifying who in the population is poor.

The FGT measure developed by Foster, Greer and Thorbecke (1984) quantifies three well known elements of poverty, namely; incidence, depth and severity of poverty. The FGT formula that is normally used to measure overall income poverty is shown in equation below,

$$P_\alpha = \frac{1}{N}\sum_{i=1}^{q}\left(1-\frac{y_i}{z}\right)^\alpha$$

Where;

P_a is a measure of absolute poverty, including food poverty,

VI is the total expenditure of household i, expressed in per adult equivalent (i = 1...N),

Z is the poverty line, expressed in per adult equivalent,

N is die total number of households,

q **is** the total number of poor households, and

a is the FGT parameter, which may be interpreted as a measure of poverty aversion, a >0.

The first measure of poverty according to the FGT is the headcount ratio (Pa=0), which indicates the proportion of individuals (or households) below the poverty line i.e., the poor expressed as a proportion of the population. The second measure is the poverty gap or average income shortfall (Pa=I), which gives the proportional shortfall of the average poor person from the poverty line. It can give an estimate of the resources that would be required to bring the expenditure of every poor person up to the poverty line, thereby eradicating absolute poverty. The third measure is the severity of poverty (Pa=2). This measure reflects the degree of inequality among the poor.

3.2.1 Poverty Estimates

The critical role of a poverty line is to identify who the poor are in a society. Poverty according to the FGT model is mainly looked at in three dimensions namely; the incidence of poverty, depth of poverty and severity of poverty. This study however laid emphasis on the incidence of poverty with a sharp focus on the food and overall poverty lines.

3.2.1.1 Food Poverty and overall poverty

Food poverty is an indicator of the inability of a household to satisfy its basic food requirements. To identify the food poor, a food poverty line is used. This line indicates the income level below which people cannot meet their minimum basic food requirements. The food poverty line for Kenya is the cost of consuming 2250 Calories per day per adult, a Figure based on the recommendations of the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) on food consumption for specific age groups (GoK 1998b). The headcount index for food poverty, for example, is the number of people whose food expenditure is below the food poverty line, divided by the total population.

The headcount index for absolute poverty indicates a household's inability to meet all its basic (food plus non-food) requirements. Summing the food expenditure required for food energy intake of 2250 Calories per day per person and the non-food expenditure allowance gives the overall absolute poverty line. This research paper made use of the 2007 food and absolute poverty lines in Kenya which were 988 for food poverty and 878 for non food. The study also incorporated overall poverty line for rural areas which was 1453 (KNBS Basic report on poverty in Kenya, 2007).

3.3. Model Specification

Every economic agent has an objective that they try to achieve. For the consumer, the main economic objective is to maximize the utility from consumption of goods and services subject to the budget constraints. A consumer who is able to meet the food and the overall expenditure over and above the predetermined expenditure poverty lines is considered non poor while those who are not able to meet that level of expenditure are considered to be poor. This group of people acted as the basis of this study to identify the causes of their poverty and the strategies that can be adopted to alleviate the poverty.

3.3.1. Probit estimation

Formulation of this model followed the work of Oyugi (2000) who used probit estimates to assess the determinants of poverty. She used both discrete and continuous indicators of poverty as dependent variables and employed a set of household characteristics as explanatory variables. Oyugi (2000) operationalized the FGT model by estimating a probit model to establish the determinants of poverty. This method was more preferred due to its ability to inform on the probability of one being either poor or non poor. She classified the households into two categories, either as poor or not poor. The expenditure levels of the sampled respondents were obtained. Persons with expenditure above the poverty line were given a value of 1, otherwise zero. Two probit estimations were carried out based on;

i) Food poverty line

ii) Overall poverty line

Using a latent variable approach, the probit model is stated as follows;

$$y^* = \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \text{i}$$

What can be observed is that a household is poor but the reasons why one is poor are unobservable.

$$Y_i = \begin{cases} 1 & if\ y > 0 \\ 0 & if\ y < 0 \end{cases}$$

X, captures the explanatory variables which include the age of the household head, level of education, household size, age, gender, marital status, place of residence where one hails either from a rural or an urban area, number of livestock owned and assets owned.

