PROMOTING INCLUSIVE DEVELOPMENT THROUGH ALLOCATION OF NATIONAL RESOURCES: THE CASE OF BASIC EDUCATION IN GHANA

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A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
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ABSTRACT

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Economic growth and poverty reduction have generally recorded monumental gains in the last two decades globally. On the other hand, worldwide regional inequality has widened considerably. In the year 2009, spatial or regional inequality was one of the major themes of the World Development Report. Similarly, Goal 10 of the United Nations Sustainable Development Goals aims at reducing inequalities within and among countries. These examples point to the relevance of issues of inequalities in contemporary global discourse on development. This study examines the dynamics of regional development disparities in Ghana from a political economy perspectives. The study specifically focuses on whether, through the mechanism of resource allocation, there are any long run causal relationships between political representation and development disparity.

The study comprises both a quantitative and a qualitative part. The quantitative aspect of the study analysed TSCS data from the education sector in Ghana using the ARDL technique. Also, a Benefit Incidence Analysis (BIA) was conducted in the analysis of the Ghana Partnership for Education Grant programme (GPEG). The qualitative aspect of the study utilised both content analysis and interviews. Findings from the study indicate that political representation is significant in the determination of development outcomes. Political representation was found to be significant in the resource allocation process, confirming the arguments of power relations theorists that resource allocation is the primary mechanism via which regional inequalities emerge.

Beside the significance of political representation in the development process, variables such as population, number of schools and population of children of school going age were found to be significant in shaping development outcomes and resource allocation. Consequently, the study recommends that the utilisation of principles of proportionality and deprivation criteria should be strengthened in objective budget allocation models. Findings from the BIA and interviews show that the government of Ghana is making conscious efforts to bridge regional disparities in development through pro-poor social interventions outside the mainstream budgetary allocations.

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LIST OF ABBREVIATIONS

Abbreviations	Equivalence
ADB	Asian Development Bank
ARDL	Autoregressive Distributive-Lag
BIA	Benefit Incidence Analysis
CPP	Conventions People's Party
EMIS	Education Management Information System
ERP	Economic Recovery Program
FCUBE	Free Compulsory Universal Basic Education
FGD	Focus Group Discussions
GDHS	Ghana Demographic Health Survey
GES	Ghana Education Service
GER	Gross Enrolment Ratio
GH¢	Ghanaian Cedis
GLSS	Ghana Living Standard Survey
GNP	Gross National Product
GSS	Ghana Statistical Service
GoG	Government of Ghana
GPEG	Ghana Partnership for Education Grant
GPE	Global Partnership for Education
GPRS	Ghana Poverty Reduction Strategy
HIPC	Highly Indebted Poor Country
IGF	Internally Generated Funds
IMF	International Monetary Fund
ISSER	Institute of Social Statistical and Economic Research

IU	Indiana University
JHS	Junior High School
KG	Kindergarten
MDG's	Millennium Development Goals
M/A	Municipal Authority
MP	Member of Parliament
NDC	National Democratic Congress
NPP	New Patriotic Party
PAC	Parliamentary Appointment Committee
PAMSCAD	Programme of Action to Mitigate the Social Cost of
PETS	Public Expenditure Tracking Survey
PNDC	Provisional National Defence Council
PRSPs	Poverty Reduction Strategy Papers
SAP	Structural Adjustment Programme Adjustment
SSA	Sub Saharan Africa
TSCS	Time Series Cross Section
UBE	Universal Basic Education
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund
UPE	Universal Primary Education
UTDBE	Untrained Teachers Diploma in Basic Education

CHAPTER 1

GENERAL INTRODUCTION

1.1 Introduction

This chapter provides an overview of this study and is organised into ten sections. Section 1.1 is the introduction and section 1.2 is the background to the study. Section 1.3 discusses the problem statement, section 1.4 discusses the significance of the study while sections 1.5 and 1.6 present the research objectives and questions respectively. Section 1.7 discusses the scope of the study, section 1.8 presents the time plan and sections 1. 9 and 1.10 present the organisation of the study and the summary of the chapter respectively.

