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CAUSES OF POVERTY AND POVERTY ALLEVIATION STRATEGIES IN GHANA

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GANA'DA YOKSULLUK NEDENLERİ VE GANA'DA YOKSULLUĞU AZALTMAYA YÖNELİK ÖNLEMLER

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ÖZET

GANA'DA YOKSULLUK NEDENLERİ VE GANA'DA YOKSULLUĞU AZALTMA ÖNLEMLERİ

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Yüksek Lisans Tezi, İktisat Ana Bilim Dalı
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Granger nedensellik analizi ve saçılım grafiği bulguları, Gana'da yoksulluğu etkileyen faktörler ve yoksulluğu hafifletmenin potansiyel yolları hakkında, İnsan Gelişme Endeksi'ne (lnhdi) odaklanarak bilgiler sunmaktadır. Eğitim, gelecekteki insan gelişiminin en güçlü göstergesi olarak öne çıkmaktadır ve eğitimdeki iyileştirmelerin yoksulluğun azaltılmasına önemli ölçüde katkıda bulunabileceğini düşündürmektedir. Kaliteli eğitime erişimin artırılması, istihdam olanaklarının iyileştirilmesine, daha yüksek gelir seviyelerine ve sağlık sonuçlarının iyileşmesine yol açacak, bu da yoksulluğun azaltılması için kritik öneme sahiptir. Diğer faktörler, örneğin pişirme yakıtı ve teknoloji ile ekonomik büyüme de insan gelişimi için orta düzeyde öngörü gücüne sahiptir. Bu, daha temiz pişirme teknolojilerine erişimin artırılması ve ekonomik büyümenin teşvik edilmesinin, yaşam koşullarını, sağlığı ve kamu hizmetlerini iyileştirerek yoksulluğun azaltılmasına yardımcı olabileceğini göstermektedir. Buna karşılık, tüketim harcamaları, iç tüketim, elektrik, enflasyon ve işsizlik gibi faktörler, lnhdi ile anlamlı bir öngörü ilişkisi göstermemekte ve bu durum, bu faktörlerin yoksulluk üzerindeki etkisinin daha karmaşık veya dolaylı olabileceğini düşündürmektedir. Saçılım grafiği analizi de bu bulguları pekiştirmektedir ve lnhdi ile eğitim, ekonomik büyüme, sermaye oluşumu ve enerji kullanımı gibi değişkenler arasında güçlü pozitif korelasyonlar göstermektedir. Bu ilişkiler, insan sermayesine yatırım yapmanın, ekonomik büyümeyi teşvik etmenin ve altyapıyı geliştirmenin yoksulluğu hafifletmek için etkili stratejiler olduğunu göstermektedir. Öte yandan, enflasyon ve işsizlik ile olan daha zayıf korelasyonlar, bu faktörlerin ele alınmasının daha hedefli politika müdahaleleri gerektirebileceğini düşündürmektedir. Genel olarak, sonuçlar, Gana'da yoksulluğun azaltılması için eğitimin iyileştirilmesi, ekonomik büyümenin teşvik edilmesi ve altyapının geliştirilmesinin

önemini vurgulamakta, diğer faktörlerin ise kalkınmayı ve yoksulluğu azaltmayı etkili bir şekilde etkilemek için daha hassas yaklaşımlar gerektirebileceğini göstermektedir.

anahtar kelimeler: yoksulluk, insani gelişme endeksi, yoksulluğun azaltılması.

ABSTRACT

CAUSES OF POVERTY AND POVERTY ALLEVIATION STRATEGIES IN GHANA

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The Granger causality analysis and scatter plot findings offer insights into factors influencing poverty and potential ways to alleviate it in Ghana, with a focus on the Human Development Index (LNHHDI). Education stands out as the strongest predictor of future human development, suggesting that improvements in education can significantly contribute to poverty reduction. Enhancing access to quality education will lead to better employment opportunities, higher income levels, and improved health outcomes, which are critical for reducing poverty. Other factors, such as cooking fuel and technology and economic growth, also demonstrate moderate predictive power for human development. This indicates that increasing access to cleaner cooking technologies and fostering economic growth can help reduce poverty by improving living conditions, health, and public services. Conversely, factors like consumption expenditure, domestic consumption, electricity, inflation, and unemployment do not show significant predictive relationships with LNHHDI, suggesting that their impact on poverty may be more complex or indirect. The scatter plot analysis further reinforces these findings, showing strong positive correlations between LNHHDI and variables such as education, economic growth, capital formation, and energy use. These relationships suggest that investing in human capital, promoting economic growth, and enhancing infrastructure are effective strategies for alleviating poverty. Meanwhile, the weaker correlations with inflation and unemployment imply that addressing these factors may require more targeted policy interventions. Overall, the results emphasize the importance of improving education, stimulating economic growth, and developing infrastructure as key strategies for alleviating poverty in Ghana, while other factors may require more nuanced approaches to effectively impact development and reduce poverty.

Keywords: Poverty, human development index, poverty alleviation.

PREFACE

Poverty remains one of the most pressing challenges in Ghana despite the country's consistent economic growth and progress in various development indicators. This research delves into the complex causes of poverty in Ghana and evaluates the effectiveness of different poverty alleviation methods. It is motivated by the urgent need to understand the multifaceted nature of poverty and to identify strategies that can meaningfully improve the lives of millions of Ghanaians.

The study covers a broad timeline from 1990 to 2022, capturing Ghana's evolving socio-economic landscape. The research uses empirical data and correlation analysis to uncover the relationships between key variables—such as agricultural productivity, education, healthcare, and unemployment—and the Human Development Index (HDI), which serves as a comprehensive measure of well-being.

This research is grounded in the belief that poverty is not merely a lack of income but a complex phenomenon involving social, economic, and structural factors. The findings aim to contribute to the ongoing discourse on poverty reduction, providing insights to guide future interventions for policymakers, development practitioners, and academics.

I express my deepest gratitude to all those who supported and guided this research, particularly my research supervisor, Professor Tolga Kabas, for his guidance and help, the members of the Faculty of Economics and Social Science at Cukurova University, mentors, and colleagues, whose expertise and encouragement were invaluable. I also acknowledge the importance of the data sources that made this analysis possible, offering a clearer picture of the factors influencing poverty in Ghana.

I hope this research will contribute to developing more effective poverty alleviation strategies in Ghana, ultimately leading to a more equitable and prosperous society.

Emmanuel OMONO ASAMOAH
Adana / 2024

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LIST OF ABBREVIATIONS

ADF: Augmented Dickey-Fuller

AF: Alkire and Foster

CAQ: Consumption Adequacy Question

CRC: Convention on the Rights of a Child

DHS: Health Survey Data

FSHS: Free Senior High School

GDP: Gross Domestic Product

GLSS: Ghana Living Standards Survey

GoG: Government of Ghana

GSS: Ghana Statistical Service

HDI: Human Development Index

IMF: International Monetary Fund

LEAP: Livelihood Empowerment Against Poverty

MDGs: Millennium Development Goals

MICS: Multiple Indicator Cluster Survey

MPI: Multidimensional Poverty Index

NGO: Non-Governmental Organisation

NSPS: National Social Protection Strategies

OCHA: United Nations Office for the Coordination of Humanitarian Affairs

OLS: Ordinary Least Squares

PAS: Poverty Alleviation Strategies

PCA: Principal Analysis

SIDA: Swedish International Development Agency

SWL: Satisfaction with Life

UNHD: Nations Human Development

UNHRD: United Nations Humanitarian Response Depot

UNICEF: United Nations Children's Fund

WDI: World Development Indicators

WDR: World Development Report

WHO: World Health Organisation

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CHAPTER I
INTRODUCTION TO THE STUDY

1.1. Background of the Study

Poverty is a widespread issue in many developing nations, presenting a complex challenge that undermines both the well-being of citizens and national development, and Ghana, situated on the west coast of Africa, is no exception. Despite the country's progress in economic development, a significant portion of the population still struggles with poverty, demonstrating the need to understand the deeper causes of this persistent issue.

Ghana's socio-economic landscape, enriched by its cultural diversity and history of resilience, continues to face the enduring impact of poverty driven by interconnected factors such as inadequate access to education, healthcare, and job opportunities.The prevalence of poverty in Ghana is also closely linked to its historical, economic, and social context. The legacy of colonisation and the exploitation of resources has left long-lasting effects on the country's economic structures, contributing to wealth disparities and limiting access to opportunities for many. While Ghana has experienced economic growth, particularly in sectors like agriculture, mining, and services, this growth has not benefited all segments of society equally. Rural areas, where much of the population resides, suffer from disproportionate poverty due to insufficient infrastructure, poor access to markets, and dependence on subsistence farming. This complex interplay of historical and current factors keeps many Ghanaians vulnerable to the cycle of poverty.

While urban centres offer economic opportunities, they also grapple with challenges, including rapid urbanisation, informal employment, and inadequate social services. The rural-urban divide further complicates the poverty landscape, necessitating a nuanced understanding of the factors influencing poverty in different settings. The prevalence of poverty in Ghana is not solely an economic issue; it is deeply intertwined with social dynamics. Gender disparities, for instance, play a significant role in perpetuating poverty, with women often facing restricted access to education, employment, and healthcare. Additionally, the youth demographic, constituting a substantial portion of the population, faces challenges in accessing quality education and viable employment opportunities, further contributing to the persistence of poverty.

Therefore, understanding Ghana's socio-economic landscape becomes imperative in developing effective policies and interventions. By unravelling the historical, economic, and social threads that contribute to the fabric of poverty, policymakers and stakeholders can devise targeted strategies to uplift the vulnerable segments of society.

The urgency of this need cannot be overstated. This study seeks to contribute to this understanding by delving into the root causes and implications of poverty in Ghana, aiming to inform evidence-based interventions and policies that foster sustainable development and social equity.

1.2. Statement of the Research Problem

Poverty is a highly debated concept and has eventually become one of the persistent global challenges despite efforts made by various countries and their governments. Many countries have made significant efforts to address the root causes of poverty and achieve sustainable economic growth and development (World Bank, 2021). To accomplish some justifiable level of growth and development, some critical issues, such as factors influencing poverty, must be addressed, as this will help put down sustainable measures towards its reduction among the populace (Yeboah & Nyarko, 2023). Poverty has many multifaceted factors, such as low-income levels, poor health conditions, security shortfalls, malnutrition, and many more. For several decades, poverty has been identified as an individual problem or a problem related to society (Alcock, 1997, pp. 20-25). Like many developing nations, Ghana grapples with the persistent challenge of poverty, a multifaceted issue that permeates various aspects of its society. Despite commendable efforts to address this concern, a critical examination reveals gaps in the existing literature and knowledge base, necessitating further studies into the influencing factors of poverty among Ghanaians and its pernicious influence on the population.

The current body of literature on poverty in Ghana offers a comprehensive understanding of its complexities, emphasizing various economic, social, and regional factors. Beegle et al. (2016) state that Ghana has one of the fastest-increasing inequality levels. Also, studies made by Ostry et al. (2014) projects poverty levels in Ghana, detailing some of government's efforts toward reduction, while Dabla-Norris et al (2015) assess some previous interventions that have been adopted over the years. Moreover, studies have examined the structural causes of poverty, with economic indicators showing that while Ghana has experienced significant growth, particularly after the economic reforms of the 1980s and 1990s, this growth has not been evenly distributed. Wealth is concentrated in urban areas, while rural regions, especially in the north, continue to suffer from high poverty rates due to inadequate infrastructure, limited access to markets, and reliance on subsistence agriculture (Baah-Boateng & Ewusi, 2020). Research highlights

stark regional disparities, with northern Ghana experiencing poverty rates over 60%, compared to much lower rates in the south (Ghana Statistical Service, 2021). This is often linked to historical and economic inequalities stemming from colonization, as well as environmental factors such as climate change, which disproportionately affect agricultural livelihoods in the northern regions (Antwi-Agyei et al., 2018). The agricultural sector, a key driver of Ghana's economy, remains underdeveloped, with low productivity due to a lack of modern technology and poor infrastructure, particularly in rural areas (Aryeetey & McKay, 2007). Moreover, the informal economy, which employs a large segment of the population, is characterized by low wages and job insecurity, contributing to urban poverty (Baah-Boateng, 2019). Gender disparities are also prominent, with women in rural areas facing higher poverty levels due to limited access to education, land, and credit (Britwum et al., 2020). While social protection programs like the Livelihood Empowerment Against Poverty (LEAP) initiative have had some success in alleviating poverty for vulnerable groups, broader reforms are necessary to achieve sustainable poverty reduction (Handa et al., 2014). More recent research has focused on multidimensional poverty, which considers factors beyond income, such as education and healthcare access, providing a more nuanced view of poverty in Ghana (Alkire & Santos, 2010). Overall, the literature underscores that while economic growth is essential, addressing structural inequalities, regional disparities, and multidimensional aspects of poverty is crucial for achieving long-term poverty alleviation in Ghana.