P captures the coefficients from the probit estimation. However, the coefficients only inform on the relationship that exists between the dependent and the explanatory variables. For probit, the main aim is to establish the probability of either being poor or non poor. This calls for the prediction of the marginal effects explained as follows.

Marginal effects for the probit model

The marginal effects explain how an infinitesimal change in one of the explanatory variables increases the probability of one being poor or non poor. This is with an aim of devising strategies by policy makers to advise on poverty reduction based on the contribution of both the demographic and individual socio-economic characteristics.

3.4. Research Locality

The study was conducted in Mwea Division, Kirinyaga District in central Kenya, located approximately 100 km north-east of Nairobi, several kilometers south-east of Mt Kenya, at an altitude of about 1.159 m above sea level. The division has a population density of 137,461 persons. The main economic activity is rice growing and horticultural farming with indigenous cattle kept mainly for beef and draught power (Muriithi, 2005).

3.5. Sampling Technique

Four villages representing the socio-economic, demographic and geographical diversity within the study area were purposefully selected. A total of 323 households sampled randomly from the four study villages. Both structured questionnaires and direct interview were used to gather both qualitative and quantitative data from the respondents.

For the purposes of sampling, the study adopted the method used by Minnesota Centre for Survey Research. This is given as:

$$\frac{A^2}{Z^2} \quad_t \quad \frac{/>(!-/>)}{N}$$

Where:

S= sample size required

N = number of people in the population

P= preliminary estimate of the people in population who posses attribute of interest (the most conservative estimate (and the one most often used) is 50%

A= accuracy desired such as 5%

Z = the number of standard deviations of the sampling distribution that correspond to the desired confidence level. 1.96 = 95% confidence level; 1.64 = 90% confidence level.

For the purpose of this study;

N= 137,461 the total number of people in Mwea settlement scheme

P=70% of the people in Mwea can be classified as rural poor

A=5%

Z= 1.96=95%

S=323

3.6. Data collection and analysis

This study used primary data collected from Mwea which is in Central Province. Focus was on the households who hail from Mwea Division to assess the poverty levels in that division. This was done with a sharp focus on the strategies that can be adopted to lower the poverty levels. The STATA software was used to analyze the data whose findings were presented using tables. Descriptive statistics was obtained for the variables under study before poverty indices and probit estimates were obtained. This was done alongside the computation of measures of central tendencies like mean, median and mode.

3.7. Variables and their expected signs

Table 4 shows the various variables used to determine the poverty levels and their expected signs. The variables include: age of the household head, household size, gender, education level, marital status of the household head, economic activities of the household, size of land owned.

Table 4. Variable and their expected sign

Variable	Description	Expected Sign
Age in years of the household head	Captured in complete years	+ve
Household size	Number of people in each household	+ve (Mwabu. 2000, Manda et al.2001, Del Ninno, 1994)
Gender of the household head	Dummy variable captured as follows; Male=1 female=0	+ve for female headed households (Mwabu, 2000)
Educational attainment of the household head	None=0 Primary=1 Secondary=2 Tertiary=3 University^	- ve (Oduro et al, Mwabu. 2000. Manda et al,2000)
Marital status of the household head	0ther=0 Married=1 Single=2 Widowed=3	-ve for married persons
Land	Amount of land owned in acres	-ve (Oyugi, 2000, Manda et al, 2001)
Household livestock	Number of cattle, donkeys, sheep, goat, pig, chicken	-ve (Oyugi. 2000, Manda et al, 2001)
Economic activities of the household head	1 if crop production 2 if Livestock production 3 if Business activities 4 if Farm wages	+ve for farm kibarua (Oyugi. 2000) -ve for crop production
Place of residence	Rural=0 1 if urban	+ve for rural households (Mwabu, 2000)
Ways of supplementing Income	0 if other 1 if through small business 2 if through Bank loan 3 if through self help group 4 if through fanners sacco	Either -ve or +ve

According to Mwabu. 2000 and Manda ct al., 2001, household size, the gender of the household head, education level of the household head and the size of land owned by the household were great determinants of levels of poverty. The poverty level was lower for the households headed by male and higher for households headed by female. Poverty level was also low among the households with many acres of land, with a small household size, and for those with higher levels of education.

