DETERMINANTS OF POVERTY IN WESTERN REGION OF KENYA
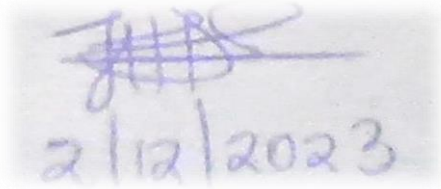
TUNGWET K GODFREY

Research Paper Submitted to Department of Economics and Development Studies in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Arts in Economics Degree of the University of Nairobi, Kenya

November 2023

DECLARATION

This research paper reflects my independent efforts, and it has not been previously showcased or submitted for the conferral of a degree at any other university or higher education institution.

Signed: Date: 2/12/2023

Tungwet K. Godfrey

X51/ 68695/2013

This research paper has been submitted with my approval as University Supervisor:

Signed: …………………………………   Date: …………02.12.2023

Dr. Martine Oleche

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Poverty is a multi-faceted and intricate phenomenon that includes not only economic aspects for instance income and consumption but also non-monetary dimensions like health, education, access to water and gender equality. Many factors determine poverty. These factors exhibit regional variations, influenced by the diverse developmental levels of countries. These factors extend beyond economic considerations to encompass political, social, geographical, and cultural aspects. In Kenya, western region has recently witnessed increased higher rates of poverty. The region is characterized by good climatic condition giving the residents an opportunity to practice mixed farming. The central region also practices agriculture but the region records very low poverty rates. This study is therefore interested in determining the determinants of poverty in the western region so as to suggest policies that can reduce the high levels of poverty. To achieve this objective the study estimates a logit model using Kenya Integrated Household Budget Survey. The result reveal that education and area of residence influence poverty in the region. The study also reveals varied levels of poverty among the counties in the region. The study therefore suggests formulation of policies that will enhance education in the region. This is through creation of good educational infrastructure. There is also the need to enhance vocational and technical training education so as to equip the youth with relevant skills. There is also need for policy makers to create opportunities for individuals residing in rural areas as a way of mitigating high poverty rates among them. Lastly, there is need for each county to initiate county specific poverty reducing strategies given the variation in poverty levels.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Poverty manifests as a multi-faceted and intricate phenomenon encompassing not only economic aspects such as income and consumption but also non-monetary dimensions like health, education, access to water, and gender equality. Various factors contribute to and result from poverty, impacting the lives of those classified as impoverished. The determinants of poverty exhibit regional variations, influenced by the diverse developmental levels of countries. These factors extend beyond economic considerations to encompass political, social, geographical, and cultural aspects (Spaho, 2014).

Extreme or absolute poverty is characterized by the lack of essential human needs, including food, healthcare, safe drinking water, shelter, sanitation, information, and education. The release of new purchasing power parity (PPP) conversion factors in 2014 for the year 2011 prompted a revision of the international poverty line. This adjustment aimed to preserve the definition and real purchasing power of the previous USD 1.25 line (in 2005 PPPs) in poorer countries. Utilizing these PPPs for 2011, the updated poverty line stands at USD 1.90 per individual per day (Ferreira, 2015). According to the World Bank, adopting this new poverty line could lead to a reduction in global poverty from 902 million people, constituting 12.8 percent of the world population in 2012, to 702 million individuals, accounting for 9.6 percent of the global population (World Bank, 2014).

Diminishing poverty and enhancing the well-being of households stand as crucial concerns for all developing nations. The alleviation of poverty commonly ranks among the key objectives of development. Typically, these countries formulate policies and strategies with the intention of attaining this goal (Eyasu, 2020).

Since independence 1963 the economic growth in Kenya has not been increasing continuously but has been fluctuating from as high as 22.17 in 1970 and as low as -4.66 recorded in 1969. The average growth rate from 1963 to 2017 is 4.81 percent per annum. The first decade after

independence the annual economic growth averaged 8.15 while the second decade it reduced to 4.33 and third one 3.52. The decade between 1993 and 2002 recorded the lowest annual average growth rate of 2.51 which increased to 5.28 in the 2003-2012 decade. Lastly from 2013 to 2017 the annual economic growth rate has averaged 5.45 percent. The good performance in the first decade, 1960s and early 1970s was majorly due good performance in private investment in industries and vibrant small scale farming respond to government promoting policies. Towards the end of the initial decade and the onset of the second decade, economic performance witnessed a decline attributed to a contraction in agricultural output, the 1973 oil shock, and a decrease in aid from both multilateral and bilateral donors.

 The donors withdraw because of the alleged mismanagement of government resources in early 1980. The coffee boom of 1976 and 1977 eased the bad effect of oil shock and GDP growth rate shoot to 9.45 in 1976 before declining to 1.32 in 1982.The economy suffered balance of payment crisis which pushed government into heavy external borrowing. At the end of second decade the country was hit by bad weather resulting into drought and famine coupled with 1982 political turmoil resulting from a failed *coup de tat* attempt, the economy performed poorly. There after the GDP growth rate recovered and rose to 7.18 percent 1985 owing to good weather and favorable political climate, pushing good economic performance until 1989. This was due to modest coffee boom of 1986.In 1990 the fiscal deficit started to balloon owing to increased public sector employment. The preliminary effects of the multiparty state and the 1992 general election worsted the macroeconomic stability. The GDP growth rate declined to negative 0.8 in 1991 and it continued to 1992.In 1993 the major economic reform was carried out with help of World Bank (WB) and International monetary fund (IMF) under structural adjustment Programmes (SAPs).These reforms included appointed of minister for finance and introduction of fiscal policy, central bank governor and monetary policy, elimination price and exchange controls, import licensing, retrenchment of civil servants and privatization of state owned companies. The performance of the economy slightly improved but became worse again due to 1997 El Nino floods, suspension of the Enhanced Structural Adjustment Facility and general elections, followed by severe drought and famine in 1999 and 2000. These events pushed GDP growth rate to 0.6 and 0.55 in 1999 and 2001 respectively. From 2003 new face of government took management and GDP growth rose steadily and hit 8.41 in 2007, despite some setbacks such as increase inflation

as result of increased oil prices and importation of food stuffs. The positive performance can be attributed to effective macroeconomic management, leading to substantial levels of private and public investment. (Murunga, Wawire and Muriithi, 2021).

The economic reforms spanning from 2003 to 2007 were implemented within the framework of a five-year plan known as the Economic Recovery Strategy for Wealth and Employment Creation (ERS).In 2008 the GDP growth rate sharply dropped to 0.23 percent due postelection violence. The decline in GDP growth rate was addressed by providing conducive environment for local and foreign investment, maintaining price stability with target inflation rate of one digit, good performance in tourism sector and increased activities in construction industry. The reforms were aligned in the 2007 Vision 2030. The improvement in economic performance continued where in 2010 the constitution 2010 was promulgated. This brought many economic reforms creating checks and balances in the government offices and creation of 47 counties. The counties are meant to make it easy for citizens to access the government services and also address the region specific problems (Republic of Kenya, 2003).

Some of the economic reforms that were introduced were reduction of poverty and so to realize economic growth. Kenya has been putting in place various poverty reducing development strategies. One of this poverty-focused strategy included the investment in the agricultural sector. The choice of this sector was informed by the role it plays in the Kenya's economy (Republic of Kenya, 2003).

Eliminating poverty is among key aims of any public policy of not only many countries but also international organizations. In numerous states, the income-based poverty lines set by the government are often considered too meager. Typically, these poverty thresholds are determined by the expenses associated with a basic food basket, with a minor additional amount incorporated to acknowledge the existence of non-food essentials like healthcare, housing, water, transportation, and education-related expenses. However, this supplementary sum is frequently unrealistically low when compared to the actual costs of non-food essentials, especially for individuals residing in areas where these costs are notably high. The income required to escape poverty is generally higher, particularly in larger and more prosperous urban centers.

From 1990 to present, many people's living standards have recently risen rapidly. According to World Bank (2018), World poverty has been a decreasing trend since 1980s. Millennium Development Goals (MDGs) first target aimed at halving the number of the poor people living below $1.90 a day was met five years ahead of the set 2015 deadline (United Nations, 2013). The total number of people living below USD 1.90 a day shrunk to 0.8 billion people in 2013 from 1.9 billion people in 1981 (World Bank, 2018). This pattern presents a positive outlook for achieving the goal of eliminating poverty by 2030, as outlined in the Sustainable Development Goals (SDGs).The progress on reducing poverty is however uneven amongst. Developing countries more so in Sub Sahara Africa are still experiencing formidable challenges in reducing poverty.