Poverty Alleviation Strategies (PAS), as defined by Fraser (2005), is any intervention promoted by the government to lessen the socio-economic deprivation of its population. According to Sekhampu (2013, p. 145-133), PAS are policies aimed at reducing poverty through effective and equal distribution of resources. Nkrumah (2017) further asserts that PAS is necessary for any government to safeguard its citizens from negative socio-economic impacts likely to affect necessities such as food, water, health care, housing, and general cost of living.

Against this backdrop, the Government of Ghana (GoG), through various policies and interventions such as the National Social Protection Strategy (NSPS), Ghana Poverty Reduction Strategy I and II, the Livelihood Empowerment Against Poverty (LEAP), the Capitation Grant, the School Feeding Program, and the latest, the Free Senior High School (FSHS) Program which started in the year 2017 and adds to the already existing Free Compulsory Basic Education. These policies and programs aim to build a safety net to safeguard Ghanaians from extreme poverty and its adverse effects (Hickey, 2007;

Yeboah & Nyarkoh, 2023).

Notably, these interventions have contributed in diverse ways towards poverty reduction, although progress has stalled. Many interrelated issues, such as education, healthcare, agriculture, income distribution, governance, and basic needs, can be pointed out as the key influencers of poverty in Ghana, making the subject intricate and multifarious (Yeboah & Nyarkoh, 2023). Notwithstanding, the country is primarily affected in various ways, specifically, slowing economic expansion, life progress, and individual growth. Moreso, abject poverty is known to slow progress, retards success in making the lives of the citizens better and recuperating living standards (Arku et al., 2019). Thus, it is essential to understand the causes of poverty and the PAS implemented by GoG to curb the menace.

As a developing country, Ghana has experienced diverse forms of economic growth and political stability, all contributing to improving people's lives. Notwithstanding, poverty is still persistent in many parts of the country, especially in rural areas (Yeboah & Nyarkoh, 2023). Meanwhile, Ghana's efforts toward poverty reduction date back to its post-colonial period, as the Ghana Statistical Service (GSS), the central government institution and significant data provider, has provided reliable and timely information on poverty and PAS by the GoG. The GSS also assists in developing policies aimed at identifying improved citizen and reducing their plights.

Ghana has seen economic growth in recent decades, but inequality and poverty remain significant concerns. The Gini coefficient, a measure of income inequality, stood at 43.5 in 2016, up from 42.8 in 2005 and 40.1 in 1998, indicating a widening gap between the rich and poor. Despite overall growth, wealth distribution has become less equitable. In 1992, the poorest 20% of the population accounted for 6.9% of the national income, but by 2006, this had dropped to 5.2%, while the wealthiest 20% controlled nearly half of the national income. These figures highlight the need for policies that ensure inclusive growth.

Furthermore, on a regional basis, there has been a hike in inequality, especially between the Southern and the Northern parts of Ghana. Taking into consideration the poverty levels across the country, the GSS (2008) highlights that poverty is quite prevalent across the country but extremely high in the Northern part of the country, as there was an increase in poverty levels from 37% to 49% from 1999 to 2006, respectively. The analysis conducted in 2006 by the Ghana Statistical Service (GSS) on household living standards revealed a noticeable rise in poverty levels, which mitigated the potential

positive effects of the country's economic growth. This report, which draws on data from the Ghana Living Standards Survey (GLSS), has been central to poverty and inequality studies in the country. The GLSS provides comprehensive data on income distribution, living conditions, and the socio-economic factors influencing poverty. According to researchers like Baah-Boateng and Ewusi (2020), these surveys continue to be pivotal in shaping policy decisions aimed at poverty alleviation.

Still, since then, the country's economic performance has centred on oil production, rapid urban development, and other national and global financial crises, such as high fuel prices, high food prices, and low subsidies (GSS, 2008). Furthermore, the gap between the poor and the rich concerning infant mortality rate doubled between 2006 and 2011, as identified through the Multiple Indicator Cluster Survey (MICS, 2012), which concluded that rich children were likely to survive two times as compared to poor children. The report further stated that this development could negatively impact the country's development, ranging from political instability, social cohesion, and economic deterioration.

The Global Multidimensional Poverty Index (MPI) compiles data for over a hundred countries using the Alkire and Foster (AF) method with three dimensions. These three dimensions are education, health, and living standards. It is measured by giving equal values to each dimension. As a result, any country that fails to attain or ascertain any of these values given to each dimension is considered deprived or impoverished. Hence, countries are regarded as MPI-poor if they flop in one of the three dimensions, if one fails to attain 33.33% in at least one.

From the recent Global MPI Country Briefing (2022) on Ghana, its economy is susceptible to poverty because more than 20% of its citizens are abysmal and live on approximately $1.90 daily. In the same report, the MICS for 2017-2018 was pronounced on the intensity of poverty, and the average of the three dimensions shows that 48% of Ghanaians attainted between 33.3% and 39.9% of the three dimensions combined. Thus, over 50% were identified as living in extreme poverty. Additionally, the 2017-2018 mıcs year results of the ten different indicators were nutrition 12.4%, school attendance 7.9%, years of schooling 12.5%, drinking water 12.3%, child mortality 3.4%, cooking fuel 24.5 %, sanitation 22.8%, electricity 10.8%, housing 13.6%, assets 8.0% with most deprivation in the rural areas.

In light of these gaps, the principal purpose of this research is to examine some of the plausible causes of poverty in Ghana. The study uses an approach from different

disciplines, history, economics, and social standpoints, to determine the causes of poverty in Ghana. The study further assesses the efforts and bearing of various government interventions on poverty reduction and sustainable economic growth in Ghana. The study provides valuable insights accordingly. Conclusively, the main focus of this study is to comprehend poverty levels in Ghana holistically, considering precedences, economic and social dynamics, and the relevance of the existing government's intervention to curb this menace. Addressing this gap is paramount for developing targeted and effective policies that can break the cycles of poverty and foster inclusive development in the nation.

1.3. Purpose of the Study

There are interconnected causal factors of poverty in Ghana, and the primary focus of this work is to discover some of the prominent basis for its existence. This study explores the multifaceted nature of poverty in Ghana, focusing on its effects on health, education, and living standards. Poverty remains a pressing challenge in the country, affecting millions and hindering national development (Ghana Statistical Service, 2018; UNDP, 2019). Understanding the various factors contributing to poverty is essential for creating effective policies. The research investigates key questions: the effects of poverty on multidimensional indicators, the contribution of economic disparities in urban and rural settings, the impact of HIPC (Highly Indebted Poor Country) policies, and potential strategies for alleviation.

Poverty significantly impacts health, education, and living standards in Ghana. Data from the Ghana Statistical Service (2018) indicates that children from low-income families are more likely to experience malnutrition and lower school attendance rates. The UNDP (2019) highlights that poor health and educational outcomes further entrench poverty, creating a vicious cycle that limits opportunities for upward mobility. These findings underscore the need for targeted interventions aimed at improving these critical indicators.

Economic structures in Ghana exhibit significant disparities between urban and rural areas. Urban centers experience more rapid economic growth compared to rural regions, which often lack essential infrastructure and access to resources (World Bank, 2021; Osei-Assibey et al., 2020). Research emphasizes that these inequalities perpetuate high poverty rates, especially in rural communities. Understanding the underlying economic factors is crucial for designing equitable poverty alleviation strategies that address the unique challenges faced by different populations.

The HIPC initiative led to substantial debt relief for Ghana; however, its effectiveness in reducing poverty has been mixed. While the policy provided necessary fiscal space, the benefits were not uniformly distributed across all socioeconomic groups (IMF, 2019; Boachie et al., 2020). Some segments of the population continue to experience high poverty rates despite these policies. Analyzing the impacts of HIPC policies is essential for understanding their role in shaping the current poverty landscape and informing future interventions.

To effectively combat poverty, a comprehensive approach involving the government and stakeholders is essential. Strategies should include improving access to education, healthcare, and economic opportunities (Baah-Boateng, 2020; Ghana Statistical Service, 2020). It is also important to evaluate existing interventions to identify successful strategies and areas for improvement. By focusing on targeted and inclusive policies, stakeholders can better address the specific challenges faced by vulnerable populations.

This study highlights the complex and interconnected nature of poverty in Ghana. By examining its impacts on health, education, and living standards, the economic disparities between urban and rural areas, and the effects of HIPC policies, the research aims to provide valuable insights for policymakers. The findings underscore the need for comprehensive and targeted interventions to address poverty effectively and promote sustainable development.

1.4. Research Questions and Hypotheses

The objectives of the research were achieved through the assembly of questions and hypotheses. The research questions and hypotheses are carefully crafted to unravel the complexity of poverty and provide a roadmap for the subsequent chapters and sections of the study.

Research Questions:

1. What are the effects of poverty on the three multidimensional poverty indicators of poverty: health, education, and living standards in Ghana?
   This question explores multidimensional poverty data and its influence on contemporary poverty levels.
2. How do economic structures and disparities contribute to the prevalence of poverty in Ghana's urban and rural settings?

This question seeks to analyse the economic dimensions of poverty, considering factors such as wealth distribution, access to resources, and the impact of economic growth on different socio-economic strata.

3. What can the government of Ghana and the other stakeholders do to alleviate poverty?

   This question evaluates the causes of poverty and recommends economically suitable policies that would guide leaders and lawmakers in devising policies to alleviate, if not eradicate, poverty among all age groups, sectors, agencies, and agents across the country.

1.5. Significance of the Study

The significance of the research has been designed and explained as follows;

In the academic realm, this study contributes to the growing research on poverty in developing countries, particularly within the Ghanaian economy. By delving into the interconnected factors influencing poverty, the research enriches the theoretical framework that underpins poverty studies. It opens avenues for further scholarly investigation, encouraging researchers to explore new dimensions and refine existing poverty-related theories. Additionally, the study may stimulate comparative analyses with other developing nations, fostering a broader understanding of poverty's universal and context-specific aspects.

Development practitioners, including NGOs and international organizations working on poverty alleviation initiatives in Ghana, stand to benefit from the insights generated by this study. Understanding the multifaceted causes of poverty enables these practitioners to design interventions that are context-specific and holistic in their approach. The research findings may guide resource allocation, identification of key target groups, and the development of sustainable programs addressing both immediate needs and the underlying structural issues contributing to poverty.

The study's role in promoting collaboration among various stakeholders underscores the importance of collective action, making it a crucial part of Ghana's national conversation on poverty.

In conclusion, this study's significance is multifaceted, reaching beyond the confines of academic inquiry to impact policy decisions, inform development practices, empower communities, and stimulate a national dialogue on poverty. By addressing the

complexities of poverty in Ghana, the research aims to play a pivotal role in advancing the nation's collective efforts toward sustainable development and social equity.

1.6. Organization of the Study

The study on poverty in Ghana is organized into six chapters. Chapter One introduces the issue of poverty, highlighting its significance and identifying research gaps in existing literature while clarifying the study's objectives and outlining the research questions. Chapter Two examines the causes of poverty by analyzing Ghana's economic profile and exploring various poverty dimensions in rural and urban contexts. Chapter Three reviews theoretical and empirical literature related to poverty in Ghana. Chapter Four details the research methodology, including data types, sources, and analysis methods. Chapter Five presents the data through descriptive statistics and rigorous analysis. Finally, Chapter Six synthesises the key findings, emphasizes their significance, and offers recommendations for future research and practical interventions, ultimately contributing to a nuanced understanding of poverty reduction and providing actionable insights for policymakers and practitioners.

CHAPTER II
OVERVIEW OF CAUSES OF POVERTY IN GHANA

2.1. Introduction

This review thoroughly examines the roots of poor economic growth that led to persistent poverty, dating back to the early 1990s. Ghana has undergone various economic and social transformations since the inception of multiparty democracy, all aimed at improving people's lives. An in-depth analysis is essential to design a comprehensive resolution, and this chapter seeks to provide just that.

With knowledge about poverty alleviation, policymakers seek to implement impactful and sustainable economic growth. The problem statement underscores the necessity of probing poverty reduction strategies through a holistic comprehension of contributing dynamics. It scrutinises the impact of poverty on people's lives, affecting the quality of life in Ghana and it also identifies and understanding the root causes, informing policymakers and stakeholders, enhancing understanding of poverty dynamics, supporting sustainable development, and facilitating evidence-based decision-making.

2.2. Economic Profile and Causes of Poverty in Ghana

In 1987, the Ghanaian government began collecting data on poverty and other national indicators in collaboration with the World Bank. Since then, the GSS/GLSS survey has demonstrated a decline in the national poverty rate, starting from implementing a poverty alleviation and structural adjustment program in 1983, with significant progress made in 1987 when measures were taken to address the social costs of this program. According to Ghana's statistical service, the national poverty rate was 56 per cent in 1987/88, peaking at 61 per cent in 1988/89 and then dropping to 52 per cent in 1991/92. By 1998, it had declined to 40 percent, then to 39 percent in 1999, and continued to decrease by about 0.5%, 28.5 per cent in 2007, and 28 per cent in 2009. The poverty rate continued its downward trend, reaching 24.2 per cent in 2013 and 12.4 percent in 2017. However, it rose to 23.4 % in 2020 (Hague et al., 2016; Ghana GLSS 1-7 covering 1987–2017; Sowa, 2002; Awumbila et al., 2008; World Bank, 2020).