According to Oyugi, 2000 poverty level was low among the households with many livestock, with large pieces of land and for those households whose main economic activity was crop production and highest among the households whose main economic activity was working in people's farms for wages.

4.0 CHAPTER FOUR: DISCUSSION OF F1NDIGS

4.1. Introduction

A total of 323 questionnaires were administered to the respondents hut only 108 questionnaires were received. The low response rate can be attributed to the fact that some respondents were not willing to respond to the questions as they were uncomfortable revealing their personal information. This chapter seeks to present the findings as per the statistical estimations conducted using the STATA software. Both descriptive and statistical approaches have been used in doing the analysis. The chapter makes use of tables to consolidate the findings. The first part provides the descriptive statistics of the variables of interest while the second part is on the probil estimation results.

4.2 Descriptive statistics

Table 5 presents the percentage distribution of the respondents in terms of gender, household size, education level, marital status, landownership, and the economic activities of the household head.

Table 5 **percentage distribution of the respondents**

Variable	Description	Percentage of the respondents (%)
Household size	4-5 members	34%
	6 and above	11%
	2-3 members	37%
	1 member	18%
Gender	Male	69%
	Female	31%
Gender of the household head	Male	70%
	Female	30%
Education level	None	6%
	Primary	30%
	Secondary	39%
	Tertiary	16%
	University	9%
Marital status of the household head	Married	61%
	Single	32%
	Divorced/separated	4%
	Widowed	3%
Marital status of the household head	Married	61%
	Single	32%
	Divorced/separated	4%
	Widowed	3%
Land ownership	None	21.4%

	One acre	25%
	Two acres	10.7%
	Three acres	10.7%
	four acres	32.1%
Economic activities of the household head	Crop production	45%
	Livestock production	**2%**
	Business activities	17%
	Working in farms for wage	18%
	Salaried	15%
	Others	3%

Most families were found to have an average of 4 to 5 household members. This accounted for 34% of all households. The number of households with more than 6 members stood at 11% while those with the respondent as the only member of the household stood at 1 8%. Those with 2 to 3 children accounted for 37%.

Of the total respondents, 69% were male while only 31% were female. This big difference is however explained by the fact that most women declined to participate in the study as they believed that most decisions in the household were dictated by the men. In terms of education, 39% of the respondents sampled were found to have attained secondary level of education 30% and 16% had reached primary and tertiary level of education respectively and only 9% had gone up to the university level. However, only 6% had never gone to school.

In terms of marital status, 61% of the sampled respondents were found to be married, 32% single while 4% were divorced/separated while 3% were widowed. Looking at the leadership structures of households sampled for the study, the study established that 70% of all the households were male headed households while only 30% were female headed.

In terms of land ownership, 21.4% of the respondents did not have any land, 25% of the respondents had one acre, 10.7% had two acres, and another 10.7% had three acres while 32.1% had four acres. This is an indication that there is shortage of land in Mwea and those with only four acres were considered to have the largest pieces of land.

The dominant economic activity of Mwea residents appeared to be crop production which accounted for 45% of the economic activities. Business activities, working in people's farms for wage and salaried jobs accounted for 17%, 18% and 15% respectively. This justifies that the data was

collected from a rural setup where the main economic activity is agriculture and particularly crop production. Livestock production in Mwea is not popular since only 2% of all households sampled are directly involved in livestock production.

4.3 Poverty incidcnce

Table 6indicatcs that of the sampled population in Mwea, 44% live in abject food poverty despite hailing from an area believed to be the leading in the growing of rice and horticultural farming while **25.9%** of all the respondents lived below the poverty line.

Table 6 **Poverty incidcnce**

	Incidence (%)	
Poverty status	Food	Overall
Non poor	55.56	74.07
Poor	44.44	25.93
Total	100	100

Regarding overall poverty, it was found that household's expenditure on non food items was higher as compared to food expenditure. Only 25.93% of the population was found to be poor after factoring in both the food and non food expenditure. Acccss to basic needs is considered to be the biggest challenge for most people living in the rural areas. Most rural households rely so much on agricultural activities since formal employment opportunities are rare. Since agriculture remains to be the main economic activity in Kenya, there is need to look into ways of improving the sector to increase productivity.