Figure 1.1 shows that the number of people living below the poverty line has gone down since 1996.23 million between 1980 and 1781.39 million people in 2000. It is observed in 2015, the number had reduced to 793.04 million. This impressive reduction can be linked to concerted effort by countries as they were aiming to achieve the millennium Development Goals whose deadline was 2015. It can be observed that the number reduced even further to 698.09 in 2019. This reduction can be linked to Sustainable development Goals that were set in 2015 where countries are expected to eliminate extreme poverty by the year 2030.
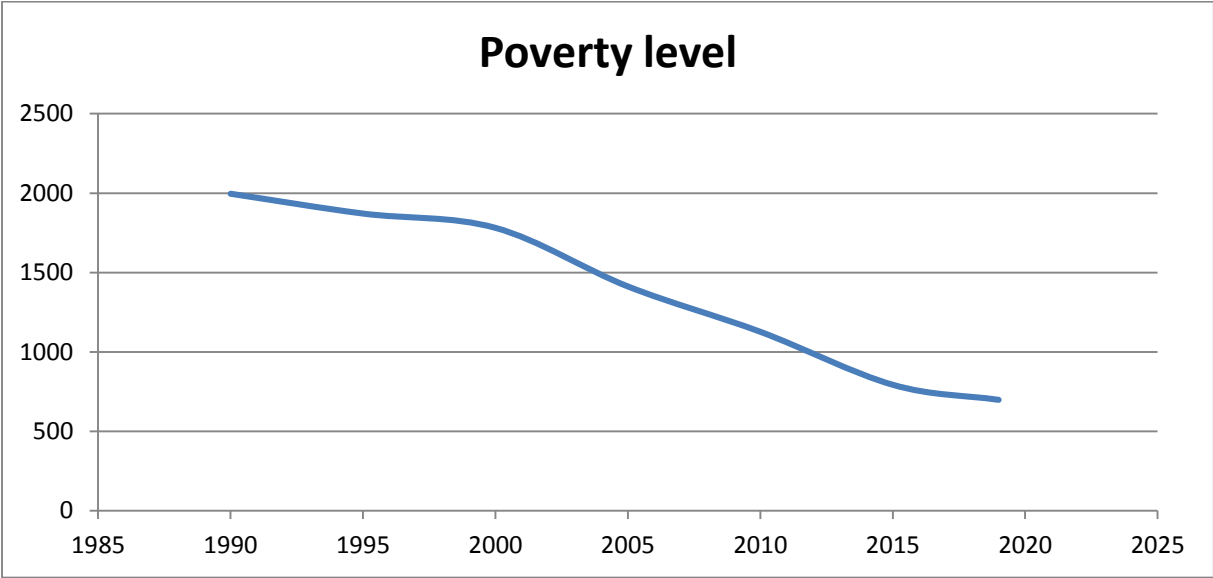
Figure 1. 1: The Number of people living below $2.15 a day in the world
Source: World Bank (2018)

Despite the decreasing trends in poverty rates, the trends for the Sub-Saharan African region has been different. The poverty trend is shown in Figure 1.2.
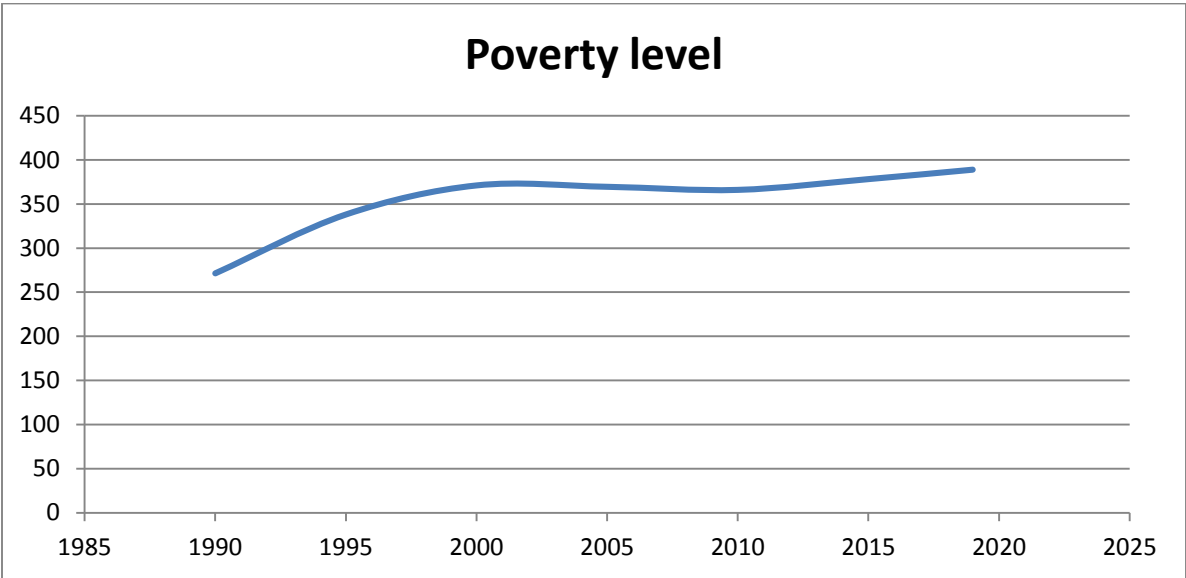
Poverty level

Figure 1. 2: Number of the poor living below $2.15 a day in the Sub-Saharan Africa

Source: World Bank (2018), World Development Indicators (WDI).

According to Figure 2, there is an evident rise in the population living below the poverty line, hiking from 271.49 million individuals in 1990 to 371.14 million in 2000.The number reduced to 369.59 million people in 2005 and a further decrease to 366.09 in 2010. The decline in poverty levels can be linked to the efforts made by various governments to achieve the (MDGs). However, the household living below poverty line increased to 378.27 million people in 2015 and later rose to 389 million by 2019.

According to Chandy, Kato and Kharas (2015) this increase can be attributed to rapid population growth. According to the author, the region had a growth rate of 2.6 percent per annum. This means that even if the region had growth income, that doesn't translate to a reduction in poverty as the income is shared among many people. This implies that although income in the region may be increasing, per capita GDP may be reducing. The author also links the regional increase in poverty level to high poverty rates in the region as compared to poverty rates elsewhere. The author showed that many people are far away from poverty line when compared to other regions. This implies

that even if there is an improvement in the incomes, poverty improves by people approaching the poverty line without crossing it.

Chandy et al. (2015) also attributes the regional increase in poverty to initial high income inequality in the region. These authors indicates that although income inequality is not rising at the moment, the income inequality was already at higher levels. In a situation where the initial income inequality is high, economic growth in not expected to deliver a proportional reduction in poverty.

1.1.1 Poverty Level in Kenya

One of the major goals of the Kenyan government is shielding its populace from poverty. The poverty level as measured by poverty headcount ratio has been varying from the 2005 to 2020. The poverty level in Kenya is shown in Figure 3.
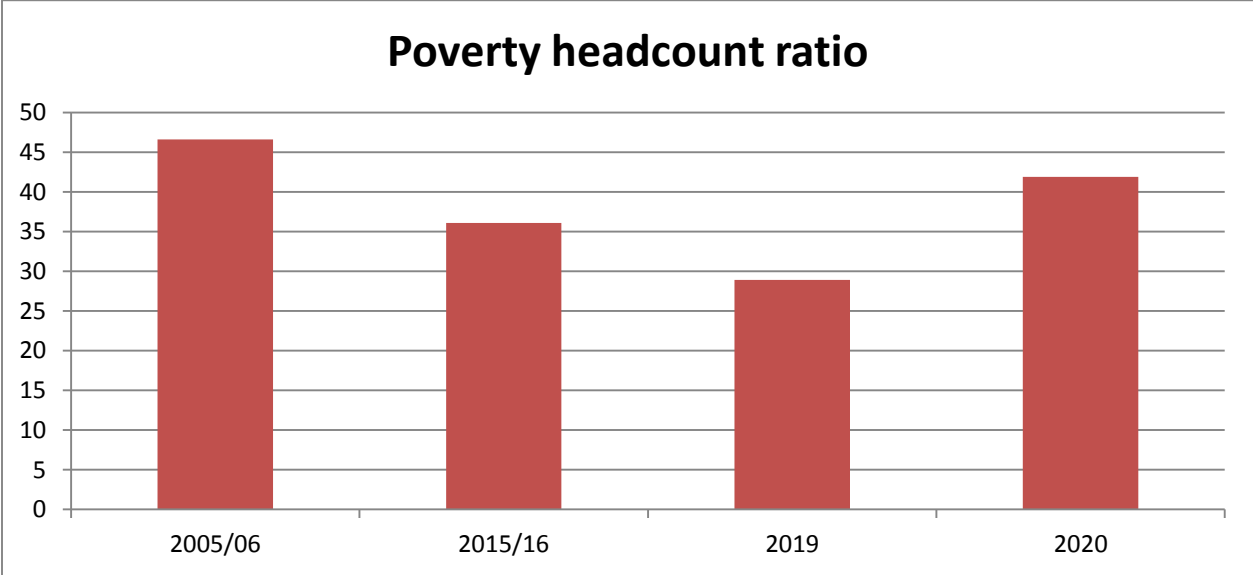
Figure 1.1: Poverty Headcount ratio in Kenya

Source: Kamer (2022),

From Figure 3, it was observed that the poverty level reduced from 46.6 percent during the fiscal year 2005/2006 to 36.1 percent. There was a further decrease 28.9 percent in the year 2019. This

impressive reduction in poverty can be attributed to government's efforts in meeting the medium-term goals of Economic Recovery Strategy (ERS) of 2003 to 2007.