Poverty in Ghana has gradually decreased due to the government's dedication to and consistent monitoring of anti-poverty initiatives. A vital aspect of this success has been the active participation of the public in program evaluation, underscoring the importance of community involvement in poverty alleviation efforts. Economic growth policies have ensured that the benefits of growth reach the impoverished, corruption is

kept in check, and population growth is managed to support sustainable economic development, thereby narrowing the income inequality gap. Despite these achievements, poverty remained widespread in Ghana, even as the country reduced poverty by over 50 per cent to meet the maiden Millennium Development Goals (MDGs) by 2015 (Adutwum, 2009; Cooke et al., 2016).

Officials have pointed out that poverty impacts almost all social and economic boundaries, with some individuals enduring long-term poverty and others experiencing it briefly. It is crucial to note that demographic factors play a significant role in the disproportionate impact of poverty on certain groups. Individuals may fall into poverty due to social and economic exclusion, particularly marginalised groups such as immigrants, newcomers, disabled individuals, men, and women. Soaring population growth and significant disparities between the poor and the wealthy, resulting from uneven resource distribution, are vital factors affecting poverty in Ghana. Additional factors like high living costs, insufficient education, high unemployment, climate change, poor nutrition, corruption, and political leadership issues (Ajakaiye & Adeyeye, 2001) further compound the issue.

One identified poverty determinant in Ghana's economy is limited access to quality education. The inability of students to complete their education, insufficient teaching and non-teaching staff, and infrastructure prevent a large percentage of the population from attaining knowledge to better equip them for better employment opportunities (World Bank, 2018). A survey by the Ghana Statistical Service (2017) reports that approximately 13 per cent of children in rural Ghana do not have any educational experience as they have never been to school, a common phenomenon that propagates poverty. Restricted access to quality education is a formidable barrier to socioeconomic progress, with profound implications for the perpetuation of poverty. This educational crisis is a national concern and a critical factor contributing to the broader global discourse on poverty alleviation. One of the primary contributors to Ghana's educational predicament is the alarming student dropout rate. As the World Bank (2018) reported, many students disengage from the education system in their early stages, depriving themselves of the chance to develop the skills required for a better future. The reasons behind these high dropout rates are multifaceted, encompassing economic, social, and infrastructural challenges. Furthermore, the absence of adequate educational facilities in remote areas exacerbates the problem, as students may need to travel long distances to attend school, often facing perilous journeys that discourage consistent attendance. A

critical component of the educational crisis is the shortage of qualified teachers. The quality of education is intrinsically linked to the competence and dedication of educators. However, Ghana grapples with a need for more qualified teachers, particularly in rural areas. This scarcity not only compromises the delivery of quality education but also diminishes the overall learning experience for students. Individualised attention becomes a luxury in classrooms with an inadequate teacher-to-student ratio, hindering educators' ability to address their students' diverse learning needs. Consequently, this compromises the development of a robust educational foundation, leaving students ill-prepared to meet the demands of a rapidly evolving job market. In tandem with the shortage of qualified teachers, Ghana's educational infrastructure needs to be improved, further widening the gap in access to quality education. As reported by the GSS (2017), 13% of the rural population in Ghana has never been to school, widening the income gap between people living in the urban and rural areas. The urban-rural divide in educational opportunities exacerbates existing social and economic inequalities. Insufficient infrastructure in rural areas limits access to schools and impacts the quality of education imparted. Inadequate classrooms, lack of educational materials, and outdated facilities collectively undermine the learning environment, making it difficult for students to thrive academically.

Inadequate healthcare delivery has also been mentioned as one of the cause of poverty in Ghana. This is because there is limited access to quality healthcare services across the country, the high cost of primary healthcare, limited health facilities, and poor health insurance coverage, ultimately leading to poor health and low productivity (Amo-Adjei et al., 2016). Irrespective of insurance coverage, more than 40% of the population has no access to primary healthcare and essential services, which puts much pressure on poor households as they cannot afford quality healthcare (WHO, 2018). Inadequate healthcare in Ghana stands as a formidable barrier to socioeconomic development, perpetuating the cycle of poverty and hindering the overall well-being of its population. One of the primary challenges contributing to inadequate healthcare in Ghana is the prohibitively high cost of medical services. Many Ghanaians cannot afford essential healthcare due to the exorbitant fees associated with medical consultations, treatments, and medications. Compounding this issue is the inadequacy of health facilities across the country. Rural areas, in particular, lack well-equipped and accessible healthcare centres, leaving vast segments of the population without nearby medical assistance. The WHO (2018) report highlights the dire situation, revealing that over 40% of Ghanaians lack access to essential health services. The scarcity of healthcare infrastructure

disproportionately affects remote communities, where individuals need help reaching medical facilities and receiving suboptimal care when they can access them. This dilemma intensifies the overall impact of inadequate healthcare on the socioeconomic fabric of the nation, hindering progress and entrenching poverty. The repercussions of insufficient healthcare extend beyond individual suffering to broader societal consequences. A population with limited access to quality healthcare is more susceptible to preventable diseases, leading to increased morbidity and mortality rates.

Furthermore, the agricultural sector remains one of the pivot sectors that challenges Ghanaians. Agriculture is the backbone of the Ghanaian economy and plays a pivotal role in sustaining livelihoods and contributing to the nation's overall development. However, there are persistent challenges such as low productivity, drought, inadequate farming tools, lack of technology in farming, and limited access to a readily available market due to poor road infrastructure, which cumulate to worsen the poverty crises in the country (Arku et al., 2019). Most small-scale farmers face varied challenges and, as a result, cannot gain sustainable income for themselves and their families (World Bank, 2019). Low productivity in agriculture is a result of various interconnected factors. The resultant environmental stress affects the quantity and quality of agricultural produce and exacerbates the risk of crop failures and economic losses for small-scale farmers. In addition to climate-related challenges, small-scale farmers in Ghana face hurdles in accessing modern and efficient farming techniques. Adopting innovative agricultural practices is crucial for enhancing productivity and ensuring sustainable farming methods. However, limited access to these techniques, whether due to financial constraints or a lack of awareness, impedes the progress of small-scale farmers. This technological gap perpetuates a cycle of low productivity, limiting the potential for income generation and economic advancement in rural areas. Furthermore, the inadequate infrastructure and limited market access pose formidable challenges for small-scale cultivators. The lack of well-developed transportation networks and storage facilities makes it difficult for farmers to transport their produce to markets without incurring significant losses. This lack of access to markets affects the economic viability of farming and contributes to poverty in rural areas. Developing robust infrastructure, including transportation networks and storage facilities, is imperative to facilitate the smooth flow of agricultural products from farms to markets.

In addition, income inequality is another significant cause of poverty in Ghana. Aboagye and Quartey (2018) found that the country's wide gap between the poor and the

rich regarding their income earning and limited access to credit facilities and job opportunities propagates poverty. The World Economic Forum's Inclusive Development Index (2018) places Ghana at the bottom regarding income and wealth distribution and emphasises the continuous challenge of inequality in earnings. Income inequality is a pervasive issue in Ghana that has far-reaching consequences, particularly in exacerbating the already prevalent poverty within the nation. This socioeconomic challenge is characterised by significant disparities in income and assets among the population, creating a stark divide between the affluent and the impoverished. A study conducted by Aboagye and Quartey (2018) sheds light on the multifaceted nature of this problem, highlighting how limited access to credit and unequal opportunities. The World Economic Forum's Inclusive Development Index (2018) quantitatively confirms Ghana's unequal distribution of wealth and income. This global assessment places Ghana relatively low in these critical indicators, underscoring the severity of the country's challenges. The index considers various factors, such as income, wealth, education, and employment, providing a comprehensive overview of a nation's inclusivity in its development processes. Ghana's low ranking implies that a considerable portion of its population is marginalised, facing barriers that hinder their full participation in and benefit from economic advancements. Efforts to tackle income inequality in Ghana require a multifaceted approach. Policies promoting inclusive economic growth, equal access to teaching and learning, healthcare provision, and fair employment opportunities are crucial components of a comprehensive strategy. Additionally, targeted interventions to address specific challenges, such as limited access to credit, can play a pivotal role in breaking down the barriers contributing to income inequality.

Another significant cause of poverty in Ghana is corruption and bad governance. Bad governance is a critical factor hampering Ghana's progress and weakens its governance structures. Institutional inefficiencies further compound the challenges faced by Ghana in its battle against poverty. The Ghanaian government grapples with challenges such as inefficiency, corruption, and institutional weakness, perpetuating poverty, and frustrating poverty reduction strategies. Gyimah and Brempong (2016) also identified others, such as low transparency, accountability, and poor delivery of public services, contributing to socioeconomic inequality. Poor allocation of public resources by the government equally affects poverty alleviation (The Transparency International Corruption Perceptions Index, 2021). Governance and corruption pose formidable challenges to poverty reduction initiatives in Ghana, creating a complex web of

impediments that hinder socioeconomic progress. The intricate interplay between weak governance, institutional inefficiencies, and pervasive corruption forms a significant barrier to the country's development aspirations. In this intricate tapestry, the lack of transparency, accountability, and the inefficacy of public service delivery systems stand out as key contributors to the perpetuation of poverty and the exacerbation of socioeconomic disparities. Corruption, a pervasive issue in Ghana, represents a significant obstacle to efficient resource allocation and equitable development. The Transparency International Corruption Perceptions Index (2021) sheds light on the persistent challenge of corruption in the country. The prevalence of corrupt practices undermines the government's efforts to allocate resources judiciously, diverting funds away from crucial poverty reduction projects. This misallocation of resources perpetuates a cycle of poverty as essential services such as education, healthcare, and infrastructure development remain underfunded or compromised by corrupt practices. The consequences of corruption extend beyond the misallocation of resources, impacting the overall trust in public institutions. The erosion of public trust further weakens the governance structures, creating a vicious cycle that impedes effective poverty reduction.

A comprehensive approach is needed to address these multifaceted challenges. Strengthening governance structures, enhancing institutional capacities, and promoting transparency and accountability are crucial steps towards breaking Ghana's poverty cycle. Reforms aimed at streamlining administrative processes, incorporating technology for efficiency, and fostering a culture of accountability can contribute to more effective public service delivery.

Social and cultural factors have equally contributed significantly to poverty perpetuation in Ghana. This is common as marginalised and small groups have limited opportunities and cut across ethnicity, tribe, gender, and the rural-urban divide (Gyimah & Brempong, 2016). This intricate interplay of social and cultural dynamics has perpetuated poverty and exacerbated differences in access to resources and opportunities. In Ghana, social exclusion manifests through multifaceted channels, with ethnicity, gender, and rural-urban disparities serving as prominent conduits through which poverty infiltrates and perpetuates its grip on specific segments of the population. Furthermore, gender-based shocks, discrimination, and societal norms mainly limit the economic opportunities available to women, exacerbating their vulnerability to poverty. Women in Ghana frequently encounter barriers in accessing education and formal employment, relegating them to informal sectors with limited earning potential. Rural-urban disparities

represent another facet of the social and cultural landscape influencing poverty in Ghana. Rural areas, often populated by members of marginalised ethnic groups, face distinct challenges such as limited infrastructure, inadequate access to education, and reduced economic opportunities. The urban-rural divide exacerbates existing inequalities as urban centres concentrate resources, employment opportunities, and essential services. Those residing in rural areas find themselves on the periphery of economic development, further deepening the cycle of poverty. Efforts have been made to promote inclusivity and equal representation, with policies aimed at dismantling systemic barriers based on ethnicity and gender. Educational programs have been introduced to bridge the gap between rural and urban areas, ensuring that marginalised communities have improved access to quality education and skill development opportunities. Additionally, economic empowerment programs targeted at women aim to break the gender-based constraints on economic participation.

External factors are equal contributors to poverty in Ghana. Prominent among them are globalisation, global economic growth, and economic shocks. The integration of world economies has positively and negatively impacted Ghana's poverty reduction strategies. For its benefits, the integration of world economies has given room for the growth of Ghana's economy through job creation and expansion through exports and import promotions. On the other hand, globalisation has exposed the growing economy to shocks, which has, over the years, worsened the country's poverty situation.

Additionally to the cause are external factors, that is precisely the forces of globalisation and economic shocks, have significantly shaped the trajectory of poverty levels in Ghana since the advent of its democratic era in 1992. The multifaceted impacts of globalisation, marked by the heightened integration of economies and the surge in international trade, have significantly influenced the dynamics of poverty reduction efforts within the country. Understanding the nuanced interplay of these external factors is essential in comprehending the complex landscape of Ghana's socioeconomic development. These elements have the potential to stimulate economic growth, create job opportunities, and enhance productivity, all of which are instrumental in alleviating poverty. The influx of foreign capital and expertise can catalyse the development of various sectors, ranging from agriculture to technology, contributing to a diversified and resilient economy. However, the flip side of globalisation poses challenges that can exacerbate poverty levels. The increased exposure to global economic fluctuations can render the Ghanaian economy vulnerable to external shocks. Moreover, integration into

the global economy can expose local industries to intense competition, potentially undermining the livelihoods of small-scale producers and workers.