The study analyzes overall poverty and food poverty with the focus of identifying the strategies that could be put in place to eliminate extreme poverty, hunger and eliminate suffering. Enhancing access to food to all will lead to improved productivity in all sectors of the economy due to increased labour supply.

4.4. Poverty Index

Following the FCiT model, the study established that the Food Poverty Incidence in Mwea was 0.44. while the severity and depth of poverty assumed 0.226 and 0.141 respectively. This indicates that over half of the population in Mwea live above the poverty line and can therefore afford to consume over 2250 kilocalories per day which is the minimum food requirement for normal body functions. However, there is need to put up strategies to address the biting poverty which affects 44% of the population in Mwea. This calls for the analysis of the determinants of poverty. Use of probit estimates helps inform on the contribution of various variables on poverty alleviation.

4.5. Probit Estimations

The study applied the use of discrete choice analysis to bring out the impact that both the demographic and socioeconomic characteristics of households have on poverty eradication in Mwea. Table 7 presents the relationship between various variables and food poverty in Mwea and gives a prediction on the probability of households having food poverty when an infinitesimal change in one variable takes place.

Table 7: **Probit estimation for Food Poverty**

Number of obs   =   105

LR chi2 (10)   =   47.13

Prob > chi2   =   0.0000

Log likelihood = -48.639091   Pseudo R2   =   0.3264

Pood Poverty	Coefficient	Std. Error	Z	P>|z|	[95% Conf. Interval J	
Age	0.11667	.1981853	0.59	0.556	-.271771	.5051011
gender	0.58287	.3637925	1.6	0.109	-.130149	1.295891
education	-0.1333	.1622668	-0.82	0.411	-.4513635	.1847106
marital	0.19885	.2566076	0.77	0.438	-.3040912	.7017921
Size	0.38643	.1252085	3.09	0.002	.1410295	.6318377
schooling	-0.1334	.172733	-0.77	0.440	-.4719047	.2051962
Land	-0.3337	.4004304	-0.83	0.405	-1.118515	.4511435
livestock	0.08167	.0643925	1.27	0.205	-.0445402	.2078737
incgene	-0.0668	.1046205	-0.64	0.523	-.2718626	.1382421
estimates	-0.3516	.1264916	-2.78	0.005	-.5994736	-.1036355
_cons	-0.9976	.9802883	-1.02	0.309	-2.918973	.9236864

The results of the probit analysis for food poverty show that education level, income generating activity of the household and the size of land owned by a household have a negative relationship with food poverty levels whereas the age of the household head, the gender, marital status and the size of the household have a positive relationship with the food poverty levels. The results conform to the expected signs which confirm that they arc all important determinants of poverty. However the

number of livestock owned by a household did not conform to the expected sign as it depicted a positive relationship instead of a negative relationship with the food poverty. This could be explained by the fact that only 2% of the respondents undertook livestock production as their main economic activity.

The first differential only gives a picture as to whether the relationship is positive or negative. This calls for the estimation of marginal effects to show the probability of poverty reducing when any of the explanatory variables changes. This mainly focuses on the second order differentials which yield the partial effects. Table 8gives a prediction on the probability of households having food poverty when an infinitesimal change in one variable takes place.

Table 8:Marginal Effects for Food Poverty

y = Pr (food poverty) (predict)

= 0.44077671   :

Variable	Marginal Effects	Std. Err.	Z	P>z	[95% C.I.]		Mean
1 age	.0460288	.07827	0.59	0.556	-.107376	.199433	3.92381
gender	.229965	.14369	1.6	0.11	-.051668	.511598	0.70476
educat~n	-.0526024	.06405	-0.82	0.412	-.178142	.072937	2.22857
marital	.0784541	.1015	0.77	0.44	-.120485	.277393	1.48571
size L	.1524629	.04981	3.06	0.002	.054845	.250081	4.14286
school~g	-.0526134	.0683	-0.77	0.441	-.186484	.081257	1.5619
Land*	-.1317694	.15741	-0.84	0.403	-.440283	.176744	0.62857
livest~k	.0322207	.02537	1.27	0.204	-.017496	.081937	1.97143
incgene	-.0263592	.04126	-0.64	0.523	-.107225	.054507	2.64762
estima~s	-.1387017	.04955	-2.8	0.005	-.235809	-.041595	3.37143