The improvement in poverty reduction was reversed by the effects of COVID-19 pandemic. The pandemic made about 2 million people to become poor. The measures to contain the spread of the virus led to reduction in household employment and incomes. The private sector was hit hard by these measures. They led to reduced demand for their products as a result decreased consumption and demand for inputs (World Bank, 2020).

The 2021 Kenya Continuous Household Survey (KCHS) indicated that the nationwide poverty headcount rate stood at 38.7 percent. The survey revealed that in rural areas, the headcount rate was 40.7 percent. The measures implemented to address the impact of the COVID-19 pandemic resulted in a slight decrease in poverty among the rural population, amounting to 2.8 percent. Nevertheless, this reduction was significantly less than the urban population, where poverty decreased by 7.6 percent (Republic of Kenya, 2021).

Some of the efforts taken to achieve economic growth objective leading to poverty reduction included the strengthening of Kenya's macroeconomic framework. This guaranteed the establishment of a more accountable fiscal environment and the development of a favorable setting for private sector investment in the economy. Additionally, the government implemented various measures to enhance equity and thus reducing poverty through provision of free and compulsory primary education, free basic health, and expansion of the productivity in the agricultural sector. The government also implemented the development of arid and semi-arid regions. The Kenyan government also improved living conditions for urban residents through the upgrading of infrastructure and social services that had initially been strained due to high rates of urbanization (The Republic of Kenya, 2004). The reduction in poverty between 2005 and 2019 can also be linked to improved governance that was brought about by the promulgation of the 2010 Kenyan constitution that brought about the independence of the judiciary.

This comprehensive overhaul of the judiciary bolstered the adherence to the rule of law and enhanced security. The Kenyan 2010 constitution also introduced far reaching reforms in the

public administration systems that led to improved transparency and accountability in government (Republic of Kenya, 2010).

The Kenyan government continued to put in place measures aimed at reducing poverty. This was based on the fact that reduced poverty is important for the country to realize high consumption levels. High consumption level lead to increased economic performance which is key in achieving the Kenya Vision 2030. Country's commitment towards abolishing absolute poverty is anchored on Sessional Paper Number one of 1965 which emphasized on government effort to eradicate poverty. From Figure3, it was observed that poverty level hiked from 28.9 percent in 2019 to 41.9 percent in 2020. This increase in poverty can be attributed to the locust invasion that took place in December 2019. The increased poverty levels can also be linked to COVID-19 pandemic. In an effort to curb the spread of the virus, Kenya's government suspended international flights, negatively affecting the small scale entrepreneurs that rely on imported goods for their businesses.

The government also implemented the dusk to dawn curfew in the country that affected hotel and alcohol business that are operate to midnight. The government also adopted stay-at-home measures in the counties of Kilifi, Kwale, Nairobi and Mombasa. The enactment of these containment measures has significantly impeded corporate operations and resulted in employment losses, negating the progress previously achieved in poverty reduction (World Bank, 2020).The poverty rate using head count ratio based on Kenya's regions is shown in Table 1.1

Table 1. 1: Poverty Rates in Kenya	
Residence	Head Count Ratio
National	36.1
Rural	40.1
Peri-Urban	27.5

Core-Urban	29.6

Source: Republic of Kenya (2016)

From Table 1 it is observed that the poverty rate using head count ratio was 36.1 in 2015/2016. The poverty rate in rural was 40.1 percent while those in core-urban was 29.6 percent. The poverty rate in peri-urban was 27.1 percent. According to Khan (2001), elevated levels of rural poverty are attributed to restricted market access, inadequate education, substandard infrastructure, limited employment prospects, a deficient health sector, and insufficient financial services. Urban poverty is frequently characterized by precarious living conditions concerning sanitation, employment, and personal security.

Kenya has witnessed a significant increase in its economic growth, leading to enhanced living standards of its citizens. The poverty rate in Kenya diminished by 11 percent since 2005/06, resting at 36.1 percent during 2015/16 financial year. This signified a reduction of individual living in poverty by 0.2 million.

Furthermore, it has been noted that poverty rates remain higher in Rural areas as per the recent Household Budget Survey conducted in 2015/16. Specifically, the headcount ratio for poverty stood at 40 percent in rural areas, contrasting with peri-urban and core urban areas, which reported lower figures at 28 percent and 29 percent, respectively. The yearly rate of absolute reduction was marginally slower in rural regions, demonstrating a decline of 1.2 percentage points, in contrast to peri-urban zones, where there was a reduction of 1.5 percentage points. However, the annual rate of absolute poverty increased in urban areas.

It's important to note that these variations conceal regional disparities, with certain regions, like the northeastern region, exhibiting particularly high poverty rates. For instance, Turkana County reported poverty rates of nearly 80 percent in the 2015/16 period.

1.1.2 Western Region and Poverty Situation
Following the enactment of the new Kenyan constitution, the provinces ceased to exist, and Kenya was sub divided into 47 distinct counties, each with own structure of governance. There is no

defined regional capital. The former Western Province transitioned into the Western region, consisting of four counties: Busia, Vihiga, and Kakamega. Kakamega serves as the government headquarters for Kakamega County, Bungoma for Bungoma County, Busia for Busia County, and Vihiga town for Vihiga County. The county governments and their governors are accountable to the local populace rather than the national government. Situated in the west of the Eastern Rift Valley, the Western Region shares a border with Uganda and was previously one of Kenya's eight administrative provinces, distinct from Nairobi. The region is primarily inhabited by the Luhya people, with a minority of Kalenjin people. Christianity is prevalent, and Quakerism is widely practiced. Notably, the region is home to Mount Elgon, Kenya's second-highest mountain, located in Bungoma County, and features the Kakamega rainforest. Agriculture, particularly the cultivation of maize, sugarcane, tea, pearl millet, and sorghum, is the primary economic activity. Dairy farming and poultry raising are also common practices (Diwakar and Shepherd, 2018).

Despite the region practicing farming and livestock keeping, high levels of poverty are recorded. The poverty rate in the four counties during 2015/16 financial year are shown in Table 2

Table 1. 2: Poverty Rates in Western Region	
County	**Head Count Ratio**
Kakamega	32
Vihiga	42
Busia	69
Bungoma	31

Source: Republic of Kenya (2016)

Table 2 reveals that Busia County has the largest incidence of individuals living below the poverty line. Specifically, out of every 100 individuals, 69 were found to be below the poverty threshold. Vihiga County whose 42 percent of the population live in poverty takes second position with Kakamega County taking third position in terms of poverty rate, with 32 percent of its residents falling below the poverty line. Conversely, Bungoma County has the lowest poverty prevalence, with only 31 percent of individuals experiencing poverty in the region.

1.1.3 Determinants of Poverty

In Kenya, some people find themselves trapped in poverty. They are affected by income related poverty age, gender disparities, residential location, disability and the intersecting layers of income inequality. These factors that contribute to sustained deprivation include the long standing income inequality brought about by limited economic growth and the stagnation of agricultural sector.

However, despite these challenges, there are positive developments that are linked to devolution that presents a sense of hope. With effective implementation of devolution, the marginalized societies and vulnerable have an avenue to cultivate their own resources and broaden opportunities for growth. (Diwakar and Shepherd, 2018).

1.2 The Statement of the Problem

Over the years, Kenya has seen a steady but little decline in the poverty rate for the period running from 2005/06 to 2015/16. The poverty level reduced from 46.6 percent to 36.1 percent respectively. Aligned with the noteworthy overall economic growth, Kenya has successfully decreased the percentage of individuals residing below the national poverty line by over ten percent (Kamer, 2022). However, despite this substantial decline in the poverty rate, the actual number of people in poverty experienced only a modest reduction, decreasing from 16.6 million in 2005/06 to 16.4 million a decade later (Republic of Kenya, 2016).Western region whose people are known to practice agriculture due to having to rain season is interestingly among the region with more poor people. This means the region contributed to the marginal reduction in poverty between 2005/06 and 2015/16. For instance, Busia registered a poverty rate of 69 percent. This unlike similar rural agricultural counties for instance Nyeri, Kirinyaga and Meru that recorded poverty rate of 19 percent, 20 percent and 20 percent respectively. It is in line with this dismal

performance that this study would like to investigate determinants of poverty. Owidhi (2015) studied determinants of poverty in Kenya using 2005/06 KIHBS. This study deviates from Owidhi (2015) study by estimating the determinants of poverty in Western region. This approach was adopted based on the fact that poverty levels vary from one region to another. The study also intends to use 20015/16, Kenya Integrated Household Budgets Survey (KIHBS), the most recent data. The study will employ binary model in estimating the determinants of poverty in the Western region.