Lastly, rapid urbanisation and dwindling ruralisation have also affected poverty reduction in Ghana. Since 1992, a chunk of rural residents have moved to urban centres, which has put undue pressure on urban amenities. However, the influx of economic activities in urban centres has increased employment opportunities, drawing individuals seeking better prospects from rural areas. This migration, driven by the promise of employment and improved living standards, has fueled a dynamic urban environment as a hub for commerce, education, and cultural exchange. Moreover, the lack of proper housing and infrastructure has broader implications for health and education outcomes. In these impoverished urban pockets, where housing is often precarious and unsanitary, residents face heightened health risks. Communicable diseases find fertile ground in the absence of proper sanitation, posing a threat to the well-being of the urban poor. Additionally, the dearth of educational infrastructure in these areas hampers access to quality education for children, perpetuating the cycle of intergenerational poverty.

The government of Ghana, recognising the urgency of addressing these challenges, has undertaken initiatives to mitigate the negative impacts of rapid urbanisation. Efforts have been directed towards urban planning, infrastructure development, and slum upgrading projects to create more sustainable and inclusive urban environments. By investing in affordable housing solutions, improving infrastructure, and ensuring access to essential services, the government aims to uplift the living standards of the urban poor and break the cycle of poverty perpetuated by inadequate housing.

CHAPTER III
LITERATURE REVIEW

3.1. Introduction

This chapter provides a comprehensive review of a wide range of literature, both theoretical and empirical, on the potential causes of poverty and the strategies for its eradication.

3.2. Theoretical Review

According to Westover, 2008, poverty as a term has a Latin origin, pauper, which means poor. This is further explained as "giving birth to nothing," thus pau-and patio. In the analysis of poverty by Hulme and Mckay, 2005, they illustrate that poverty is a spell cast on some people while for others, they are born with or trapped in poverty in one way or another. They further explained in their work that some eighteenth-century commentators asserted that France could differentiate between indigent and pauvre (poor person). To France, Pauvre meant the experience of seasonal poverty when cultivation and harvest are less bountiful and when there is a demand for seasonal labour during crop production and harvest. In the case of indigent, it contrarily meant a permanent state of impoverishment due to poor physical and mental condition, age, alcoholism, and accident. The main motive of France in distinguishing these two terms was to help develop supportive measures to prevent individuals in a state of poverty from becoming indigent. (Hulme and Mckay, 2005). Contemporarily, much more focus has been placed on the depth of multidimensionality rather than the length or span of poverty, especially in countries that started working seriously in the late 1980s (Gaiha, 1993).

Several studies have persistently found a high correlation between poverty at the household and individual levels and its severity. According to the 1998 United Nations Human Development (UNHD) report, poverty refers to the lack of resources and availability of limited resources that would give people sufficient options and choices to enhance better living standards UNHRD 1998.

Defined differently, Yunus (1994) explains the term poverty as a form of infringement of one's human right since the basic human needs of an individual are not fulfilled; 2005 World Bank puts it simply as poverty is a lack of shelter, food, and proper health care service. Again, poverty could be defined as the state in which parents experience child loss resulting from the unavailability of clean, distilled, and sanitised water 2005 World Bank. With poverty, individuals lose their power, rights, and freedom

to more robust and well-to-do people (World Bank, 2005).

Since 2004, the Ghana Poverty Reduction Strategy has acknowledged that poverty is complicated and multidimensional and that there is a causative correlation between variables. Individuals experiencing poverty often lack access to financial opportunities and are mostly deprived of income earning, SIDA (2005). Poverty is predominantly found in developing countries and has been both an international and national subject of discussion (Balogun, 1999). Balogun (1999) further explains poverty as a situation in which people hardly live on a level together, instead experiencing inadequate access to basic needs like food, clothing, shelter, and health needs in the quest to have and sustain a basic living standard.

The World Development Report (WDR), together with the World Bank, asserts through their research and puts forward that a person can be considered to be in poverty if he or she lives on a certain level of per capita income lower than three hundred and seventy United States Dollars (US $370) at any given time according to (WDR, 1999). In impoverished people's case, individuals live daily on less than one United States Dollars (US$ 1). Moderately poor people live in less than two United States daily (US$2) (World Bank, 2007).

The assertion shows that in 2001, around 1.1 billion individuals appeared to live daily on as little as one United States Dollar ($1), while 2.7 billion individuals survived daily on less than two United States Dollars ($2). Poverty is not just a problem in developing countries; it also shows up in issues like homelessness and clustered poor housing areas (World Bank, 2007).

Poverty is not having enough to provide for basic needs like food, shelter, and fulfilling social responsibilities because of factors like unemployment, lack of skills, and resources Englama and Bamidele (1997). This lack of resources prevents access to essential services like healthcare, education, clean water, and transportation, which limits people's well-being, termed a "lack of capabilities" as said by (Englama & Bamidele, 1997). known for developing poverty measures in the US government, Mollie Orhansky describes poverty as not having the things others take for granted (Schwartz, 2005). These definitions all point to people's struggle to get the necessities to live decently.

3.3. Empirical Review

Research has extensively explored the various causes of poverty, focusing on different measurement methods such as income and asset ownership. For example, Finn

(2013) critiques the money-metric approach, which measures welfare through consumption and income, arguing that it may not capture the full extent of poverty. Nolan and Whelan (2010) highlight that income insufficiency is an effective approach for formulating policies aimed at reducing poverty in indebted developing countries. Alternatively, Sen (1999) emphasizes the importance of assessing asset ownership and access to essential services like water and electricity as better indicators of poverty. Wittenberg and Leibbrandt (2017) support this perspective, asserting that examining what people own can provide deeper insights into their living conditions. Khudri and Chowdhury (2013) also argue that evaluating ownership is often easier and less intrusive than directly asking about financial status. Additionally, Achia et al. (2010) explore demographic factors, noting that age, location, and identity can influence poverty likelihood, while Akinbode and Hamzat (2017) found that employment status and marital stability are linked to reduced poverty risk.

The literature reflects a wide array of approaches to understanding poverty, with many researchers conducting comprehensive studies (Mok et al., 2007; Edoumiekumo et al., 2014; Geda et al., 2005). However, inconsistencies in findings arise primarily from the differing methodologies used (Akinbode & Hamzat, 2017). For example, the money-metric approach has been a prominent method for measuring household poverty based on income and consumption (Gyekye et al., 2001; Sekhampu, 2013; Tregenna, 2012). According to Nolan and Whelan (2010), this method is crucial for directing poverty reduction policies, particularly in developing countries, and facilitates cross-country comparisons of poverty levels (Naschold, 2012).

While empirical literature on poverty determinants in developing nations is robust, debates persist regarding the most relevant variables to achieve meaningful insights (Julie et al., 2008; Malik, 1996; Litchfield & McGregor, 2008; Edoumiekumo et al., 2014). Differences in findings can be attributed to varying data coverage and measurement approaches across studies (Akerele & Adewuyi, 2011). Despite the prevalence of diverse measurement techniques, research often emphasizes household income or expenditure in determining poverty levels. The welfare of households and the factors influencing it have been analyzed across both developed and developing countries, often employing the logit model and Ordinary Least Squares (OLS) methods. The logit model, widely used by scholars (Edoumiekumo et al., 2013; McKenzie, 2006; Geda et al., 2005), assesses the determinants affecting an individual or household's probability of experiencing poverty.

The differences in results achieved by the above scholars can be ascribed to the

varied data coverage adopted across countries and the use of different measurements (Akerele and Adewuyi (2011)). Although using different approaches in poverty measurement is standard, it often leads to varied results. However, emphasis is placed on two factors, either the household's income or the household's expenditure, in determining household poverty. Poverty, the welfare of a household, and the factors that influence it have been primarily researched in various countries, developed and developing. All-embracing, the influencers of poverty and the well-being of households have been shown in two broad ways: the logit model and the Ordinary Least Square (OLS). The logit model examines the determinants of the chances of an individual or household being poor. This method has been widely used by scholars (Edoumiekumo et al., 2013; McKenzie, 2006; Geda et al., 2005; Grootaert, 1997; Mok et al., 2007; Akerele & Adewuyi, 2011; Edoumiekumo et al., 2014).

The second approach, the OLS, is used to determine poverty levels by assessing consumption or income by the OLS. This model has equally been embraced by researchers (Mukherjee & Benson, 2003; Kabubuo-Mariara, 2002; Glew, 1991; Quartey & Blankson, 2004; Akerele & Adewuyi, 2011; Adams, 2004, 2006; Datt & Jolliffe, 2005; Quartey, 2006;). It has been widely acknowledged that the results of these two methods are invariably similar, although they are distinct. This is because when income or consumption is used to measure the determinants of a household's welfare, there is a smaller chance of the household being poor (Kabubuo-Mariara, 2002).

Some of the most popular and rigorous research on household poverty and well-being of household use factors like the gender of the household head, widowed, age of the household head, employment status (entrepreneur, paid employment, private employment, government employment, etc), and the marital status of the head of household (either married, cohabiting, dating, separated, single, etc). Other essential factors include household size (the number of individuals), environmental factors, geographical location (rural, urban, countryside, etc), number of dependents, and many others. Others argue that to ascertain and properly elucidate abject poverty, one crucial factor to consider is the education level of the household head (Edoumiekumo et al. (2014) Geda et al. (2005); Kabubuo- Shete (2010); Mok et al. (2007); and Isam et al. (2016)). These studies showed that a household head with some education level would likely bring financial stability to the entire household.

That is, if a household head has at least a primary, secondary, or tertiary education, that household is likely to be financially stable as compared to a household where the

household has no education at all ((Gounder, 2012); Litchfield & McGregor, (2008); Akerele and Adewuyi (2011); Mukherjee & Benson, (2003); Quartey and Blankson (2004); Lekobane and Seleka (2017); Datt and Jolliffe (2005);). In essence, a household's education level influences the household's poverty level.

Another critical factor that has been consistent in determining the poverty levels of households is the dependency ratio of household members. Scholars like Dartanto and Nurkholis (2013), Edoumiekumo et al. (2013), Shete (2010), Isam et al. (2016), and Lekobane and Seleka (2017) all affirm that if the dependency ratio of a family is high, there is a higher chance that the household will be plundered into poverty. A high dependency ratio influences poverty in a household, and Akerele and Adewuyi (2011) further state that this situation puts negative pressure on the household. Large families are found to be poor, and this is because they have higher needs that require a lot more resources (Lekobane & Seleka (2017), Sekhampu, (2013); Geda et al., (2005), Lanjouw and Ravallion, (1995); Gounder (2013)).

Notwithstanding, recent findings made on the causative factors of poverty, especially in developing countries, shy from using income and household consumption as poverty indicators, stating that these variables are not sufficient to measure household earnings or resources as well as consumption (Brandolini et al., 2010; Naschold, 2012; Filmer & Pritchett, 2001; Habyarimana et al., 2015). Other researchers have duly acknowledged the challenge of measuring income, resource acquisition, and expenditure in developing and low-income countries, and this is because individuals within these countries are unwilling to share income-earning information and spending of their households (Akinbode & Hamzat, 2017). As such, a strong critique of the use of this approach is the unreliability of income and expenditure data for accurate measurement. It was reported by Yu (2009) that various households in South Africa gave wrong information about their household earnings and expenditures during a census; therefore, including such data in research will lead to unreliable results on the causes of poverty and poverty levels in South Africa. Similar claims were made by Vyas and Kumaranayake (2006), who uphold that the money-metric approach for measuring poverty-related issues in developing countries is unreliable, time-consuming, and expensive. Other challenges that have been equally identified are bias in sampling data, underquoting income earnings, and challenges of quantifying products into money (Vyas and Zwane; Daka & Fandamu, 2016; Deaton & Zaidi, 1999; Akinbode & Hamzat, 2017).

To overcome the above-stated challenge, researchers have recently adopted the

use of a non-monetary approach by computing an asset index which portrays a clear picture of the social and economic standing of individuals and households in the sample (Bhorat et al., 2014; Daka & Fandamu, 2016;). The central argument for approving the non-monetary approach is identifying household possessions, tenure, and individual occupation, which gives a fair idea about their purchasing power and welfare (Daka & Fandamu, 2016). Sahn and Stifel (2013) further posit that accurate results could be obtained from data relating to household ownership of assets and their access to various capital to measure their overall welfare if the asset is representative of the households' means and can fairly present clear findings of the income security of a household (Daka & Fandamu, 2016). Daka and Fandamu (2016) further advance their argument as they assert that the financial strength of a household is primarily determined by the kind of assets possessed compared to the income earned; therefore, the higher the household possessions, the less susceptible they are to poverty.