(*) dy/dx is for discrete change of dummy variable from 0 to 1

The results of the second order differentials show that the probability of a household going through food poverty in Mwea is 44.08% in this case. Table Sshows the marginal effects of having education, the level of education, ownership of land and the main income generating activity of a household as -0.05260, -0.05261, -0.13176 and -0.02635 respectively. This implies that food poverty is lower among the educated household heads and the level of poverty declines by 5.2% with increase in the level of education. Food poverty declines by 13.18% with the increase in the number of acres owned by a household while it decreases by 2.635% for the household whose main economic activity is crop production.

The marginal effects of the age of the household head, the gender, marital status and the household size are 0.0460288, 0.229965, 0.0784541, and 0.1524629 respectively. This implies that as the household head advances in age the probability of one being food poor increases by 4.6%. In terms of the gender of the household head the probability of a household being food poor when it is headed by female increases by 23%. Food poverty is considered to be higher among the unmarried and from this analysis the probability of a household being food poor when the household head is single increases by 7.8%. The probability of a household with more than four people being food poor increases by 15.25%. This can be explained by the fact that the larger the size of the family the more the resources required to feed them.

Table 9 gives the relationship between explanatory variables and overall poverty in Mwea and gives a prediction on the probability of households having overall poverty when an infinitesimal change in one variable takes place. Overall poverty in this case implies that someone cannot access both food and non food commodities.

Table 9: Probit estimation for Overall Poverty

Number of obs   =   105

LR chi2 (10)   =   46.54

Prob > chi2   =   0.0000

Log likelihood = -37.619424   Pscudo R2   =   0.3822

Overall Poverty	Coefficient	Std. Error	Z	P>|z|	[95% Conf.	Interval]
Age	0.01577	.2156377	0.07	0.942	-.4068703	.4384141
gender	-0.2358	.4304833	-0.55	0.584	-1.079503	.6079605
education	-0.0381	.1785387	-0.21	0.831	-.3880573	.3118013
marital	-0.0115	.2272111	-0.05	0.959	-.4568655	.4337855
Size	0.46505	.1331973	3.49	0.000	.2039837	.7261077
schooling	-0.3163	.1989995	-1.59	0.112	-.7063782	.0736856
land	-0.3071	.4859334	-0.63	0.527	-1.259517	.6453072
livestock	0.14255	.0760382	1.87	0.061	-.006483	.2915813
incgene	0.01474	.1140859	0.13	0.897	-.2088661	.2383424
Income estimates	-0.4592	.1589722	-2.89	0.004	-.7707574	-.1475978
_cons	-0.728	1.065491	-0.68	0.494	-2.816312	1.360337

I he results of the probit analysis for overall poverty show that the gender of the household head, education level, marital status, size of land owned depicts a negative relationship whereas the age, size of the household, number of livestock owned and the main income generating economic activity depicts a positive relationship with overall poverty. However the first differential only gives a picture as to whether the relationship is positive or negative which hence the need for the estimation of marginal effects to show the probability of overall poverty reducing when any of the explanatory variables changes. Table 10 shows the marginal effects for overall poverty.