1.3 Research Questions

The present study aimed to investigate the following research inquiries.

i. What are the determinants of poverty in Western region of Kenya?

ii. Does County of residence within the Western region determine poverty in Western region of Kenya?

iii. What policy recommendations can be derived from the findings of the study to contribute to poverty reduction in the Western region?

1.4 The Objectives of Study

1.4.1 The General Objective

The primary goal of this study was to find out the determinants of poverty in Western region of Kenya.

1.4.2 Specific Objectives

The specific objectives were:

i. To estimate the determinants of poverty in Western region of Kenya.

ii. To establish if County of residence influences poverty in Western region of Kenya.

iii. To suggest policy implications with an aim of reducing poverty in Western region of Kenya.

1.5 Scope of Study

According to Constitution of Kenya, Western region is made of four counties. The counties include Vihiga, Kakamega, Bungoma and Busia. The study will consider all the four counties in studying the determinants of poverty in the region. This region was considered because it has two rain season and has the potential of contributing to reduced poverty rate in Kenya. Currently, the counties in the region have high poverty rates thus contributing to high poverty rate nationally.

This research investigated the factors affecting poverty rates in the Western region of Kenya, utilizing the Kenya Integrated Household Budget Survey (KIHBS) 2015/16 for the chosen regressors. A binary regression estimation technique was employed establishing a correlation between variables under study.

1.6 Significance of the Study

Establishing the determinants of poverty in the Western region of Kenya helps inform policy decisions in reducing the high poverty rates in the region. The findings are particularly useful to the government departments that are concerned with reducing poverty in Kenya. County government officers in the four counties of the Western region can utilize the report in alleviating poverty in their counties. This extensive research is beneficial to nongovernmental organizations that deal with poverty issues by assisting them in understanding the factors that influence the poverty in the Western region. With this understanding these organizations can develop and execute strategies that will inevitably reduce poverty levels in the region.

The study offers added knowledge and pushes forward the enhancement of already existing literature in the field poverty. This will therefore offer source of literature to the future scholars who will be interested in studying poverty in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The second chapter is made up of three primary segments: namely review of theories, a review of empirical literature. The chapter ends by discussing an overview of the Literature in existence.

2.2 Theoretical Literature Review

The theories linking poverty and its determinants are explained and discussed in the following sections.

2.2.1 The Theory of Individual Deficiencies

This theory of poverty argues that an individual is accountable for their own circumstances of poverty. Gans (1995) indicated that determinants of poverty include welfare participation, human capital and individual attitude. However, Bradshaw (2006) indicated that the poor people create their own problems by showing that had they worked hard, poverty could be eradicated. The author further attributes poverty to lack of genetic qualities for instance intelligence which is not so easily reversed. This theory is rooted in U.S. values and a belief in the free market system, renowned for offering opportunities to everyone. Rank (2004) postulated that the concept of individualism places strong emphasis on individual effort and personal responsibility as the means to attain essential necessities, such as food, housing, and healthcare services. Moreover, this theory is grounded in American values and emphasizes the notion that talent, hard work as well virtue serve as avenues to success. It posits that an individual's poverty stems from a lack of motivation and is perceived as a personal shortcoming.

Nevertheless, this theory attributing poverty to individual factors has been subject to criticism, particularly with the rise of the concept of inherited intelligence in the nineteenth century. In this era, the eugenics movement aimed to justify poverty and went as far as advocating for the sterilization of individuals deemed to possess limited abilities (Bradshaw, 2006).
Relevant to this current study, the theory finds its application as human capital, which is measured through education and the participation in welfare programmes,

2.2.2 The Theory of Cultural Belief Systems that Support Sub-Cultures of Poverty

This theory is concerned with the notion that poverty is brought about by dissemination of a set of socially generated beliefs from one generation to another (Bradshaw, 2006). The theory avers that poor individuals should blame themselves since they are affected by a dysfunctional culture. The notions of culture of poverty and social isolation forms a framework for explaining how poverty occurs and continues to thrive in a specific context or among some groups of the society.

Cultural and environmental factors are closely related to the impact of an individual's residential environment. These factors shape individual's experience of poverty or success. This theory of culture of poverty that was founded by Lewis (1966) operates on the basis that the rich and the poor people adhere to distinct set of values, behavioral norms and beliefs. In accordance with this theory, poverty persists because individuals acquire specific psychological behaviors associated with being in a state of impoverishment. Lewis (1966) argued that the poor do not acquire habits such as diligent studying, future planning or prudent financial management. In Lewis's view, poverty is transmitted across generations because children are socialized into adopting values and aspirations linked to poverty.

According to McIntyre (2002), culture of poverty theory avers that poor individuals can resist and break free from it. Bradshaw (2006) demonstrated that the culture of poverty signifies a shared culture among individuals living in economically disadvantaged regions, ghettos, or social contexts. In these settings, they develop a collective set of beliefs and behavioral norms that are unique yet interconnected with the broader societal culture.

The theory is therefore relevant to the current study because its individuals in rural or urban are likely to be socialized in the way other members of the society live. Thus if in a place residence, individuals are entrepreneurs then a child in such a society will be socialized to become one. Thus this study will use area of residence as one of the factors that explain poverty.

2.3 Empirical Literature Review

The following section presents studies that were previously done on the link between poverty and its determinants.

2.3.1 Household Head Gender

Many earlier studies have explored a link between household head gender and poverty, mainly focusing on heightened likelihood of poverty among female headed households. According to Pearce (1978) this concept is referred to as the feminization of poverty. The assertion that female headed households are more likely to experience poverty stems from potential societal discrimination women may face in labor market. Furthermore, women usually have fewer years of schooling than men, which can lead to lower incomes in the labor market (Garza-Rodríguez, 2015).

One study that delved into the impact of household head gender on poverty is the research conducted by Biyase and Zwane (2018). They employed Fixed and Random Effects models to assess the influence of the household head on poverty in South Africa. The study results indicated that the gender of the head of the household played a crucial role in determining poverty.

In another study by Iqbal et al. (2020), the focus was on examining the determinants of multidimensional poverty in Punjab and Pakistan. Rather than solely considering unidimensional headcount poverty ratios, the study utilized the Alkire-Foster index (AFI) to gauge poverty at regionally disaggregated levels, including divisions and districts. The study employed a logit model using survey data across nine geographical regions. Interestingly, the results contradicted the common belief that poverty is more prevalent among females, as the study indicated that male-headed households were in fact poorer.

In another study, Ravindra Deyshappriya and Minuwanthi (2020) sought to study the factors determining multidimensional poverty in Sri Lanka. The paper utilised Household Income & Expenditure Survey (HIES) (2016) data sourced from the Sri Lankan department of Census and Statistics. On employing probit model, nature of the head of household was found to be important determinant of poverty. Awan and Bilgili (2022), in their examination of the factors influencing poverty in Pakistan, found that female-headed households had a higher likelihood of experiencing poverty. Similar results were obtained by Shah & Debnath (2022). The authors studied the factors determining multidimensional poverty among the rural population Tripura, India. On using binary logit regression, the study established gender as an important determinant of poverty.

2.3.2 The Household Head Age

The life cycle theory of consumption indicates that income of an individual is relatively at low levels during their youth due to limited work experience. This income tends to increase as they gain more experience but gradually decreases in old age due to reducing productivity as a result of reduced health stock. Accordingly, one would expect a nonlinear relationship between age and poverty. In other words, this implies that poverty is higher during early years of an individual and reduces when the individual becomes an adult. However, poverty increases again during the old age (Garza-Rodríguez 2015). Rodrigues and Rueanthip (2019) studying the effect of age on poverty in Thailand using a probit model. The study used a nationally representative household survey data for Thailand. The findings showed that increase in age ad being poor were closely related.

Yamada (2018) studied the impact of age on poverty in Vietnam in the span between 1993 and 2014. The findings posit a inverse link between poverty and age. In simpler terms, results showed that the probability of an individual experiencing poverty rose as individuals transited to middle age and decreased as they moved into old age. However, Iqbal et al. (2020) while studying the determinants of multidimensional poverty in Punjab and Pakistan did not find any relationship between poverty and age.

Achia, Wangombe and Khadioli (2010) studied the relationship between age and poverty. The study utilised a logit model on Demographic Health, Survey (DHS). This research results showed that age was an important determinant of poverty in Kenya. In a separate study, Otieno (2015) examined the impact of age on poverty in Kenya. The study used cross section data from KIHBS 2005/06. Employing the logit model, the outcome established a negative link between age and poverty in Kenya. In other words, increasing age was linked to a reduced probability of experiencing poverty. Similarly, Barlas, Sadiq, and Haidari (2022) while studying poverty and its determinants in Afghanistan found similar results. The study adopted logit model.

2.3.3. Marital Status of the Household Head

Following the seminal studies conducted by Bane and Weiss (1980), extensive research has been undertaken to explore the impact of family structure on poverty, particularly focusing on the marital status of the household head. According to this author, households with married couples exhibit lower poverty rates. In such households, each member of the couple has an opportunity to participate in the labour market. If one of the spouses opts to stay at home, they often assume the role of caring for the children. This arrangement allows the other member of the couple to fully utilize their potential, potentially leading to higher income.