1.2 Background to the Study

It is almost impossible to write on poverty and inequality without making reference to the millennium development goals (MDGs) whose number one goal is to:

> "… halve by the year 2015, the proportion of the world's people whose income is less than one dollar a day and the proportion of people who suffer from hunger and, by the same date, to halve the proportion of people who are unable to read or to afford safe drinking water" (United Nations, 2000).

The 2015 deadline for the above target has passed with the fight against poverty still on and with many developing countries making giants strides to halving extreme poverty in the world. According to the United Nations, much progress has been made in many areas. Generally, the global goal of access to safe drinking water was met five years ahead of schedule and poverty rates as well as the number of absolute poor have declined. The number of people living in extreme poverty, for example, has declined by more than half globally, falling from 1.9 billion in 1990 to

836 million in 2015. Furthermore, the proportion of under nourished people in the developing regions has fallen by almost half since 1990 from 23.3 percent in 1992 to 12.9 percent in 2014-2016 (UNDP, 2015; United Nations, 2012).

Despite the progress made, the implementers of the MDG's did not fully incorporate all the principles outlined in the Millennium Declaration, one of which is equality. The concentration of the MDG's on national averages and progress has not engendered a nuanced analysis of growth at the sub – national level which may be laced with disparities or inequalities in terms of the various MDG indicators (United Nations, 2012). With the progress made with poverty reduction, one would naturally expect the gap between rich and poor to close. Ironically, available data for instance points to growing inequalities at the global, regional and country levels. The United Nations report on the world social situation asserts that poverty remains entrenched and that much of the world is still trapped in an inequality predicament. The report further states that the world is more unequal than it was ten years ago (United Nations, 2005).

On the global stage, total wealth grew by 8.3 percent worldwide to reach $263 trillion, meanwhile the bottom fifty percent of the global population own less than one percent of the total wealth and the richest decile hold eighty-seven percent of the world's wealth. It is also reported that the top one percent alone account for 48.2 percent of global assets (Credit Suisse Research Institute, 2014). Atkinson (2003) found that inequality in the United States has been rising steadily since the early 1970s and has risen dramatically in the United Kingdom since 1980. Some uncertainty remains over how inequality has evolved in India, the largest democracy in the Asian region. Nevertheless, it has surely been rising, but with no solid assessment of by how much (World Bank, 2006).

Ghana, the focus of this study, has witnessed twenty years of rapid economic growth and unprecedented levels of reduced poverty but these have done little to reduce the historical north-south divide in standards of living and human development. Between 1992 and 2006, the number of the poor in Ghana declined by 2.5 million in the south and increased by 0.9 million in the north (World Bank, 2011). In general, between 2000 and 2007, the overall wealth inequality rose in 35 countries and fell in only 11 (Credit Suisse Research Institute, 2014). The focus of this thesis is

spatial inequality with specific interest on how political representation generates and sustains spatial inequality through resource allocation in Ghana's education sector (basic education). Spatial inequality has been defined as:

"the differentiated economic wellbeing of populations over territorial space and is here defined as relatively deprived consumption levels and low productivity arising from a population's locational delimited economic sectorial participation" (Bryceson, 2006, p. 11).

There is growing literature that attempts to highlight or justify the need to curb inequality at both global and country levels. According to the United Nations, (2012) the desire to address inequalities is born out of both international treaty standards and human moral perspectives. Some scholars view the promotion of human development and poverty eradication as an end in itself and needs no further justification (Streeten, 1994). There is also a perceived negative economic, social and political consequences associated with inequality. For instance, unequal societies tend to grow more slowly than those with low income inequalities, in short, inequality and poverty reduce productivity (Kanbur & Venables, 2005; Nissanke & Sindzingre, 2006; Okojie & Shimeles, 2006; Streeten, 1994; United Nations, 2012). Furthermore, inequality tends to foment discontent which can lead to political instability and in some cases violence and conflict (Aryeetey, Owusu, & Mensah, 2009; Bird et al., 2010; Kanbur & Venables, 2005; Mckay & Aryeetey, 2004; Okojie & Shimeles, 2006; Østby, Nordas, & Rød, 2009; Streeten, 1994). Indeed, I identify with the assertion that government will have to take active measures to deal with such economic imbalances (Aryeetey et al., 2009).