Although the measurement of poverty is multidimensional, the non-monetary approach, which is the asset index approach, is preferably used in Demographic and Health Survey Data (DHS) in recent years (Wittenberg & Leibbrandt, 2017), and DHS is the most accurate and reliable representation of health and demographics data of citizens in poor nations. Assets predominantly measured to ascertain poverty levels in developing countries using a non-monetary approach are semi-durable and durable goods that could last for some time (Wittenberg & Leibbrandt, 2017). Importantly, this method necessitates using data that is easy to gather, cost-effective, less intensive and can produce accurate results with very little error (Khudri & Chowdhury, 2013). In developing countries where there is no data for household income or expenditure for the measurement of DHS, the best alternative for the measurement of well-being and socio-economic development of various individuals and households is the asset index method, and it is as accurate as the DHS used in measuring poverty levels (Achia et al., 2010; Sahn and Stifel, 2000, 2003; Filmer & Pritchett, 2001; Booysen, 2002; Habyarimana et al., 2015)

Vyas and Kumaranayake (2006) used PCA to assemble a separate asset index to measure the household economic well-being of people living in the cities and rural districts in Brazil and Ethiopia, with data from their country's DHS. Findings from their research suggest that in cities in Brazil, wealthy families with high socio-economic status and well-being could be identified by the availability of potable drinking water from pipes to their homes, availability of sanitation services, complete floor, and availability of numerous sleeping rooms for members of the family. Socio-economic status in rural

Brazil was not far different from that in the cities per findings from Vyas and Kumaranayake (2006), except there were not enough pipes in the rural areas, but well in the various residence and sanitation services were challenging. Whereas in Ethiopian cities, potable drinking water from pipes suggested a high socio-economic status and well-being of families, and in Ethiopian villages, moderate accommodation and possession of any asset indicated a thriving household with high socio-economic status (Vyas & Kumaranayake, 2006).

In Rwanda, a similar study was conducted by Habyarimana et al. (2015) using the country's DHS database and the PCA to calculate the asset index. They assert that a higher socio-economic status could be measured by the availability of amenities such as water closets, cemented floor/house, electricity, and potable drinking water from pipes to the house, while households that obtained their drinking water from a borehole and river/dam had sand floors and used a latrine as their toilet facility was considered to be a low-income household with low socio-economic status (Habyarimana et al., 2015).

A study conducted by Booysen (2002) used data from the DHS database of South Africa to measure the economic status of citizens and households. The research was conducted by selecting 19 distinct variables from the DHS database. Findings from the research indicated that amenities such as stability and availability of electricity for cooking, water closets, and potable water from pipes for homes and the public were indicators of a household's high socio-economic status and well-being. Meanwhile, poor families with low socio-economic status were identified using paraffin wood and animal dung for cooking, and many people shared a standard room (Booysen, 2002).

Moreover, in South Africa, studies on child poverty have been factored into mainstream literature, and some of the topics that have been discussed are the causes of child poverty and interventions to prevent child poverty. Earlier studies that were conducted on the above subject were primarily focused on white child poverty around 1928 and were focused on the health and educational conditions of white children living in South Africa. Inquiries into child poverty of black children were never conducted. However, there was a drastic change around the 1980s as researchers picked interest in black child poverty as well as the poverty of women in South Africa (Barnes, 2009). This was around the period when the Apartheid era was almost over. Delving into child poverty, research shows that it is a condition or situation where individuals experience all the negative impacts of poverty right from childhood. This condition is disturbing because studies show that child poverty has the potential to transcend from childhood into

adulthood, in that children who experience child poverty are susceptible to poverty even in adulthood. This usually impedes the growth of children and causes trauma at the adult stage of life.

Child poverty, according to UNICEF (2006:2), "is the violation of the rights protected by the Convention on the Rights of a Child (CRC). Defining child poverty is difficult because the concept is cumbersome, and countries still need to widely accept measurement methodologies (Mirugi-Mukundi, 2009, p. 3). Child poverty significantly differs from adult poverty, a significant concern for policymakers. Mirugi-Mukundi (2009) asserts that it is impossible to disregard child poverty due to its negative impact; nevertheless, there are no strategies to deal with child poverty since existing interventions are designed to deal with adult poverty. Children have urgent needs which cannot be overlooked, but conventional interventions do not address them. The causes and effects of child poverty could be perpetual, affecting the future of these children should no strict measures be put in place (Munijin et al., 2006, p. 483).

In India, studies conducted by Filmer and Pritchett (2001) equally used the country's DHS database to calculate the asset index. They used the calculation results to study the relationship between household economic status and children's school attendance. Their research indicated that wealthy households with a high socio-economic status had assets such as a watch, a radio and television set, a water closet, electricity for light, and a house constructed with high-grade building materials. Poor households with low socio-economic status could be identified using water from open pumps and staying in homes with low-quality building materials (Filmer & Pritchett, 2001).

Similar studies were conducted in Nigeria by Akinbode and Hamzat (2017), who used PCA to evaluate the household asset index by drawing data from the DHS database. The findings of their study reveal that in rural areas in Nigeria, factors such as the educational level of the head of household, marital status, and the kind of job or income earned from some occupations engaged in by the head of household were instrumental in determining the socio-economic status of the entire household (Akinbode & Hamzat, 2017). In addition, Asogwa et al. (2012) and Osowole et al. (2012) also found other determinants such as economic efficiency, the size of land for farming and the portions cultivated, the dependency ratio of the household, their ability to access the market and sex of members of a household as determining factors of poverty in rural Nigeria.

Findings made by Habyarimana et al. (2015) in Rwanda using the PCA to evaluate asset index and drawing data from the DHS of 2010 are consistent with studies made in

Nigeria, Kenya, and India. Habyarimana et al. (2015) found that factors such as the educational qualification of the head of a family, the age of the head of a family, the gender of the head of a family, the geographical location of the family, the type of residence, size of household and the availability of amenities were determinants of the socio-economic status of households in Rwanda.

In addition to the above, different scholars have provided different findings on the extremes of poverty, drawing their conclusions from other data sets. These researches are carried out over time, sometimes years, to arrive at their statistical findings. However, there are common trends in most of the findings. One exciting finding was by Barrientos et al. (2016), who examined the ethics attached to countries' poverty reduction strategies or elimination. In their discussions, they assessed the importance of ethics in decision-making processes by governments in their consideration of improving the lives of citizens through poverty reduction as well as existing strategies that have been considered in the past for the same purpose. These perspectives are then applied to poverty reduction programs by policymakers. Barrientos et al. (2016) used developing countries such as Ghana, Brazil, and South Africa as their case study. They examined some poverty reduction strategies and the decisions made by policymakers in the design of these strategies.

In their case study of South Africa, they found that the government only considered poverty reduction strategies after the collapse of the apartheid system (Barrientos et al., 2016). Similar findings were made by Davie (2015), who explained the historical background of the study of poverty and the perceptions of poverty in South Africa. The researcher explained that before the end of the apartheid system, the South African government prohibited the gathering of data on the poverty levels of individuals and households in the country. This continued for so many years, and as such, there is no concrete data on the poverty levels of South Africans during the apartheid era. This is because the government was determined to hide the extent of poverty in the country. At the end of the era, the government gathered data on the perceptions of poverty and poverty reduction strategies for policymaking. These strategies were ultimately implemented to reduce poverty levels and change the economic dynamics of the citizens and the country.

MacDonald (2006) also examined the importance of race in poverty studies. He figured out the implication of race in poverty studies using South Africa as a case study. The author examined the historical importance of race in examining poverty dynamics.

According to MacDonald (2006), there are poverty dynamics in every country, and race is one of them. The study further investigated the economic disparities between the blacks and whites in South Africa and their poverty levels within the same economy. The data set the researcher used included social programs, the HDI of the country, the average income of whites and blacks, employment statistics, and basic poverty levels (MacDonald, 2006). He finally concludes on how these figures have changed when the segregation between blacks and whites was abolished.

In India, Datt and Ravallion (2002) examined whether or not the country's economic growth matches the citizens' financial well-being. Their findings portrayed a picture where poverty reduction strategies implemented in the 1980s were transferred to the 1990s. They figured out the differences in poverty levels across cities. They further revealed that "economies with comparatively low levels of human capital development and initial rural development were not well suited to reduce poverty in response to economic growth."

Further studies were carried out by Radhakrishna and Ray (2005), who extensively examined poverty and related issues in India. Their findings revealed that households residing in the countryside were relatively poorer than those in urban centres. In addition, poverty was seen to be prevalent among some selected tribes in India. This is because these tribes were discriminated against, and it reflected in their socio-economic status in the country. Radhakrishna and Ray (2005) further examined some poverty alleviation strategies that the government has implemented to improve citizens' lives. In their findings, statistical data were provided to show the different programs and how effective each program has been in reducing poverty in the country over the years. Their analysis revealed that many of these programs have impacted the people as they also considered government spending on these programs. Although poverty alleviation strategies are essential, the government's efforts are vital for successful strategy implementation, particularly with their spending.

3.4. A Subjective Review of the Determinants of Poverty

Dominant literature (Chiquito & Lozano, 2017; Biyase & Zwane, 2018; Leow &Tan, 2019; John & Alexander, 2020; Heshmati et al., 2019) has focused more on the objective determinants of poverty across developing countries, and very little focus has been attributed to the subjective perspective. Literature is developing on the subjectivity of poverty, especially in developing countries, and this is highlighted in this section.

The term subjective poverty, as explained in the literature, is hypothesised by inquiring from individuals about what they make of their poverty status, that is, whether they think they are poor or otherwise. One significant advocate for the subjective understanding of poverty is Ravallion (2012). He asserts that a subjective perspective on poverty is the most accurate and can complement the existing literature on objective poverty. Ravallion (2012) argues that subjective poverty measures address the limitations associated with objective poverty measures, which often rely on assumptions such as adult equivalent scales.

Posel and Rogan (2014) expand on this idea, highlighting that in South Africa, factors like state-subsidized housing and access to essential services such as electricity and water might not be captured in traditional income or expenditure poverty metrics. However, these factors can significantly influence subjective assessments of economic well-being. They note that household characteristics (e.g., size and income level) and individual characteristics (e.g., age, marital status, education, and type of employment) are critical determinants of subjective poverty. Research by Mahmood et al. (2018) and Wang et al. (2020) further supports these findings, emphasising the importance of these demographic factors in understanding subjective poverty.

Some oppositions concerning subjective poverty are primarily related to the different datasets measuring the concept (Mahmood, 2018). For instance, findings were made on subjective poverty by Mahmood (2018) in Pakistan, who used a household survey conducted in 2010 and found a correlation between subjective poverty and the income base of Pakistanis. Again, in China, Wang et al. (2020) used a Chinese household survey and MIQ to determine the subjectivity of poverty in rural China. Findings suggest that income solves the problem of poverty in rural China. In addition, investigations made by Ravallion and Lokshin (2017) equally prove that household income can significantly improve family welfare. It is noted that many related findings on the concept of subjective poverty maintain that the size of a household can predict the poverty levels of the family. In that, there is the likelihood that small families will be more economically stable than large families because most large families are poor (Gustafsson & Yue, 2006; Mahmood et al., 2018). In support of the above, Gustafsson and Yue (2006) conducted a study on the perception of the inhabitants of rural China on the subjective causes of poverty in the various rural communities. Findings from their studies suggested that the number of people within a particular household predicted their level of subjective poverty. Precisely, households with eight or more individuals were the poorest (Gustafsson & Yue, 2006),

consistent with studies on subjective poverty.

Empirical studies in this area have included age as a variable in their analyses of subjective poverty (Frey & Stutzer, 2002; Ferrer-i-Carbonell & Gowdy, 2007; Wang et al., 2020). Posel and Rogan (2014) investigated public perceptions of poverty, revealing a common belief that poverty tends to increase with age. Their findings indicated that the likelihood of experiencing poverty rises as individuals grow older (Posel & Rogan, 2014).

In addition, gender has come up strongly as one of the variables in discussing subjective poverty. Earlier studies such as Colasanto (1984) and Mangahas (2001), as well as current studies by Ravallion et al. (2013), discovered that households that are led and controlled by females are less likely to be subjectively poor as compared to households that are led and controlled by men. Gumede (2021), on the other hand, believes that poverty has been feminised, and this could be attributed to the usage of different variables and datasets during investigations or research. In the Philippines, studies by Mangahas (2001) suggest that households controlled or led by women or old persons are less susceptible to subjective poverty than those controlled by men or younger persons. Studies made by in developinb\ng countries such as Tajikistan, Guatemala, and Tanzania share similar experiences. Although these studies have some corroboration, the findings are not universal. The situation is quite different in developed countries, according to studies by Deeming (2013) in the United Kingdom.

The findings are not consistent across all studies. Deeming (2013) used a Satisfaction with Life (SWL) approach and a logistic model in the UK and concluded that gender does not significantly affect subjective well-being. In contrast, studies indicate that higher education levels are associated with lower poverty rates compared to those with less education (Frey & Stutzer, 2002; Lokshin, 2004; Posel & Rogan, 2014; Wang et al., 2020). For example, Lokshin (2004) utilised the Consumption Adequacy Question (CAQ) and an ordered probit model to examine subjective welfare in Madagascar, revealing that households led by individuals without education were among the poorest. Similarly, Wang et al. (2020) conducted a National Representative Survey of rural households in China and found that those with higher education levels experienced lower subjective poverty rates.