Additionally, households with married couples can benefit from economies of scale when purchasing goods, providing them with a greater incentive to save compared to single individuals. Furthermore, married households can also enjoy enhanced social security benefits provided by government (Lerman, 2002).

Peng et al. (2019) explored poverty and its causes using Hong Kong data. On using logit model, the results revealed that female, single, or part of a single-parent household raised the probability of experiencing poverty. However, this finding deviated from earlier results presented by Anyanwu (2013) that had established a negative relationship between monogamous marriage and households with separated, widowed or divorced individuals and poverty in Nigeria. Anyanwu (2013) study was based on data from the Harmonized Nigeria Living Standard Survey (HNLSS) from 2009/2010.

Khan, Alvi and Khan (2018) studied the relationship among marital status, profession and poverty in Pakistan. The study used secondary data sourced from the Pakistan Statistical Department. The study multiple regression model. The results showed that married couples were wealthier as compare to unmarried individuals. This implied that the married were less poor as compared to the unmarried. Similar results were found by Zamfir (2001) who showed that single-parent families are most vulnerable to penury.

2.3.4. Household Head Level of Education

Individual's level of Education enhances human capital thus leading to increased productivity and income. Thus, there exists an indirect relationship between poverty and level of education. Many studies provide a strong empirical support for this theory. Some of the studies include Islam, Jamil and Nazmul (2017), Lekobane and Seleka (2017), Biyase and Zwane (2018) and Peng, Fang, Wang, Law, Zhang, & Yip ((2019).

In a specific case scenario for Kenya, research conducted by Geda et al. (2001) and Owidhi (2015) has revealed compelling evidence that a highly educated household head has a low probability of experiencing poverty.

Awan & Bilgili (2022) investigated the factors that determine poverty in Pakistan with use of panel data on waves of cross section data running from 1998 to 2019. On using probit model, it was revealed that probability of an individual with less education was high. Similar results were obtained by Huang, Jiao, Wang, Li, Yan, Chen & Guo (2022)

2.3.5. Household Size

Building on the foundational research of Lanjuw and Ravalion (1995), it has been demonstrated that there is a positive correlation between poverty and household size. The lack of sufficient social security systems and low levels of savings in developing nations often contribute to higher fertility rates, resulting in larger household sizes with many children. This, in turn, increases the dependency burden and contributes to higher levels of poverty (Garza-Rodríguez, 2015). Numerous studies, including those by Lekobane and Selka (2017), Arha and Dartato (2018), Ogutu and Qaim (2019), and Ravidra Deyshapriya and Minuwathi (2020), have established a consistent positive association between poverty and household size.

In the specific context of Kenya, both Geda et al. (2001) and Owidi (2015) have identified a robust positive correlation between poverty and household size.
Shah & Debnath (2022) studied the factors determining multidimensional poverty among the rural population Tripura, India. The study adopted binary logit regression. The research confirmed that the dependency ratio played a significant role in determining poverty.

2.3.6. The Location Region of a Household

Todaro and Smith (2011) have showed that poverty levels in urban and rural areas are different among the developing countries. Garza-Rodríguez (2015) highlights three primary factors that contribute to the higher prevalence of poverty in rural regions as opposed to urban areas.

To begin with, rural areas depend significantly on the agricultural sector, which often results in low productivity and subsequently lower incomes. Secondly, historical government policies in these developing countries have favored urban areas, disadvantaging rural regions. Lastly, rural areas are vulnerable to the adverse impacts of natural disasters, which poh not only have immediate repercussions but also deplete their capital resources in the long run.

Lack of employment opportunity, infrastructure that is not quality lead to poverty in rural areas (Gounder, 2013). Several studies consistently show that poverty is more prone among the rural population as compared to urban dwellers. For instance, a study conducted in Selekka and Lekobbane (2017) revealed that households residing in urban zones were 8.2 percent less likely to experience poverty than their counterparts in the rural. Likewise, Biyase and Zane (2018) observed that individuals residing in rural areas in Sri Lanka are more prone to experiencing poverty compared to their urban counterparts. Ravidra Deshapriya and Minuwathi (2020) also recorded a similar association in South Africa.

2.4 Overview of Literature Reviewed

From literature studied, there was clarity that understanding the determinants of poverty is important in shaping country's policy reform with an aim of abolishing absolute poverty. The reviewed literature has revealed that several factors influence poverty. The explaining variables include: level of education, economic growth, size of household, age, status of employment, working, area of residence, area of residence, size of land, environmental conditions and time spent in getting water from various sources and energy sources.

From the reviewed literature, it is revealed that several models are used in modeling the determinants of poverty. While some studies have used probit others have used logit models. It is also evident that poverty has been measured as a discrete by some studies while others have measured it as a continuous variable. Those who studies that considered it as continuous have used calorie consumption as a measure of poverty.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section outlines the methodology, encompassing the conceptual framework, empirical model, and diagnostic tests.

3.2 Theoretical Framework

Education and other factors possess the potential to augment the accumulation of capital and managerial expertise, subsequently elevating a country's output levels and reducing poverty (Garza-Rodríguez, 2015). Inspired by the work of Garza-Rodríguez (2015), we construct a straightforward endogenous model that integrates the externality (positive or negative) linked to the presence of education. This can be explicitly formulated with a Cobb-Douglas production function in per capita terms, as expressed by the following equation:

$$Y = \gamma(K_f)K^{\beta} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.1$$

Where y represent output, k signifies the stock of physical (domestic) per capital unit and γ(kf) encapsulates the externality resulting from increases in years of education. β denotes the share of the per capita unit. Additionally, it is assumed that β is less than one, implying diminishing returns to capital per worker.

3.3 Empirical Model

It is easier to estimate a linear model, than a non-linear, model in equation 3.1 was linearized by introducing logarithms to become.

$$Y = \alpha + \beta lnK \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.2$$

Since education, has the potential of increasing the stock of capital, K can be substituted by education. Since there is a link between income and poverty, Y can be used to represent poverty. Taking into consideration other determinants as suggested by the literature, equation 3.2 becomes:

$$y = \beta_0 + \beta_1 Rel + \beta_2 age + \beta_3 \, sex + \beta_4 \, educ + \beta_3 \, res + \beta_3 famsize + \beta_3 marital + \beta_3 +$$
$$\mu \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.3$$

where y represent poverty where the variable takes the value 1 when a person is poor and zero otherwise, Rel represents the Religion, age represents age, sex represents sex, educ represents education, res represents area of residence, famsize represents family size, marital represents marital status, and μ is represents the error term.

To analyze the determinants of poverty in the Western region of Kenya, the present investigation employs a binary logit model, with predictions constrained within the interval (0, 1). The main aim is to interpret the dependent variable as the probability of being in poverty or not, considering other explanatory variables as outlined in the equation. We posit a linear relationship between latent variable.

We posit linear association existing between latent variable y^*, illustrating poverty level and regressors (X_i). Equation 3.4 illustrates the study's structural model.

$$y^* = X_i\beta + \mu$$ 3.4

In this context, y^* represents an unobserved latent variable spanning from negative infinity to positive infinity. X_i Represent a vector of regressor, β denotes a vector of parameter to be measured whereas μ represents an error term. Additionally, consider the following equation of measurement that connects latent variable y^* and an observed binary variable y:

$$y = \begin{cases} 1 \ if \ y^* > m \\ 0 \ if \ y^* > m \end{cases}$$ 3.5

Where y is 1 if an individual is poor, 0 otherwise m is the cut-off point, a critical level of index y^* beyond which an individual becomes poor.

To respond to the second objective of the study, binary model methodology is considered with the introduction of county dummies as explanatory variables. The purpose of estimating this model is to facilitate result comparisons. The regression model is represented as follows:

$$Y_i = \alpha + \beta_i X_i + \mu_i$$ 3.6

For $i = 1 ... ... n$ where Y takes value 1 if one is poor and 0 otherwise, Xi denote a vector of household characteristics as explained in Table 3.4, μ reflect an error term while β represents vector of coefficients to be estimated.

3.4 Variable Description and Measurement

The variable description, operational definition and measurement scale is shown in Table 3.1.