1.3 Statement of Research Problem

The persistence of regional development disparities is an indication of a need for continuous empirical studies to systematically reduce the impact of these disparities at both global and national levels. Many current studies on regional inequality have emphasized the primary role of politics or power relations as major drivers of spatial inequality (Khan, 2010; Mosse, 2010; Parks & Cole, 2010).

Milanovic (2005) hypothesises that the high levels of inequality in Africa is principally a political phenomenon. This coincides with a growing consensus that politics and power act as central forces in shaping development processes and outcomes (Abdulai, 2012; Gourevitch, 2008; Hickey & Toit, 2007; Mosse, 2010). Consequently, it has been argued that some regions or geographic areas remain under developed because of their political relations with the rest of the country.

While some relational studies explain development disparities in terms of representation, others examine them in terms of exclusion and incorporation (Abdulai, 2012; Hickey & Toit, 2007; Mosse, 2010). This study limits it scope to the representation dimension of power relations. Viewed in terms of representation, *underdevelopment is seen as the outcome of unbalanced distribution of national resources resulting from the under-representation of underdeveloped regions in national politics.* This line of argument is supported by the world bank, that when actors from regions of advantage control decision making processes on which poor regions depend, regional "catch up' becomes very difficult. Similarly, it is argued that people outside ruling coalitions have only limited access to organization, privileges, valuable resources and activities (North, Wallis, Webb, & Weingast, 2007; World Bank, 2006).

Regional development disparities in the developing world are even more pervasive due to the presence of clientelism. In its simplest term, clientelism describes the selective distribution of benefits to individuals and clearly defined groups in return for political benefits. In modern democracies, patrons or their agents stand for elections and their clients vote them out of a general sense of obligation or as part of a specific exchange for services rendered or promised (Hirvi & Whitfield, 2015; Hopkin, 2006). Clientelism as described above, is similar to what Kramon and Posner (2013) refer to as political favouritism, where political leaders channel development resources to their 'coethics' or support base. Consequently, regions or groups with more political representation tend to benefit substantially more from the distribution of development resources than groups that are not represented or are underrepresented.

As a result of the important role political representation plays in the development discourse, it has been argued that the only way to get disadvantaged

regions and groups to the level of advantaged regions is by redirecting political power and control over resource allocation to disadvantaged groups and regions (Abdulai, 2012; Gradus, 1983; Hickey & Toit, 2007).

Extant literature on power relations has dealt extensively with issues of regional development disparity. However, many many studies on regional inequalities in SSA and Ghana in particular have focussed on the socio-economic causes of inequality and policy choices of pre and post – colonial governments (Aryeetey et al., 2009; World Bank, 2006). This study pays attention to the political-economy explanations of spatial inequality. Secondly, most of the studies on the relational approaches to spatial inequality have employed purely qualitative approach seeking to establish causal relationships (Abdulai, 2016; Abdulai & Hickey, 2016; Abdulai & Hulme, 2015; Golooba-mutebi & Hickey, 2013; Hirvi & Whitfield, 2015; Mohan & Asante, 2015; Oduro, Awal, & Ashon, 2014). Similarly, most of the quantitative studies that try establish a relationship between political representation and resource allocation using time series data are mostly limited to western or Latin American countries (Atlas, Gilligan, Hendershott, & Zupan, 1995; Porto & Sanguinetti, 2001). Thus, time series and alternative research approaches capable of establishing long run relationships are mostly missing in power relational studies and in SSA and Ghana in Particular. Therefore, this study proposes to employ a time series approach capable of establishing long run causal relationship between political representation and development disparity.