CHAPTER IV
METHODOLOGY OF THE STUDY

4.1. Methodology and Data Sources

This chapter discusses the type, source, method, and procedure employed to ascertain the results and reach significant policy implications regarding the economy of Ghana. First, the type and range of data used in the research are outlined, followed by an explanation of the methods selected, including the rationale behind the choice of models and variables. Various estimations, such as the unit root test, granger causality and scatter plots, were used. The research exclusively utilized secondary data, which encompassed a yearly time series covering approximately thirty-three years, from 1990 to 2022, due to the unavailability of quarterly data for some variables. Key sources of data included the World Bank and the Ghana Statistical Service. Specifically, the Human Development Index (HDI) data was obtained from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) database on Human Development Indicators. Additional data on inflation, unemployment and consumption expenditures were sourced from the annual reports of the Ghana Statistical Service. Data on secondary school enrollment, domestic credit to the private sector, access to electricity, access to clean fuels and technologies for cooking, and access to electricity was gathered from the World Development Indicators (WDI) database of the World Bank and the Ghana Statistical Service.

4.2. Theoretical and Empirical Framework of the Model

The variables used in this study are closely associated with the ten categories of the Multidimensional Poverty Index (MPI), mainly reflecting the modifications used by Akhtar et al. (2017). While there were a few notable adjustments, the Global MPI data, as discussed in Chapter I, aggregates data from over one hundred countries using the Alkire and Foster (AF) method, focusing on three dimensions: health, living standards, and education. Furthermore, the Multiple International Cluster Surveys (MICS) provide an annual report on poverty, employing indicators such as, years of schooling, cooking fuel, school attendance and electricity to classify countries as impoverished or not.

In examining the causes of poverty and potential solutions, the Human Development Index (HDI) serves as the (proxy) variable, representing the inverse of poverty due to the unavailability of data on poverty and other poverty-related indexes. The HDI, encompassing health, education, and income dimensions, aligns with Amartya

Sen's capability approach, emphasising enhancing individuals' freedoms and capabilities. This comprehensive proxy offers a holistic perspective on poverty, enabling international comparisons and informed policymaking aimed at multidimensional poverty reduction. Research by Koyuncu and Koyuncu (2022) demonstrated that the correlation coefficients between HDI and other poverty measures are notably high, statistically significant, and exhibit the expected negative signs, indicating that a higher HDI corresponds to lower poverty levels. Consequently, improvements in HDI scores enhance human development and reduce poverty within a country.

This study considers variables such as inflation, unemployment, secondary school enrollment, access to electricity, domestic credit to the private sector, consumption expenditure, and access to clean fuels and cooking technologies. This comprehensive approach aims to understand the multifaceted nature of poverty and inform strategies for alleviating it.

4.3. Estimation Techniques

4.3.1. Unit root test

The presence of non-stationary time series data in regression analyses involving other non-stationary time series can lead to misleading or spurious results, often suggesting illusory relationships between the variables (Ogunniyi & Igberi, 2014; Chebet, 2016). This issue is particularly pronounced when dealing with limited data, where the effects of non-stationarity can be even more misleading due to the small sample size. To address this challenge, econometricians often apply the Phillips-Perron (PP) unit root test, a widely used method for assessing the stationarity of time series data or the presence of a unit root (Shrestha & Bhatta, 2018). Like the Augmented Dickey-Fuller (ADF) test, the PP test operates under the null hypothesis that the time series data exhibit a unit root, indicating non-stationarity. In contrast, the alternative hypothesis supports the presence of stationarity (Paparoditis & Politis, 2016). The PP test is beneficial when data is limited, as it can handle heteroscedasticity and autocorrelation in error terms, ensuring more reliable results even with smaller datasets. This makes it a critical tool for ensuring the validity of regression results and avoiding erroneous conclusions about the relationships between time series variables.

4.3.2. Granger Causality Test and Scatter Plot

Granger causality is a statistical method used in econometrics to determine if one

time series can predict another by assessing whether past values of an independent variable, such as GDP growth, significantly enhance the predictive accuracy of a dependent variable, like poverty rates, beyond the information provided by the latter's past values. In analyzing poverty in Ghana, Granger causality can help identify whether economic indicators such as growth, inflation, or government spending have significant lagged effects on poverty reduction, given the country's history of structural economic challenges and uneven development across sectors. This approach allows for evaluating the effectiveness of policies and sectoral investments, particularly as previous literature indicates that economic growth in Ghana does not automatically translate into poverty alleviation due to regional disparities and inequality (Granger, 1969; Aryeetey & Baah-Boateng, 2015; Coulombe & Wodon, 2007). Thus, Granger causality provides a framework for understanding dynamic relationships and guiding policy decisions to better target poverty reduction efforts.

Scatter plots visually represent the relationship between two variables, plotting data points on a two-dimensional graph. Each point represents an observation in the dataset, with one variable on the x-axis and the other on the y-axis. The pattern of points can reveal trends, clusters, or outliers that may not be evident through numerical analysis alone. Economists use scatter plots to identify potential relationships, test economic theories, and validate model assumptions. For example, a scatter plot showing the relationship between inflation and unemployment can help economists visualise the Phillips curve, a key concept in macroeconomics. The visual nature of scatter plots makes them an essential tool for preliminary data analysis, hypothesis testing, and communicating findings in economic research (Stock & Watson, 2019). The causality between HDI , DOMC, EDUC, ELE, INFL, GDP, UEMP, CFT, CEX are investigated

Where

CEXt = Consumption Expenditure
CFTt = Access to Clean Fuels and Technologies for Cooking
DOMC = Domestic Credit to Private Sector
EDUC = Secondary School Enrollment
ELE = Access to Electricity
GDP = Gross Domestic Product
HDI = Human Development Index (Proxy for Poverty Index)
INFL= Inflation

UEMP = Unemployment

4.4. Variable and Meaning

4.4.1. Inflation

Inflation is the annual percentage change in the cost of a standard basket of goods and services typically consumed by households. Elevated inflation rates diminish purchasing power, disproportionately impacting low-income households that allocate a larger share of their income to essential goods and services. This phenomenon can exacerbate poverty levels, as the reduced purchasing power constrains the ability of these households to afford necessities. The study conducted by Fosu (2001) investigated the relationship between inflation and poverty in sub-Saharan Africa, revealing a significant positive (but negative for HDI) correlation. This research underscores the necessity for economic policies that mitigate inflation to protect vulnerable populations from adverse effects. The exploration of inflation's influence on poverty levels highlights the critical need for comprehensive strategies to stabilise prices and safeguard economic well-being, particularly in regions with high poverty rates.

4.4.2. Secondary School Enrollment

This measures the percentage of official secondary school-age children enrolled in secondary school. There is an expected negative sign (but positive for HDI); thus, higher school enrollment rates can lead to a more educated workforce, enhancing employability and earning potential and reducing poverty. Psacharopoulos and Patrinos (2004) analysed the impact of education on economic outcomes, and likewise, in their research, there was a negative coefficient on poverty.

4.4.3. Domestic Credit to Private Sector

The provision of financial resources to the private sector by financial institutions expressed as a percentage of GDP serves as a crucial economic indicator. This metric is anticipated to exhibit a negative correlation (but positive for HDI) with poverty levels. The rationale behind this expectation is that enhanced credit availability can invigorate economic activity, foster entrepreneurship, and generate employment opportunities, thereby contributing to poverty alleviation. The research conducted by Beck, Demirguc-Kunt, and Levine (2004) substantiates this hypothesis, demonstrating a significant negative relationship between financial development and poverty reduction.

This relationship highlights the transformative potential of financial development as a catalyst for economic empowerment and social upliftment. Financial institutions play a pivotal role in this process by extending credit and other financial services to the private sector, which can lead to increased investments, innovation, and productivity. As businesses expand and new ventures emerge, job creation ensues, enhancing income levels and reducing poverty. Consequently, policies to strengthen financial development can be instrumental in achieving sustainable economic growth and poverty reduction.

4.4.4. Consumption Expenditure

This represents the total value of all goods and services consumed by households and the government. It is a positive expected coefficient on the human development index. Still, it has an inverse relationship with poverty because higher consumption expenditures can indicate improved economic conditions and better access to goods and services, contributing to poverty reduction. Deaton and Muellbauer (1980) found a negative relationship between consumption patterns and poverty.

4.4.5. Unemployment

This measures the percentage of the total labour force that is unemployed. There is an expected positive relationship for unemployment since unemployment rates mean fewer people are earning income, which can increase poverty levels. Ravallion (1997) observed a positive effect of these two variables on unemployment and poverty in developing countries.

4.4.6. Access to Clean Fuels and Technologies for Cooking

This measures the percentage of the population that has access to clean cooking solutions, and there is an expected negative (but positive for HDI) because access to clean cooking technologies reduces health risks and time spent on fuel collection, improving overall well-being and economic productivity, which can help reduce poverty. Bonjour et al. (2013), on the health and financial benefits of clean cooking technologies, asserted that it harms poverty.

4.4.7. Access to Electricity

This measures the percentage of the population with access to electricity. Access to electricity facilitates economic activities, improves quality of life, and enhances

education and health services, reducing poverty. This means a negative (but positive for HDI) impact on poverty, which confirms Khandker et al. (2012) on the effect of rural electrification, where they also found a negative impact on poverty.

4.4.8. Gross Domestic Product

Gross Domestic Product (GDP) measures the total monetary value of all goods and services produced within a country in a given period, indicating the country's economic performance. The relationship between GDP and poverty is generally expected to be negative, as higher GDP suggests increased economic activity, job creation, and income growth, which can help reduce poverty. However, the impact depends on how the benefits of economic growth are distributed; if growth is unequal, poverty may not decline significantly. Similarly, the relationship between GDP and the Human Development Index (HDI), which measures life expectancy, education, and per capita income, is typically positive. Higher GDP often correlates with improved government spending on health and education, leading to higher life expectancy and literacy rates, thus boosting HDI, though social policies and income distribution also play crucial roles in this relationship (World Bank, 2020; Ravallion, 2012).

4.4.9. Human Development Index

The Human Development Index (HDI) was used as a proxy for poverty because it provides a comprehensive measure of well-being beyond income alone. HDI combines indicators of life expectancy, education, and per capita income to assess the overall development and quality of life in a country. By incorporating these dimensions, HDI captures the multifaceted nature of poverty, reflecting not just the lack of income but also the deprivation in health and education. This makes it a valuable tool for understanding and comparing poverty levels across countries and regions. Using HDI as a proxy for poverty allows policymakers and researchers to address the broader social and economic factors contributing to poverty, facilitating more targeted and effective interventions (Sen, 1999).

CHAPTER V

RESULTS

5.1. Introduction to the Results

This chapter provides empirical results of the causes of poverty in Ghana using a correlation method and yearly data between 1990 and 2022. Firstly, the descriptive

statistic results are given in Table 1, which shows the mean, median, skewness, maximum, minimum, and standard deviation. Second, we discuss the result of a unit root test to estimate the order of integration using the PP approach to assess the causality using the Granger Causality method. Finally, the scatter showing the graphical trends is presented.

5.2. Descriptive Statistics

Table 1.

Descriptive Statistics for all variable

	HDI	CEX	CFT	DOMC	EDUC	ELE	GDP	INFL	UEMP
Mean	0.5370	2.561	13.302	12.181	41.536	55.508	3.351	19.756	5.521
Median	0.529	1.891	10.700	13.059	38.070	55.100	2.731	15.490	5.237
Max.	0.629	6.801	31.000	18.072	58.399	86.300	6.851	59.462	10.456
Min.	0.465	4.71	3.200	3.657	28.223	28.215	1.32	4.865	2.173
Std. Dev.	0.052	2.161	8.932	4.4673	11.373	19.509	1.771	12.991	2.224
Skew.	0.177	0.518	0.564	-0.5780	0.308	0.182	0.606	1.350	0.615
Kurtosis	1.464	1.754	1.959	2.1238	1.447	1.672	1.961	4.197	2.504
Jar. Ber.	3.414	3.6114	3.243	2.8942	3.838	2.607	3.503	11.992	2.418
Prob.	0.181	0.164	0.197	0.2352	0.147	0.272	0.174	0.002	0.298
Sum	17.721	8.46	438.950	401.96	1370.67	1831.7	1.1012	651.94	182.219
SSD	0.089	1.49	2553.10	638.62	4138.84	12180.1	1.0122	5400.08	158.295
Observations	33	33	33	33	33	33	33	33	33

The Human Development Index (HDI) has a mean value of 0.537, indicating a moderate level of development during the observed period. The median is slightly lower at 0.529, which suggests that the distribution of HDI values is relatively symmetric around the central tendency. The HDI values range from a minimum of 0.465 to a maximum of 0.629, revealing some variation in development levels across the observations. The standard deviation of 0.0526 is relatively low, indicating limited variability and suggesting that development levels did not fluctuate drastically. With a skewness of 0.177, the distribution shows a slight rightward skew, meaning there is a small tail toward higher HDI values. The kurtosis of 1.464 indicates a flatter distribution compared to the normal, while the Jarque-Bera test probability of 0.1814 suggests that the HDI values do not significantly deviate from a normal distribution.