Table 3. 1: Variable Description and Measurement		
Variable	**Operational Definition**	**Measurement Scale**
Poverty rate	Poverty rate =1 if an individual is Poor meaning his consumption expenditure is below KES 3252 a month, 0 Otherwise. According to Republic of Kenya (2023) an individual is said to be poor if he/she has a consumption below=w KES 3252 in a month.	Nominal
Age	Age of population in years	Ratio

Table 3. 2: Variable Description and Measurement Continued		
Education	If no education the variable takes value 1 and 0 if otherwise The variable takes the variable 1 if the respondent has Primary level and 0 otherwise The variable takes the variable 1 if the respondent has secondary 0 otherwise The variable takes the variable 1 if the respondent has tertiary education and 0 otherwise	Nominal
Gender	The variable takes the value 1 if the respondent s male and 0 otherwise.	Nominal
Religion	The variable takes the value 1 if the respondent is Christian and 0 otherwise. The variable takes the value 1 if the respondent is Muslim and 0 otherwise.	Nominal
Household Size	Number of individuals under one household head	Ratio
Marital Status	Marital status=1 if married, 0 if not married	Nominal

3.5 Data source

This study used data from the Kenya Integrated Household Budget Survey (KIHBS) conducted in 2015/16, administered by the Kenya National Bureau of Statistics (KNBS). The data collection took place during the period of devolution, spanning from the month of September of 2015 to the month of August 2016. It involved the administration of three primary questionnaires to households. Questionnaires for community and market were conducted at the cluster level. The rest was conducted at household level.

The sampling procedure took place in three phases and included 5,360 clusters selected from the 96,000 enumeration areas established during the 2009 Kenya Population and Housing Census (KPHC). By classifying urban and rural regions across all 47 counties, a total of ninety two (92) strata samples were formed, with Mombasa and Nairobi identified as fully urban areas. At national level, the sample encompassed 24,000 households, with differing sample sizes allocated to each county. On average, each household comprised four members, leading to an overall average sample size of 96,000. It is noteworthy that this study is particularly centered on the Western region, serving as the primary focal area of interest.

3.6 Diagnostic Tests

3.6.1 Multicollinearity Test

Multi-collinearity happens with existence of a robust linear association between many regressors within multiple regression analysis. When one regressor can predict another, it introduces the regression becomes indeterminate, which can distort the outcomes of the model. This phenomenon has several disadvantages, including a very low t-statistic, wide confidence intervals for coefficients, potentially inaccurate estimates of partial regression coefficients, and elevated standard errors.

To identify and assess multicollinearity, Variance Inflation Factor was employed, giving an opportunity for quantification of extent of the problem. A VIF value of less than 10 indicates independence among the predictor variables. However, VIF values of 10 and above indicate severe multicollinearity that demands attention. In cases of severe multicollinearity, one approach to

address the issue is to remove one of the correlated predictor variables from the analysis or to transform the variable.

3.6.2 Heteroscedasticity Test

Heteroscedasticity (Nonexistence of homoscedasticity), is detectible when the square of the residuals, a proxy of variance of residuals is observed across a particular period display non-constant patterns, expressed as $E(ee) = \sigma i2$, where i ranges from 1 to N. This problem is especially noticeable in non-linear models, as it can result in biased and unreliable estimates for model parameters. Additionally, hypothesis test that rely on residuals assuming normality may produce inaccurate outcomes, leading to potentially misleading conclusions.

In our analysis, we employed the Breusch-Pagan test to spot heteroscedasticity. If the test indicates its presence, the study will proceed to utilize robust standard errors, which serve to correct for the non-constant variance issue and ensure more reliable statistical inferences.

3.5.3 Normality

The OLS regression model operates on premise that residuals are in conformity to a normal distribution characterized by a mean of zero and consistent variance. This error term is essential for accommodating any overlooked explanatory variables. It is typically assumed that these omitted variables exert a minor or, at most, random influence on the model. Therefore, for the OLS regression to be valid, it is essential that the error term conforms to a normal distribution (Gujarati, 2004). To verify normal distribution of residuals, this study employed the Shapiro-Wilk test.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter presents the empirical findings of Factors that correlate with poverty in the western region. The chapter presents the analysis of data and interpretation is done in this chapter. Descriptive statistics for the variable used in the study is also presented in the chapter. Multicollinearity test and the logit regression results are provided.

4.2 Descriptive Statistics for regional factors determining poverty in western Kenya

The descriptive statistics for variables used in establishing the determinants of poverty in western region are shown in Table 4.1. Specifically, number of observations, the average, standard deviation, minimum and maximum values for each variable are presented

Table 4. 1 : Descriptive Statistics For Determinants of Poverty in Western Region					
Variable	**Observation**	**Average**	**The Standard Deviation**	**The Minimum Value**	**The Maximum Value**
Poverty	1,099	0.54	0.50	0	1
age	1,099	34	17	15	95
No education	928	0.30	0.45	0	1
Primary	928	0.43	0.49	0	1
Secondary	928	0.18	0.38	0	1
Tertiary	928	0.078	0.27	0	1
Degree	928	0.020	0.14	0	1
Sex	1,099	0.49	0.50	0	1
Marital Status	1,099	0.52	0.50	0	1
Household Size	1,099	4.52	2.44	1	15
Residence	1,099	1.32	0.47	0	1
Christian	1,099	0.84	0.37	0	1
Muslim	1,099	0.13	0.34	0	1
Other Religion	1,099	0.03	0.17	0	1

Source: Author's own computations based on KIHBS data

From Table 4.1 it is observed that 54 percent of people in the region are poor. This finding corroborates the Republic of Kenya (2016) report which showed that despite western region practicing farming and livestock keeping, high levels of poverty were still high. The report had indicated that poverty rate in Busia as measured by head count ratio was 69 percent. This finding therefore suggests the need for county government to initiate poverty reducing strategies so as to push its people above the poverty line.

The results also show level of education among the residents. For example, the results show that only 18 percent of the population has secondary education. Those with tertiary education are 7.8 percent while those with bachelor degree are 2 percent. This low education levels might be a threat to human capital development in the region and therefore is likely to be determinant of the high poverty rate in the region.

The results revealed that 84 percent of the residents of the western region are Christian while Muslims are 13 percent. These results are in agreement with International Religious Freedom (2022) report which indicated that about 85 percent of Kenyans are Christians while 11 percent were Muslims.

The results in Table 4.1 also show that the male account for 49 percent of the population in western region while the female account for 51 percent. This finding corroborate the Kenya 2019 population and Housing (2019) report that showed that male in Kenya accounted for about 23 million people while the female accounted for 24 million people.

4.3 Pre-Estimation Tests Results

Various pre-estimation tests were performed and their findings are as follows:.

4.3.1 Multicollinearity Test

The study tested for presence of multicollinearity using the Variance Inflating Factors. The

results are shown in Table 4.2.

Table 4. 2 : Multicollinearity Test	
Variable	**VIF**
Primary	3.84
No-education	3.52
Secondary	2.77
Natural logarithm of Age	1.32
Marital Status	1.30
Degree	1.25
Christian	1.24
Other Religion	1.22
Residence	1.04
Natural logarithm Household Size	1.04
Sex	1.01
Average VIF	1.78

Source: Author's own computations based on KIHBS data

The outcomes revealed that multicollinearity was not present. This was informed by all
explanatory variables having VIF less than 10. Further, the mean VIF was less than 10 thus
suggesting absence of multicollinearity. This implied that the study estimates were stable and the
inference test was valid.

4.3.2 Heteroscedasticity Test

Breusch-Pagan test was adopted to check for possibility of heteroscedasticity. Table 4.3 below shows findings for heteroscedasticity test.

Table 4. 3: The Breusch Pagan for heteroskedasticity Test Results
Ho: variance of error term is constant   **Variables: The predicted values of poverty**
chi^2(1)   =   0.42
Prob > chi^2 =   0.5164

Source: Author's own computations based on KIHBS data

From Table 4.3 it was observed that heteroscedasticity was absent since the probability of the Chi Square 0.5164 was greater than 0.05. This finding implied that variance of residuals was not changing with size of any of regressors. This finding suggested that the study's inference testing was valid.

4.3.3 Normality Test

The study confirmed for presence of normality using Shapiro Wilk test. The consequences are shown in Table 4.4.

Table 4. 4 : Normality Test Results					
Variable	**Observation**	**W**	**V**	**z**	**Prob>z**
Residuals	928	0.76147	140.541	12.210	0.00000

Source: Author's own computations based on KIHBS data

From Table 4.4 it was found that the probability value was 0.00 which is less than 0.05 thus error term was not normally distributed. This suggested estimation of linear model could result to wrong inference testing. The study remedied the problem of normality by running a nonlinear logit model.

4.4 Regression Results

4.5.1 Determinants of Poverty in Western Region of Kenya

In estimating the determinants of poverty in Western region of Kenya, logit model was considered. The logit coefficients are shown in Table A.1 in the Appendix. The logit results revealed the goodness of model fit. This was revealed by low probability of F statistic. Specifically, the computed F statistic was 0.0236. This suggested that all the explanatory variables considered in the model were important determinants of poverty in the western region of Kenya. The Marginal effects results were also estimated. These results are illustrated in Table 4.5.