Table 10: Marginal Effects for Overall Poverty

y = Pr (overall poverty) (predict)

= 0.17801923

1 Variable	Marginal Effects	Std. Err.	Z	P>z	[95% C.**I.**]		Mean
age	.0041098	.05623	0.07	0.942	-.106097	.114317	3.92381
gender	-.0614371	.11198	-0.55	0.583	-.280912	.158038	0.70476
educat~n	-.0099354	.04637	-0.21	0.83	-.100828	.080958	2.22857
marital	-.0030071	.05919	-0.05	0.959	-.119016	.113002	1.48571
Size	.1211813	.03662	3.31	0.001	.049405	.192957	4.14286
school~g	-.0824333	.05398	-1.53	0.127	-.18824	.023373	1.5619
Land*	-.0828586	.13488	-0.61	0.539	-.347209	.181492	0.62857
livest—k	.0371454	.01896	1.96	0.05	-.000014	.074304	1.97143
Incgene	.0038405	.02973	0.13	0.897	-.054432	.062113	2.64762
estima~s	-.1196522	.0369	-3.24	0.001	-.191975	-.047329	3.37143

The results from the second order differential show that the probability that a household is living below the overall poverty line in Mwea is 17.8%. The marginal effects of the gender of household head, education level, marital status and the size of land owned by a household are -0.614371, -0.0099354, -0.003 0071 and -0.0828586 respectively. The marginal effects of age of the household head, the size of the household, the number of livestock owned, and the main income generating activity are 0.0041098, 0.1211813, 0.0371454, and 0.0038405

This implies that the age of the household head, the household size, the education level of the household head, the size of land owned by a household and the main income generating activity of the household head are important determinants of overall poverty levels in Mwea. As the age of the household advances the probability of the household being overall poor increases by 0.41% and as the size of the household increases to more than four members the probability of the household being overall poor increases by 12.ll%.This is due to the fact that there is increased pressure on the available resources as the household head strives to meet all the needs of the family members. The

overall poverty is lower among the household heads with higher levels of education, with large pieces of land and for those whose main income generating activity is crop production. Overall poverty levels decline by 0.99% for the households whose head has attained higher levels of education and declines by 8.28% for the households with at least one acre of land.

5.0 CHAPTER FIVE: CONCLUSION AND T1IE POLICY   RECOMMENDATIONS

5.1 Conclusion

The results from the analysis of the descriptive statistics established that the Agricultural sector supports the greatest percentage of the residents through crop production and labour supply. It was also clear that there is shortage of land in Mwea. Hcncc the agricultural sector in Mwea should receive maximum support from the Government.

The probit results tested for both the food poverty and overall poverty established that poverty level was low among the household heads with education and especially high levels of education, ownership of land, with smaller family sizes and for those whose main income generating activity is crop production. Food poverty was also found to be lower among the households headed by male and among the married persons. Hence the household size, schooling, size of land owned by a household, marital status, the income generating activity of the household which determined the income of a household are all significant poverty determinants in Mwea. Based on these results it is clear that if poverty levels are to be reduccd in Mwea the agricultural sector must be fully supported by the government, the parents should cncouragc their children to pursue education to higher levels which will reduce dependency levels, the residents should embrace entrepreneurship and thus diversify their sources of income, reduce the family size by embracing family planning. Since land is a scarce resource in Mwea based on the findings, the residents should enhance the productivity of the existing land by practicing crop rotation and use of fertilizers in farming to increase their yields.

5.3 Policy Recommendations

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Formulation and proper implementation of strategies for poverty alleviation could help improve many people's lives and especially the poor living in Mwea. Besides this, there must be goodwill from all players for any meaningful results to be realized. Of great importance is the various unique characteristics witnessed in various settings. For example, Mwea being an agriculturally productive zone should have projects that are labour intensive and which mainly focus on crop production. However, care must be taken in order to factor in various inter sectoral linkages. Some of the policy recommendations for Mwea and the country at large that could help reduce the poverty levels if implemented include;

The government should support the agricultural sector in Mwea since majority of the residents depend on crop production to earn a living. Some of the ways through which the Government can support the sector is by building dams in the scheme which can harvest water during the rainy-season. This will reduce water shortage. The Government should also subsidize the farm inputs so as to enable the farmers in the scheme afford the inputs necessary for high crop yields

The Government should provide affordable loans to the residents especially the agricultural loans through agricultural bodies such as Agricultural Finance Corporation, cooperative societies to enable farmers purchase the necessary inputs thus increase the yield and help farmers market their produce to prevent them from being exploited by the businessmen who buy their produce at cheaper prices only to sell them later at exaggerated prices.