The average consumption expenditure stands at approximately (2.56 10^10), reflecting significant consumer spending within the economy. The median is notably lower, indicating that higher expenditure values are pulling the mean upwards. The

maximum value of consumption expenditure reaches (6.80 10^10), while the minimum is (4.71 10^9), demonstrating a considerable range. This variability is further confirmed by the high standard deviation of (2.16 10^10). The skewness of 0.518 suggests a moderately right-skewed distribution, indicating a longer tail towards higher expenditure values. The kurtosis of 1.753 shows a flatter distribution than the normal, while the Jarque-Bera test probability of 0.1643 suggests that the data does not significantly deviate from normality.

CFT, that is, cooking fuels a mean value of 13.301, indicating the average level of investment during the period. The median is lower at 10.700, showing that some higher values are skewing the mean upward. The minimum and maximum values range from 3.200 to 31.000, revealing a significant spread in capital investments. The standard deviation of 8.933 reflects considerable variability. With a skewness of 0.564, the distribution is moderately right-skewed, suggesting that higher capital formation values are more common. The kurtosis of 1.959 indicates a distribution with thinner tails than a normal distribution, while a Jarque-Bera probability of 0.1976 implies that the distribution does not significantly deviate from normality.

Domestic credit, representing the credit available to the private sector, has a mean value of 12.180 and a median of 13.058, indicating that the data is roughly symmetric around the central value. The range extends from a minimum of 3.657 to a maximum of 18.071, suggesting moderate variability in credit availability. The standard deviation of 4.467 supports this, showing some variation in the data. The skewness of 0.578 indicates a slight rightward skew, while the kurtosis value of 2.123 suggests a distribution that is close to normal but slightly flatter. The Jarque-Bera test probability of 0.2352 suggests the data does not significantly depart from a normal distribution.

Education spending has a mean value of 41.535, which indicates the average level of investment in human capital. The median is slightly lower at 38.069, suggesting that some higher values are affecting the mean. The data ranges from a minimum of 28.222 to a maximum of 58.398, showing significant variability in education spending. The standard deviation of 11.372 indicates notable variation across the observations. With a skewness of -0.308, the distribution is slightly left-skewed, suggesting a longer tail towards the lower end of the data. The kurtosis value of 1.447 indicates a flatter distribution than normal, and the Jarque-Bera probability of 0.1467 suggests no significant deviation from normality.

ELE which is availability of electricity averages 55.507, representing the average energy usage over the period. The median value of 56.000 is close to the mean, indicating a symmetric distribution. The values range widely from 28.214 to 86.300, reflecting considerable variability in electricity consumption. The standard deviation of 17.509 further supports this variability. The skewness value of 0.182 suggests a slight rightward skew, while the kurtosis of 1.672 indicates a flatter-than-normal distribution. The Jarque-Bera probability of 0.2715 suggests that the electricity consumption data does not significantly deviate from a normal distribution.

The mean GDP is approximately (3.3510^10), reflecting the average economic size during the period. The median is lower at (2.73 10^10), indicating that a few higher values skew the mean upward. The GDP ranges from a minimum of (1.32 times 10^10) to a maximum of (6.85 10^10}), showing significant variability in economic output. The standard deviation of (1.77 10^10) indicates considerable dispersion around the mean. The skewness of 0.6057 reveals a moderate right skew, suggesting a longer tail towards higher GDP values. The kurtosis of 1.9608 indicates a flatter distribution than normal, while a Jarque-Bera probability of 0.1735 implies that GDP data does not significantly depart from normality.

The inflation rate has a mean value of 19.755, reflecting general price level changes over the period. The median is lower at 15.483, suggesting that some higher inflation rates skew the mean upwards. Inflation varies widely, from a minimum of 0.55 to a maximum of 59.461, indicating large fluctuations. The high standard deviation of 19.509 supports this observation. The skewness of 1.3497 indicates a strong rightward skew, and the kurtosis value of 4.1978 points to a leptokurtic distribution with more extreme values than a normal distribution. The Jarque-Bera probability of 0.0024 shows significant deviation from normality, suggesting that the inflation data is not normally distributed.

The unemployment rate has a mean of 5.5217, representing the average level of joblessness during the period. The median is close to the mean at 5.2370, indicating a roughly symmetric distribution. The range is from 0.456 to 10.456, showing variability in unemployment levels. The standard deviation of 2.2241 reflects some variation around the mean. The skewness of 0.6150 indicates a slight rightward skew, suggesting a longer tail towards higher unemployment rates. The kurtosis value of 2.5038 is close to 3, indicating a near-normal distribution. The Jarque-Bera probability of 0.2983 implies that the unemployment data does not significantly depart from normality.

5.3. Unit root

The unit root test uses the Phillips-Perron (PP) method to determine the stationarity of a time series. Stationarity implies that the statistical properties of a series, such as mean and variance, do not change over time. A series is non-stationary if it has a unit root. Here, the test is applied at both the level and the first difference, with different deterministic terms (constant, trend, or none).

Table 2.

The Philip-Perron (PP) unit root test at none for level, first and second difference

At Level	None		First Diff.	None		Sec Diff.	None	
Variables	t-stats.	Prob.	Variables	t-stats.	Prob.	Variables	t-stats.	Prob.
lnhdi	-3.671***	0.001	d(lncex)	-4.131***	0.000	d(dlncft)	-16.435***	0.000
lncex	2.142	0.991	d(lncft)	-1.485	0.000	d(dlngdp)	-16.266***	0.000
lncft	5.889	1.000	d(lndomc)	-7.117***	0.126			
lndomc	0.682	0.858	d(lneduc)	-4.204***	0.000			
lneduc	3.626	0.998	d(lnele)	-6.759***	0.000			
lnele	4.810	1.000	d(infl)	-13.183***	0.000			
Infl	-1.6151	0.0991	d(lnuemp)	-4.401***	0.000			
lnuemp	3.3037	0.5549	d(lngdp)	-1.111	0.000			
lngdp	10.764	1.000			0.236			

The table presents the results of the Philip-Perron (PP) unit root test, analyzing the stationarity of several variables at three stages: none (level), first difference, and second difference. The test determines whether a time series is stationary, which is essential to avoid misleading statistical inferences. The calculated test statistic is compared with the table values determined for Philip-Perron. If the calculated statistic is smaller (more negative) than the critical value, H0 is rejected and the series is considered stationary.

At the level (none), only the Human Development Index (lnhdi) is stationary, with a t-statistic of -3.671 and a p-value of 0.001, indicating stationarity at the 1% significance level. This suggests that the variable does not exhibit a unit root and is stable over time without differencing. In contrast, other variables such as Incex (an income-related variable), Incft (likely fixed capital formation), Indomc (possibly domestic consumption or investment), Ineduc (education), Inele (possibly electricity or energy use), Infl (inflation), lnuemp (log of unemployment), and lngdp (log of gross domestic product) are not stationary at the level. For instance, Incex has a t-statistic of 2.142 and a p-value of 0.991, indicating non-stationarity. Similarly, lngdp, with a t-statistic of 10.764 and a p-value of 1.000, clearly indicates the presence of a unit root and non-stationarity at level.

At the first difference, many of these previously non-stationary variables become stationary. The differenced Human Development Index (d(Inhdi)) shows a t-statistic of -4.662 and a p-value of 0.000, indicating that stationarity is achieved after differencing once. Similar results are observed for Incex, with a t-statistic of -4.131 and a p-value of 0.000, Indomc, which has a t-statistic of -7.117 and a p-value of 0.000, and Ineduc, which becomes stationary with a t-statistic of -4.204 and a p-value of 0.000. Other variables that show stationarity at the first difference include Inele, with a t-statistic of -6.759 and a p-value of 0.000, Infl, with a t-statistic of -13.183 and a p-value of 0.000, and lnuemp, with a t-statistic of -4.401 and a p-value of 0.000. This indicates that these variables, although non-stationary at level, become stable and mean-reverting after the first differencing. However, Incft (t-statistic of -1.485 and a p-value of 0.126) and lngdp (t-statistic of -1.111 and a p-value of 0.236) remain non-stationary at the first difference, meaning that further differencing is needed.

At the second difference, both Incft and lngdp finally become stationary. For Incft, the t-statistic is -16.435 and the p-value is 0.000, showing that it achieves stationarity at the 1% significance level after being differenced twice. A similar result is observed for lngdp, which has a t-statistic of -16.266 and a p-value of 0.000, indicating that stationarity is achieved only at the second difference.

In summary, the results show that while Inhdi is stationary at level, other variables such as Incex, Indomc, Ineduc, Inele, Infl, and lnuemp become stationary after the first differencing. In contrast, Incft and lngdp, which are non-stationary at both level and first difference, achieve stationarity only after the second differencing. The findings highlight the varying degrees of persistence in the unit root characteristics of these variables.

5.4. Granger Causality

Table 3.
Granger Causality with HDI as a dependent variable

Dependent variable: LNHDI	
Independent Variable	Prob.
lncex	0.6258
lncft	0.0828
lndomc	0.5152
lneduc	0.0538
lnele	0.6742
lngdp	0.0775
infl	0.6224
lnuemp	0.3307
All	0.0453

Granger causality test is a method used to test whether time series explain each other. The Granger causality test does not imply correlation or direct causality. This test only tests the ability of one time series to predict future values based on past values of another time series. The test is usually applied when two variables are stationary. If the series are not stationary, it may be necessary to take differences to make them stationary first. The variables above were made stationary taking differences after unit root tests. The Granger causality results provide detailed insights into the predictive relationships between various independent variables and the Human Development Index (LNHHDI) as the dependent variable. The test examines whether past values of each independent variable can predict future changes in LNHHDI.

The strongest predictor among the variables is education (lneduc), which has a p-value of 0.0538. This value, just above the 0.05 threshold for statistical significance, indicates that there is a strong relationship between past education levels and future human development. The result suggests that improvements in education can significantly contribute to future increases in the Human Development Index. Given that education is a key component of human capital, it makes sense that its impact on development is significant, as better education often leads to improvements in employment, health, and overall quality of life, which are all critical elements of human development. Another variable showing some degree of predictive power is cooking fuel and technology (lncft), with a p-value of 0.0828. Although the result is not as strong as

that of education, the p-value is below the 0.1 level, indicating that there is some evidence that cooking fuel and technology Granger-causes human development. This means that past improvements in access to cooking fuel and technology have a moderate effect on predicting future increases in the Human Development Index. Access to cleaner and more efficient cooking technologies can significantly improve health outcomes, reduce environmental degradation, and contribute to overall well-being, which are important factors in human development.

Gross Domestic Product (lngdp) also demonstrates a moderate relationship with human development, with a p-value of 0.0775. While this is not below the 0.05 significance level, it does suggest that past economic growth, as measured by GDP, has some predictive power over future changes in the Human Development Index. This result reflects that higher GDP levels can lead to better public services, improved infrastructure, and more resources for education and health, all of which contribute to human development. Though the evidence is not as strong as for education, the moderate predictive relationship highlights the importance of economic growth in improving development outcomes.

On the other hand, consumption expenditure (Incex) has a p-value of 0.6258, indicating that it does not Granger-cause changes in LNHHDI. Past consumption expenditure levels do not significantly predict future human development. This could be because consumption expenditure reflects short-term spending behaviour, which may not have a direct or lasting impact on long-term development outcomes like education, health, or overall well-being.

Similarly, domestic consumption (endemic), with a p-value of 0.5152, does not show significant Granger causality with human development. Like consumption expenditure, domestic consumption or investment might not have a straightforward or direct impact on long-term development. Although these expenditures can contribute to economic activity, their effect on human development may be more complex and influenced by other factors.

Electricity with a p-value of 0.6742, also does not significantly Granger-cause changes in (hdi). Access to electricity is crucial for economic development and improving living standards, but the lack of a significant relationship in this test suggests that past values of energy consumption do not directly predict future changes in the Human Development Index. This could be due to variations in how energy is used or distributed, or because the broader development effects of energy access may take longer to manifest

than those captured by the data.

The relationship between inflation and human development index, with a p-value of 0.6224, is also not significant. This indicates that past inflation rates do not significantly predict future changes in human development. Inflation often affects the cost of living and economic stability, but its impact on development may depend on how well an economy manages inflationary pressures, rather than on inflation itself directly influencing development outcomes.

Finally, unemployment, with a p-value of 0.3307, does not significantly Granger-cause changes in LNHHDI. This suggests that past levels of unemployment do not have a direct predictive relationship with future human development. Unemployment is often considered a key factor in determining living standards and economic well-being, but its relationship with human development may be influenced by broader labour market conditions, social policies, or the availability of social safety nets.

In conclusion, education stands out as the strongest predictor of future human development, with capital formation and GDP also showing moderate predictive relationships. These results highlight the importance of investing in human capital, economic growth, and infrastructure to promote long-term development. Meanwhile, other variables like consumption expenditure, domestic consumption, electricity, inflation, and unemployment do not exhibit significant Granger causality with human development. This suggests that their effects on LNHHDI may be more indirect or influenced by additional factors.