Table 4. 5 : Determinants of Poverty in Western Region of Kenya	
Variable	**Marginal Effects Coefficients**
Natural logarithm of age	-0.0126
	(0.045)
No Education	-0.232*
	(0.127)
Primary	-0.215*
	(0.128)
Secondary	-0.294**
	(0.118)
Tertiary Education	-0.281**
	(0.119)
Degree	-
Sex	0.0144
	(0.033)
Marital Status	-0.0189
	(0.03994)

Table 4.5: Determinants of Poverty in Western Region of Kenya Continued

Natural logarithm of Household Size	0.0205
	(0.0262)
Area of Residence	0.128***
	(0.0354)
Christian	-0.118
	(0.112)
Muslim	-0.150
	(0.126)
Other Religions	-

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Author's own computations based on KIHBS data

The results in Table 4.5 show that no education, primary education, secondary education and tertiary education, residing in urban area or rural area in the western region of Kenya are the important factors determining poverty in the region. The results also revealed that natural logarithm age, sex, marital status, natural logarithm of household size and religion are not important determinants of poverty in western region of Kenya.

Specifically, marginal effects coefficients suggested that compared to a person with a degree, having no education reduces probability of being poor by 23.2 percent holding other factors constant. In addition, compared to a person with a degree, having primary education reduces probability of being poor by 21.5 percent holding other factors constant. The results also revealed that compared to a person with a degree, having secondary education reduces probability of being poor by 29.4 percent holding other factors constant. Lastly, compared to a person with a degree, having tertiary education reduces probability of being poor by 28.1 percent holding other factors constant. These results therefore suggest that education is an important to reduce poverty. The finding reveal that as one increase the years of schooling, that moving form no education, primary education, secondary education and tertiary education poverty reduces. The result support the human capital theory first put forward by Schultz (1961) which indicated that investment in education could add to productivity. An increased productivity may imply higher incomes that

eliminating poverty. This study's findings agrees with earlier studies Geda et al. (2001) and Owidhi (2015) which revealed compelling evidence that highly educated individuals have low probability of experiencing poverty. Awan & Bilgili (2022) while investigating the factors that determine poverty in Pakistan obtained similar results suggesting that education reduces poverty.

The results also revealed that individuals who reside in rural areas of the region are likely to be poorer than their counterparts in the urban areas. The results revealed that residing in rural areas of the western region increases the probability of being poor by 12.8 percent holding other factors constant. This finding corroborates Baloch, Khan, Ulucak, & Ahmad (2020) study rural areas lag behind in terms of personal consumption and the access to education, potable water and sanitation, health care, housing, transport and communications. This higher level of poverty in the rural areas of western region can be attributed to distorted government policies, for instance neglecting the agriculture sector which is the main economic activity of the region. In addition, the government has not fully improved the social and physical infrastructure of the rural areas of western region. These differences are likely to account for the poverty difference among the rural and urban areas of western region.

4.5.2 County of residence and Poverty in Western region of Kenya

In estimating the county of residence and poverty in Western region of Kenya, logit model was considered. The logit coefficients are shown in Table A.2 in the Appendix section. The logit results revealed the goodness of model fit. This was revealed by low probability of F statistic. Specifically, the computed F statistic was 0.021. This suggested that all the regressors considered in the model including county of residence were important determinants of poverty in the western region of Kenya. The Marginal effects results were also estimated. These results are illustrated in Table 4.6.

Table 4. 6: County of residence and Poverty in Western region of Kenya	
Variable	**Marginal Effects Coefficients**
Vihiga County	-0.00952
	(0.047)
Bungoma County	-0.082*
	(0.048)
Busia County	-0.0725
	(0.048)
Kakamega County	-
Natural Logarithm of Age	-0.0112
	(0.046)
No Education	-0.239*
	(0.127)
Primary	-0.224*
	(0.128)
Secondary	-0.302**
	(0.117)
Tertiary Education	-0.286**
	(0.118)
Degree	-
Sex	0.014
	(0.034)
Marital Status	-0.0115
	(0.0402)

Table 4.7: County of residence and Poverty in Western region of Kenya Continued	
Natural logarithm of Household Size	0.020
	(0.026)
Area of Residence	0.124***
	(0.036)
Christian	-0.107
	(0.112)
Muslim	-0.138
	(0.128)
Other Religions	-

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Author's own computations based on KIHBS data

The results in Table 4.6 show that controlling for education, marital status, sex, age, household size and area of residence, residents of Vihiga, Bungoma and Busia county are likely to be poor compared to a resident of Kakamega county. However, the coefficients for Vihiga and Busia counties were insignificant. This implies that residing in these two counties does not importantly determine poverty as compared to a resident in Kakamega county. However, at 10 percent level of testing, the coefficient of Bungoma county was found to be significant. This means that residing in Bungoma is an important determinant of being poor as compared to Kakamega. This finding corroborates the Republic of Kenya (2021) report that showed that Kakamega country receives more funds from the national government than Bungoma county. For instance, in 2015/16 fiscal year, Kakamega county received an allocation of KES 9.64 billion while Bungoma received KES 8.02 billion Republic of Kenya (2021). This finding therefore suggests that more allocation of funds to western region counties can reduce poverty.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

5.1   Introduction

This chapter provides a summary and conclusion of the study. The chapter also has a section on policy implications drawn from the study's objectives and key findings on determinants of poverty in western region of Kenya. The chapter is structured in a way to provide a review of the major findings of the study. The conclusion of the study gives insights on the determinants of poverty in western region of Kenya. It also gives insights for policy makers to promote alleviate poverty in the region. Additionally, areas for potential research are highlighted in the chapter.

5.2   Summary

The prime goal of this research was estimating determinants of poverty in Kenya's western region. The study also sought to determine whether county residence in the region determine poverty. The dependent variable in this context was the binary whereby it took the value of one (1) if one was poor and zero (0) otherwise. The variable was developed by considering an individual's monthly expenditure on consumption. An individual is said to be poor if he or she spent less than KES 3252. According to Republic of Kenya (2023), a rural dweller is said to be poor if he or she spends less than KES 3252 on consumption per month. The independent variables were education which was categorized into no education, primary education, secondary education, tertiary education and degree. The other independent variables were sex, natural logarithm of age, marital status, natural logarithm of household size, religion and area of residence. Religion was categorized into three namely Christians, Muslim and other religions. The study employed logit model to evaluate the correlates of poverty in western region of Kenya.

The study's uncovered significant insights into the relationship between education, residential location and poverty. These findings illustrate the key role played by education reducing poverty reduction. Specifically, compared to individuals with a degree, those with no education experience a 23.2 percent reduction in the probability of being poor, while primary education reduces the probability by 21.5 percent, secondary education by 29.4 percent, and tertiary education by 28.1%,

all factors held constant. These findings align with the human capital theory, suggesting that investing in education enhances productivity, leading to higher incomes and, consequently, a reduction in poverty.

The study's findings also showed that individuals residing in rural areas are more likely to experience poverty compared to their counterparts in urban areas. Specifically, the results reveal that living in rural areas in the western region increases the probability of being poor by 12.8 percent.

On estimating whether county of residence determines poverty, the study uncovered a relationship between individuals residing in Kakamega and Bungoma counties. It was established that a resident of Bungoma is likely to be poor as compared to one in Kakamega.

5.3   Conclusions

The study's findings on the objective point towards the understanding of the determinants of poverty in western region of Kenya. The negative and significant relationship between one's level of education and the probability of being poor underscores the crucial role of education in eradication of poverty in western region of Kenya.

This study provides compelling evidence supporting the critical role of education in poverty reduction. The results demonstrate a clear inverse relationship between educational attainment and the probability of being in poverty in western region of Kenya.

The rural-urban disparity in the western region as highlighted in the study again underscores the complexity of poverty dynamics. The finding of the study imply that people residing in rural areas of the western region face a higher probability of being in poor when making a comparison to those residing in urban areas. This finding suggests that regional economic structures and opportunities play a significant role in fixing poverty.

The county disparity within western region as highlighted in the study again highlights the complexity of poverty dynamics. The findings show that people residents of Bungoma county face

more poverty than those in Kakamega county. This finding suggests that county economic structures and opportunities play an important role in determining poverty.

5.4 Policy Implications

The study's findings have extensive and intensive implications for policy makers, the law enforcement agencies and the public at large, signaling the need for the development of poverty reduction strategies. The following details the implications and outlines several policy recommendations.

First there is need to invest in education in the western region of Kenya. The Policy makers should prioritize investments in educational infrastructure to ensure that individuals at all levels of education receive quality learning. In addition, initiatives to increase access to education, especially in rural areas, should be implemented to address disparities in educational opportunities. Community-based programmes can encourage enrollment and retention in schools. The policy makers should enhance vocational and technical education. This can equip individuals with practical skills that align with the demands of local economies, thereby enhancing employability and income potential.

The policy makers should address the rural-urban disparity in poverty in western region of Kenya. This can be achieved through development regional specific strategies tailored to the economic structures of specific areas. In rural areas, there is a need for improved infrastructure creation, improve the agricultural sector of the region, affordable credit, and social support programmes to mitigate the higher probability of poverty identified in this study.

The policy makers should address the county disparity in poverty in western region of Kenya. This can be achieved through development of county specific strategies tailored to the economic structures of specific counties. Bungoma County can target employment creation, affordable housing, and social support programmes to mitigate the higher probability of poverty associated with its populace.