The parents should be sensitized on the importance of educating their children as this will reduce the dependency levels and improve the standards of living of the residents and also reduce the pressure on the small pieces of land available.

The residents should also be encouraged to reduce the household size through embracing family planning method as this will reduce the pressure on the scarce land and other resources

1 he residents who depend on farming alone should be encouraged to come up with diversified income generating activities or projects to supplement their income from farming. They should engage themselves in various economic activities and stop depending solely on crop production. The self help groups with viable investment projects should be facilitated by the government using the poverty reducing initiative funds to enable them grow and provide them with suitable advice on investment decisions. This will ensure the residents have diversified sources of income.

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Annex 1: Questionnaire

No\ember. 2009

Dear Respondents,

RE:REOUEST TO FILL RESEARCH QUESTIONNAIRE

I am a student at the University of Nairobi pursuing a master's degree in Economics. I am currently working on my research project on causes of poverty in Mwea and strategies that can be used to reduce the levels of poverty hence improve the standard of living.

To facilitate this exercise, 1 kindly request you to fill in the questionnaire to assist me to obtain the necessary data for the project. The information you provide will be treated as confidential and will be used purposely for this academic study. The results will be analyzed and presented to the University in form of a research project hence will not identify the individual respondents.

Your cooperation in this regard is highly appreciated and a copy of this research project will be available in the University's resource centre.

Yours faithfully

JANE WAMBUIMUGUCHU

MA ECONOMICS STUDENT

Questionnaire

<ins>PART A: DEMOGRAPHICS</ins>

1. Age in years of the household head (   ) Tick appropriately

(a) Below 18 (   )   (b) 18-24 (   )   (c) 25-34 (   )   (d) 35-44 (   )
54 (   )   (f) Above 55 (   )

2 (i) Gender   (a) Male (   )   (b) Female (   )

(ii) Is the respondent the household head?

          (a) Yes (   )   (b) No (   )

3. Level of education attained

   a) Primary (   )   (b) Secondary (   )

   c) Tertiary (   )   (d) University (   )

   e) None (   )

4. What is your marital status?

  (a)Married (   ) (b) Single (   )   (c) Widowed (   )   (d) Other (

  Specify

5. How many children do you have?

6. Size of the household?

7. How many of your children are schooling?

1'AKT 13: LAND TENURE/LAND USE

8. Do you own any piece of land?

  (a) Yes ( )   (b) No ( ) Goto 12

9. How many acres of Land do you own?

10. How did you acquire this land?

(a) Purchased ( )   (b) Inherited ( )   (e) Rented land ( )   (d) Government allocation ( ]

(e) Other ( ) Specify

11. Do you have title to your piece of land?

  (a) Yes ( )   (b) No ( )

PART C: ASSET, CONSUMPTION & INCOME

12. What is the number of livestock owned by this household?

13. What is your main income generating activity?

  (a) Crop production through irrigation & sale ( ) Specify the crops

  (b) Livestock production and sale ( ) Specify

  (c) Business activities ( ) Specify

  (d) Farm kibarua ( )

(e) Salaried labor (   )

(f) Other (   ) Specify

14. In which of the following categories do you estimate your total monthly household income (in kshs), from all your income generating activities.

(a) Less than 1,500   (b) 1,500-2,500   (c) 2,500-5.000   (d) 5,000-10,000   (e) 10.000-20,000   (f) Above 30,000

15. What is your average monthly household expenditure on?

(a) Food

(b) Rent

(c) Paraffin

(d) Water

(e) School fees

(f) Clothes

(g) Cooking fat

(h) Clothes

(i) Transport

(j) Others

16. What is your average monthly total expenditure?

PART D: CREDIT

17. Is credit one of the ways you use to supplement your income?

(a) Yes (   )   (b) No (   )

18. If Yes in 17. above, what is the source of your credit?

(a) Commercial Banks (   )

(b) Self help groups (   )

(c) Farmers sacco (   )

(d) Other   (   )   Specify

19. In what form, do you receive the credit?

    (a) Farm inputs (   )

    (b) Basic necessities (   )

    (c) Cash (   )

    (d) Other (   )   Specify

PARTE: GENERAL INFORMATION

20. What challenges do you encounter in an attempt to improve your standards of living?

21. What has the government done in the past to help you overcome the challenges you encounter as you try to make a living?