5.5. Scatter Plot for all variables with HDI as the dependent variable

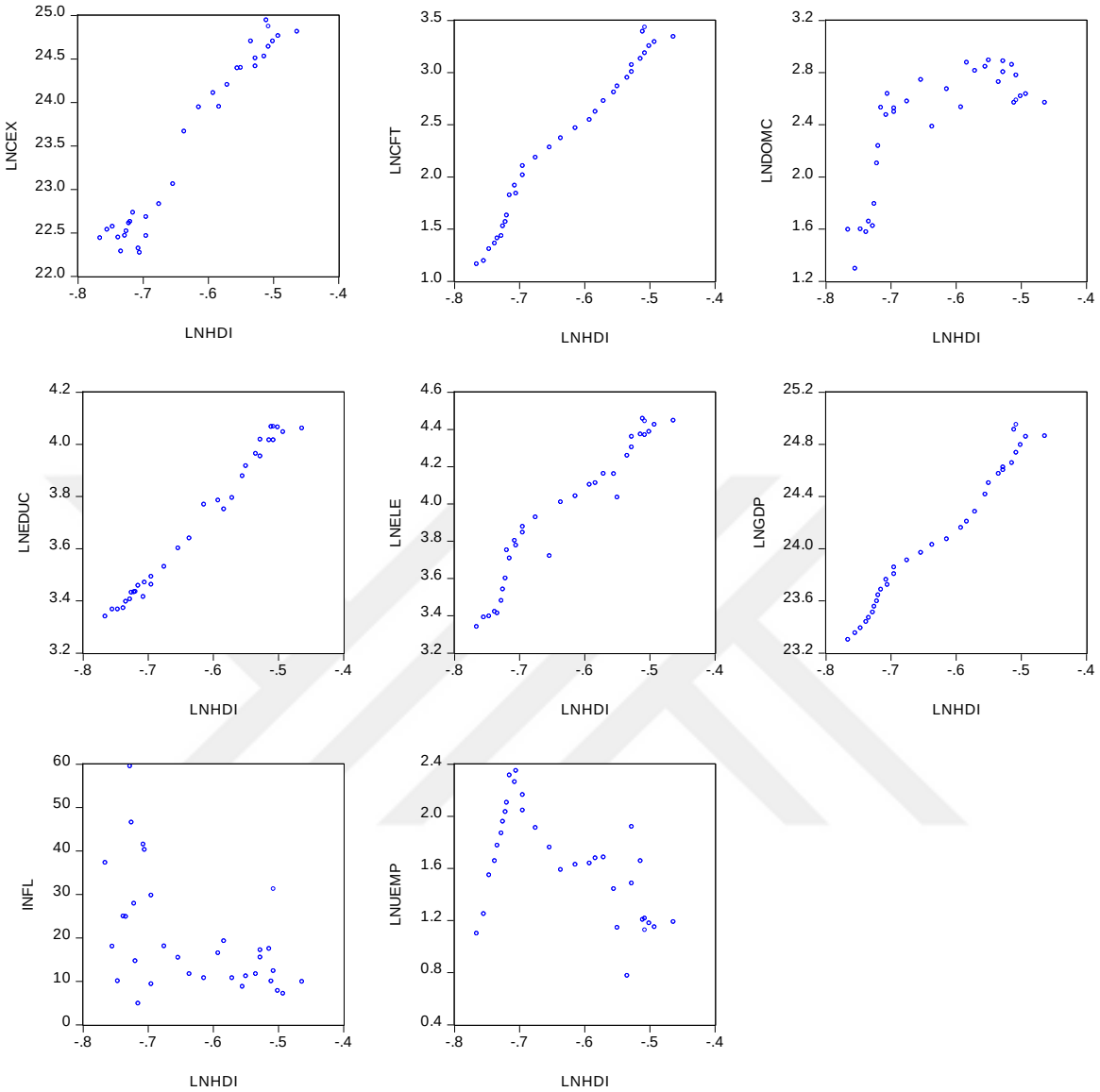

Figure 1. Scatter Plot for all variables with HDI as the dependent variable

The scatter plot matrix displays the relationships between various independent variables and the dependent variable, the natural logarithm of the Human Development Index (LNHHDI). Each plot gives an insight into how different factors influence human development. The relationship between consumption expenditure (LNCEX) and LNHHDI shows a strong positive linear trend. As consumption expenditure increases, so does human development, suggesting that higher spending levels are linked with improvements in human well-being. Similarly, capital formation (LNCFT) exhibits a clear positive correlation with LNHHDI. As capital formation rises, there is a

corresponding increase in human development, indicating that investment in capital formation significantly enhances development outcomes. In the case of domestic consumption or investment (LNDOMC), the trend is somewhat non-linear. Initially, as domestic consumption or investment increases, LNHHDI also rises, but the relationship becomes less defined as LNDOMC continues to grow. This suggests that while higher domestic consumption or investment tends to improve human development, other factors might come into play at higher levels, making the correlation less straightforward. Education (LNEDUC) and human development share a very strong positive linear relationship. As educational levels improve, human development increases consistently. This emphasizes the role of education as a critical driver of human progress. A similar pattern is observed between electricity or energy use (LNELE) and LNHHDI, where greater access to or consumption of energy correlates with higher levels of human development, further highlighting the importance of energy infrastructure in supporting development. Gross Domestic Product (LNGDP) also shows a strong positive linear relationship with human development. As GDP increases, human development improves, reflecting the significant role that economic growth plays in fostering better development outcomes. In contrast, the relationship between inflation (INFL) and human development appears more complex. The data points are scattered, indicating a weak or non-linear relationship. There is no clear pattern showing how changes in inflation directly influence human development, suggesting that inflation's effect may depend on additional factors not captured in this simple scatter plot. Unemployment (LNUEMP) also shows a scattered, non-linear relationship with LNHHDI. The data suggests that higher unemployment does not always correspond directly to lower levels of human development, indicating that the impact of unemployment on human well-being is not straightforward and could vary based on broader economic or social contexts. Overall, variables such as consumption expenditure, capital formation, education, energy, and GDP show strong positive correlations with human development, suggesting that improvements in these areas directly enhance human well-being. However, inflation and unemployment demonstrate more complex, less predictable relationships with human development, implying that their effects are influenced by other factors and are not as consistently aligned with improvements in the Human Development Index.

CHAPTER VI

CONCLUSION AND POLICY RECOMMENDATION TO ALLEVIATE POVERTY IN GHANA

6.1. Introduction

The analysis presented in the Granger causality results, alongside the scatter plot observations, elucidates critical insights into the factors influencing the Human Development Index (HDI). This comprehensive examination reveals not only the critical determinant of poverty also highlights the complexity of various socio-economic factors that contribute to overall well-being. Based on these findings, we can draw meaningful conclusions and formulate actionable policy recommendations to enhance human development outcomes.

6.2. Conclusion

The primary finding from the Granger causality test is that education (lneduc) emerges as the strongest predictor of future changes in the Human Development Index, with a p-value of 0.0538. This close proximity to the significance threshold underscores the pivotal role that educational attainment plays in fostering human development. Education equips individuals with the skills and knowledge necessary to improve their quality of life, leading to enhanced employment opportunities, better health outcomes, and overall societal progress. The strong positive correlation observed in the scatter plot further supports this conclusion, indicating that higher educational levels consistently correlate with improvements in the HDI.

Additionally, the analysis indicates a moderate relationship between cooking fuel and technology (lncft) and the Human Development Index, with a p-value of 0.0828. While this result does not reach conventional significance, it suggests that access to cleaner cooking technologies contributes positively to human development outcomes. Cleaner energy solutions are essential for improving health and reducing environmental impacts, making them critical components of development strategies.

The Gross Domestic Product (lngdp) also shows a moderate predictive power with a p-value of 0.0775. Economic growth is a vital factor in enhancing human development, as higher GDP levels generally lead to better public services, infrastructure improvements, and greater availability of resources for health and education. This

relationship is reinforced by the strong linear correlation observed in the scatter plot, which indicates that as GDP increases, so too does human development.

In contrast, variables such as consumption expenditure (lncex), domestic consumption (lndomc), electricity (lnele), inflation (infl), and unemployment (lnuemp) do not exhibit significant Granger causality with the Human Development Index. Their high p-values suggest that these factors may not have direct predictive relationships with human development. Instead, their effects might be more nuanced or dependent on other mediating variables, which warrants a more comprehensive approach to policy formulation in these areas.

6.3. Policy Recommendations

Given the findings outlined above, several policy recommendations are proposed to reduce poverty.

Prioritizing education investment is essential, as education is the strongest predictor of human development outcomes. Investing in education will yield long-term benefits for individuals and societies. Governments should allocate increased funding for educational infrastructure, teacher training, and access to learning materials. Policies should focus on promoting quality education, improving enrollment rates, and ensuring that education is accessible to marginalized groups. Lifelong learning programs and vocational training initiatives can bridge skill gaps in the labour market, empowering individuals and contributing to economic growth.

Enhancing access to clean cooking technologies is also vital. The moderate relationship between cooking fuel and technology and the Human Development Index suggests that improving access to cleaner energy sources can have a positive impact on health and well-being. Policymakers should implement programs that provide subsidies or incentives for households to adopt cleaner cooking technologies, such as solar cookers or biogas systems. Public awareness campaigns can educate communities about the health and environmental benefits of using clean energy solutions, encouraging wider adoption.

Promoting sustainable economic growth is crucial. Economic growth is correlated with improvements in human development index. While it is not the strongest predictor, it remains vital for funding public services and infrastructure. Governments should foster an environment conducive to economic growth through targeted investments in infrastructure, support for small and medium-sized enterprises, and initiatives that promote technological innovation. Additionally, policies must ensure that economic

growth is inclusive, reaching marginalized communities and addressing inequalities.

Developing comprehensive social safety nets is necessary to address economic vulnerability and provide support to those in need. Establishing such safety nets is essential for protecting vulnerable populations. Governments should implement policies that offer unemployment benefits, food assistance, and access to healthcare for low-income households. This approach can mitigate the adverse effects of economic downturns and improve overall well-being. Encouraging community engagement in development initiatives is vital for addressing the less predictable relationships observed in variables like domestic consumption and unemployment. Policymakers should engage communities in the development process, empowering them to identify their unique challenges and opportunities. Community-based approaches foster tailored solutions and enhance social cohesion, leading to more sustainable development outcomes. Again, promoting inclusive economic growth focuses on diversifying the economy by developing manufacturing, services, and technology sectors to reduce reliance on agriculture and create more employment opportunities. Implement policies encouraging private sector investment, particularly in job-creating industries, and support small and medium-sized enterprises (SMEs) to foster entrepreneurship and innovation.

Implementing inflation monitoring and management strategies is critical in understanding the complex relationship between inflation and human development. Policymakers should develop frameworks for monitoring inflation trends and their impacts on various sectors of the economy. Measures to control inflation while supporting economic growth are crucial. This includes ensuring that monetary policies align with development goals and that low-income households are protected from rising costs.

Additionally, the government must increase funding for education, particularly in rural areas, to improve access to quality education at all levels. Implement vocational training programs that equip individuals with the skills needed for the modern job market, particularly in high-growth sectors. Enhance the quality of education by investing in teacher training, curriculum development, and infrastructure. More so, expand social protection programs such as cash transfers, unemployment benefits, and healthcare subsidies to provide a safety net for vulnerable populations. Implement targeted poverty alleviation programs that focus on marginalised groups, including women, children, and people with disabilities. Strengthen the social safety net to protect low-income households from economic shocks like inflation and job loss.

In rural areas, prioritise infrastructure development, including roads, electricity,

and water supply, to improve access to essential services and support economic activities. Promote public-private partnerships (PPPs) to fund large-scale infrastructure projects critical for economic growth and poverty reduction. Ensure infrastructure development projects are inclusive and benefit the poorest and most marginalised communities.

To reduce inequality, the government must implement progressive taxation policies that ensure wealthier individuals and corporations contribute their fair share to funding public services and social protection programs. Promote wage policies that ensure fair compensation for all workers, particularly those in low-wage sectors. Support initiatives to increase financial inclusion, such as microfinance programs, to provide low-income individuals with access to credit and savings opportunities. Also, improve governance and institutional capacity to implement poverty reduction policies effectively. Promote transparency and accountability in government programs and spending to reduce corruption and ensure that resources are used efficiently. Strengthen local governments and empower communities to participate in decision-making processes related to development and poverty alleviation.

Implement policies that promote sustainable agriculture practices to improve productivity and income while protecting the environment. Promote using renewable energy sources to reduce dependence on fossil fuels and improve access to clean energy. Support initiatives to conserve natural resources, such as forests and water bodies, to ensure long-term environmental sustainability and food security.

To conclude, the results of the Granger causality analysis and the scatter plot observations provide valuable insights into the determinants of human development. Education emerges as the most critical predictor, highlighting the importance of investing in human capital to achieve sustainable development. Additionally, the moderate relationships identified for cooking fuel and economic growth emphasize the need for multi-faceted policy approaches that address various dimensions of development. By implementing the recommended policies, governments can create a conducive environment for human development, ultimately improving the quality of life for individuals and communities. Continued research and evaluation will be vital in refining these strategies and ensuring their effectiveness in achieving long-term development goals. As we move forward, a holistic and inclusive approach to policy formulation will be essential in navigating the complexities of human development and fostering a more equitable and prosperous society for all.

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