5.5 The Study's Limitations and Areas for More Research

The key drawback is using cross section data. Such data may not capture the dynamism in poverty among the residents of western region of Kenya. Carrying out a longitudinal study would allow for the examination of changes in poverty status over time. This may provide insights into the causal relationships between education, residential location, and poverty. Another limitation of the study is not examining all determinants of poverty in the western region due to lack of data.

Future researcher should therefore consider examining determinants of poverty using time series data. In addition, there is need for examination of more determinants of poverty other than the ones considered in this study.

REFERENCES

Achia, T. N. O., Wangombe, A., & Khadioli, N. (2010). A Logistic regression model to identify key determinants of poverty using Demographic and Health Survey Data. *European Journal of Social Sciences, 13*(1), 38-46.

Akoum, I.F., 2008. Globalization, growth, and poverty: the missing link. *International Journal of and Environmental Sciences, 15* (1), 93-98.

Anyanu, C.J. (2013). Marital Status, Household Size and Poverty in Nigeria: Evidence from the 2009/2010 Survey Data. African Development Bank Group Working Paper. Tunis: Afdb.

Artha, D. R. and Dartanto, T. (2018). The multidimensional approach to poverty measurement in Indonesia: Measurements, determinants and its policy implications. *Journal of Economic Cooperation and Development 39*: 1–38.

Awan, A., & Bilgili, F. (2022). Energy poverty trends and determinants in Pakistan: Empirical evidence from eight waves of HIES 1998–2019. Renewable and Sustainable Energy Reviews, 158, 112157.

Barlas, A. W., Sadiq, M. E., & Haidari, A. (2022). Determinants of poverty among urban households in Afghanistan: Case study of Mazar-e-Sharif.

Biyase, Mduduzi, and Talent Zwane. 2018. An Empirical Analysis of the Determinants of Poverty and Household Welfare in South Africa. *The Journal of Developing Areas 52*: 115–30.

Chandy, L., Kato, H., & Kharas, H. (Eds.). (2015). The last mile in ending extreme poverty. Brookings Institution Press.

Christiaensen, L. and Todo, Y., 2014. Poverty reduction during the rural-urban transformation – The role of the missing middle. *World Development, 63*, 43-58. Development 114: 281–93.

Diwakar, V. and Shepherd, A. (2018). Understanding Poverty in Kenya. A multidimensional analysis. London: CPAN

Eyasu, A. M. (2020). Determinants of poverty in rural households: Evidence from North-Western Ethiopia. Cogent food & agriculture, 6(1), 1823652.

Garza-Rodríguez, Jorge. 2015. The Determinants of Poverty in Mexico: 2002 MPRA paper 65995. München: University Library of Munich.

Gounder, N. (2013). Correlates of poverty in Fiji: An analysis of individual, household and community factors related to poverty. *International Journal of Social Economics 40*: 923–38.

Huang, Y., Jiao, W., Wang, K., Li, E., Yan, Y., Chen, J., & Guo, X. (2022). Examining the multidimensional energy poverty trap and its determinants: An empirical analysis at household and community levels in six provinces of China. *Energy Policy*, *169*, 113193.

Iqbal, Asim, Anjum Siddiqui, and Maryam Zafar. 2020. A geographically disaggregated analysis of multidimensional poverty in Punjab. International *Journal of Social Economics 47*: 365–83.

Islam, D, Jamil, S. and Nazmul, H. (2017). On Determinants of Poverty and Inequality in Bangladesh. Journal of Poverty 21: 352–71. *Journal of Social Economics, 3*(9), 4-17.

Kamer, L. (2022). Poverty headcount ratio in Kenya 2005-2020. Hamburg: Statista

Khan, M. H. (2001). Rural Poverty in Developing Countries Implications for Public Policy. Washington DC. IMF.

Khan, M. Y., Alvi, A. K., & Khan, M. R. (2018). Relationship among Marital Status, Profession and Poverty: A Statistical Exploration. *Gomal University Journal of Research*, *34*(2), 44-51.

Khan, R., Rehman, H. and Abrar-ul-Haq, M., 2015. Determinants of rural household poverty: the

Lanjouw, P. and Ravallio. M. (1995). Poverty and Household Size. *The Economic Journal 105*: 1415–34.

Lekobane, K, R. and Seleka, T.B..(2017). Determinants of HouseholdWelfare and Poverty in Botswana, 2002/2003 and 2009/2010. *Journal of Poverty 21*, 42–60.

Lenagala, C. and Ram, R., 2010. Growth elasticity of poverty: estimates from new data.

Murunga, J., Wawire, N. W., & Muriithi, M. K. (2021). Tax Revenue Productivity of Tax Reforms in Kenya. *International Journal of Economics and Finance*, *13*(12), 1-42.

O'Boyle, E. and O'Boyle, M., 2012. Global poverty, hunger, death, and disease. *International Journal of Social Economics, 3*(9), 4-17.

Ogutu, S, O., and Matin, Q. (2019). Commercialization of the small farm sector and multidimensional poverty. *World Development 114*, 281–93.

Peng, C., Fang, L., Wang, J. S. H., Law, Y. W., Zhang, Y., & Yip, P. S. (2019). Determinants of poverty and their variation across the poverty spectrum: Evidence from Hong Kong, a high-income society with a high poverty level. Social Indicators Research, 144, 219-250.

Ravindra Deyshappriya, N., and R.W.W. Minuwanthi. 2020. Determinants of Poverty: Is Age Non-Linearly Related with Poverty? Evidence from Sri Lanka. *International Journal of Asian Social Science 10*, 181–92.

Republic of Kenya (2003). Economic Recovery Strategy for Wealth and Employment Creation 2003-2007. Nairobi: Government Printer

Republic of Kenya (2008). *Kenya Vision 2030.* Nairobi: Government Printer.

Republic of Kenya (2010). *Constitution of Kenya*. Nairobi: Government Printer.

role of household socioeconomic empowerment. *American-Eurasian Journal of Agricultural Social Economics, 35*, 226-238.

Republic of Kenya (2021). Kenya Continuous Household Survey. Nairobi: Government Printer.

Shah, S., & Debnath, N. (2022). Determinants of multidimensional poverty in rural Tripura, India. Journal of Quantitative Economics, 20(1), 69-95.

Spaho, A. (2014). Determinants of poverty in Albania. *Journal of Educational and Social Research, 4*(2), 157.

Todaro, M, and Stephen C. S. (2011). Economic Development. London: Pearson Education, Inc.

World Bank (2020). *Kenya economic update: Turbulent times for growth in Kenya. Policy options during the COVID-19 pandemic.* Geneva: World Bank.

Yamada, Takahiro. 2018. Dynamics of spatial inequality and poverty: Evidence from two decades of surveys in Vietnam, 1993–2014. *Economics Bulletin 38*, 404–18.

World Bank, & World Bank. (2014). *Global monitoring report 2014/2015: ending poverty and sharing prosperity*. Washington D.C: The World Bank.

World Bank (2020). Kenya Economic Update: COVID-19 Erodes Progress in Poverty Reduction in Kenya, Increases Number of Poor Citizens. Washington D.C: World Bank.

APPENDIX

Table A.1: The Logit Results for Determinants of Poverty in Western Region of Kenya	
VARIABLES	**Logit Coefficients**
Natural logarithm of age	-0.051 (0.185)
No Education	-0.947* (0.540)
Primary Education	-0.876 (0.536)
Secondary Eduaction	-1.233** (0.549)
Tertiary Education	-1.191** (0.578)
Degree	-
Sex	0.058 (0.134)
Marital Status	-0.076 (0.161)
Natural Household Size	0.083 (0.105)
Residence	0.523*** (0.148)
Christian	-0.490 (0.481)
Muslim	-0.607 (0.524)
Other Religion	-
Constant	1.515 (0.956)
Observations	923
Prob > chi2	0.0236
Pseudo R^2	0.0173

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Author's own computations based on KIHBS data

VARIABLES	Logit Coefficeints
Vihiga County	-0.038
	(0.190)
Bungoma County	-0.329*
	(0.192)
Busia County	-0.291
	(0.191)
Natural Logarithm of age	-0.045
	(0.185)
No education	-0.976*
	(0.542)
Primary Education	-0.914*
	(0.539)
Secondary Education	-1.268**
	(0.551)
Tertiary Education	-1.214**
	(0.581)
Degree	-
Sex	0.056
	(0.135)
Marital Status	-0.047
	(0.162)
Natural logarithm of the Household Size	0.082
	(0.106)
Residence	0.508***
	(0.150)
Christian	-0.443
	(0.482)
Muslim	-0.557
	(0.525)
Other Religion	-
Constant	1.635*
	(0.968)
Observations	923
Prob > chi2	0.0204
Pseudo R^2	0.0210

Table A.2: County of residence and Poverty in Western region of Kenya

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Author's own computations based on KIHBS data