22. In your own opinion what has aggregated the levels of poverty in this region?

23. Are you aware of the following government poverty reducing initiatives in Mwea Division?

    (a) Constituency Development Fund (CDF) (   )

(b) Women Enterprise Development Fund (WEDF) (   )

(c) Youth Enterprise Development Fund (YEDF) (   )

(d) Local Authority Transfer Fund (LATF) (   )

(e) Other (   ) Specify

24. Have you benefited from any project funded by any of the above initiatives?

(a) Yes (   )   (b) No (   )

25. If Yes in **24.** above, do you feel that you own that project?

(a) Yes (   )   (b) No (   )

26. Suggest ways in which people in this area can help themselves take advantage of the opportunities around them to improve their standards of living.

27. What incentives from the government do you think are needed to help you boost your income generating activities or yield more income?

28. What do you think can be done to reduce the level of poverty in this region in a sustainable way?

Annex 2: Probit estimation for food poverty

Iteration 0:   log likelihood = -72.203205
Iteration 1:   log likelihood = -50.807463
Iteration 2:   log likelihood = -48.733984
Iteration 3:   log likelihood = -48.639468
Iteration 4:   log likelihood = -48.639091
Iteration 5:   log likelihood = -48.639091

Number of obs   =
LRchi2(10)   =
Prob > chi2   =
Log likelihood = -48.639091   Pseudo R2

Variable	Coefficient	Std. Error	Z	P>|z|	[95% Conf. Interval]	
Age	0.11667	.1981853	0.59	0.556	-.271771	.5051011
Gender	0.58287	.3637925	1.6	0.109	-.130149	1.295891
education	-0.1333	.1622668	-0.82	0.411	-.4513635	.1847106
Marital	0.19885	.2566076	0.77	0.438	-.3040912	.7017921
Size	0.38643	.1252085	3.09	0.002	.1410295	.6318377
schooling	-0.1334	.172733	-0.77	0.440	-.4719047	.2051962
Land	-0.3337	.4004304	-0.83	0.405	-1.118515	.4511435
Livestock	0.08167	.0643925	1.27	0.205	-.0445402	.2078737
Incgene	-0.0668	.1046205	-0.64	0.523	-.2718626	.1382421
Income estimates	-0.3516	.1264916	-2.78	0.005	-.5994736	-.1036355
_cons	-0.9976	.9802883	-1.02	0.309	-2.918973	.9236864

Annex 3: Probit estimation for overall poverty

Iteration 0:   log likelihood = -60.891093
Iteration 1:   log likelihood = -40.278304
Iteration 2:   log likelihood = -37.819498
Iteration 3:   log likelihood =-37.621681
Iteration 4:   log likelihood = -37.619425
Iteration 5:   log likelihood = -37.619424

	Number of obs	=	105
	LR chi2 (10)	=	46.54
	Prob > chi2	=	0.0000
Log likelihood = -37.619424	Pseudo R2	=	0.3822

Variable	Coefficient	Std. Error	Z	P>|z|	[95% Conf.	Interval]
j Age	0.01577	.2156377	0.07	0.942	-.4068703	.4384141
gender	-0.2358	.4304833	-0.55	0.584	-1.079503	.6079605
1 education	-0.0381	.1785387	-0.21	0.831	-.3880573	.3118013
marital	-0.0115	.2272111	-0.05	0.959	-.4568655	.4337855
' Size	0.46505	.1331973	3.49	0.000	.2039837	.7261077
schooling	-0.3163	.1989995	-1.59	0.112	-.7063782	.0736856
Land	-0.3071	.4859334	-0.63	0.527	-1.259517	.6453072
Livestock	0.14255	.0760382	1.87	0.061	-.006483	.2915813
Incgene	0.01474	.1140859	0.13	0.897	-.2088661	.2383424
estimates	-0.4592	.1589722	-2.89	0.004	-.7707574	-.1475978
_cons	-0.728	1.065491	-0.68	0.494	-2.816312	1.360337