Furthermore, since this study seeks to explain development disparities across regions, it would not be out of order to examine whether or not the government of Ghana is making any conscious effort to bridging regional inequalities through the utilisation of pro-poor resource allocation mechanisms. Consequently, a case study of a social intervention was conducted. As part of this case study, a benefit incidence analysis was carried out to determine if government allocations are pro poor or not. The case study also delved into the potential such pro-poor interventions hold for bridging inequality. BIA is significant for poverty and inequality analyses since the justification for providing government subsidies rests on both efficiency and equity grounds (O'Donnell et al., 2007). In other words, subsidies are meant to help the poor escape from poverty. Thus, a benefit incidence analysis provides the appropriate

platform to examine the extent to which government subsidies are really benefitting the poor.

Generally, the purpose of this study is to examine and explain the dynamics of regional development disparities from a political economy perspective in Ghana. The study specifically focusses on whether there are any long run causal relationships between political representation and development disparity through the mechanism of resource allocation.

1.4 Significance of the study

The study shall make significant contribution to knowledge in development studies in general and to the relational studies literature in particular. The use of power relations to analyse spatial inequality is in itself a departure from traditional approaches. Many extant studies in the field have concentrated on strong institutions, the bad geography arguments, cumulative causation, regime types and the influence of donors (Myrdal, 1957; North, 1991; Rodrik, 2002). The use of the relational approach, therefore serves as an addition to the limited studies in the area. Moreover, the study does not merely serve as an addition to literature, rather, it seeks to put to the test the largely accepted assumption that the conditions of disadvantaged groups will improve once their political position within the larger political structure appreciates. Hence, the collection of data in a different context, with different groups and times will not only serve as an important test of theory but also as an expansion that will broaden generalizations or even fine-tune the theoretical propositions.

Furthermore, the study seeks to quantitatively analyse spatial inequalities from a power relational perspective. This is a departure from most relational enquiries. Specifically, the regression analysis employed helped to establish if there is any causal relation between resource allocation and representation. Also, the benefit incidence analysis highlights the extent to which poor or rich regions benefit from government allocations. This shift in research approach can be viewed as a methodological expansion in relational studies literature. In addition to the above, the study delved into the effectiveness of foreign aid for pro-poor social intervention in the developing country context. The findings of the case study can inform donors on

how to strategically elicit effective management of grants from local partners so as to promote equitable and inclusive development.

1.5 Research Objectives

The main objective of this study is to examine whether and how political control over national decision making institutions by different spatial units shapes the distribution of state resources. Therefore, I subscribe to the views that inequality basically thrives on the patterns of government expenditures across regions (Abdulai, 2012). Also, based on the general idea from the literature reviewed, it is assumed that control of political power by a group leads to a substantial distribution of state resources in their favour and vice versa. Based on these assumptions the research seeks to:

1. Establish the effects of political representation on regional inequalities in Ghana (2004-2016).
2. Examine whether government is making efforts to reduce regional inequalities.
3. To make policy recommendations

1.6 Research questions

In order to achieve the above objectives, the study seeks to answer the following research questions.

1. Does political representation have any effect on regional inequality?
2. Is government making any effort to reduce regional inequalities in Ghana?

1.7 Scope and Context of the Study

The current study is limited to Ghana which has a total land size of 238, 537 square kilometres, and it is bordered by three French speaking countries: Togo to the East, Cote d' Ivoire to the west, Burkina Faso to the north and the Gulf of Guinea to the south. Ghana can be divided into three broad distinct ecological zones: the low, sandy coastal plains, with several rivers and streams; the middle and western parts of the country is characterized by a heavy canopy of semi-deciduous rainforests with

many streams and rivers; and a northern savannah, which is drained by the Black and White Volta rivers. There are 10 administrative regions in Ghana including: the Western, the Central, the Greater Accra, the Volta, the Eastern, the Ashanti, the Brong Ahaffo, the Northern, the Upper East, and the Upper West Regions. And the recent estimate puts Ghana's population at 27 million in 2014 (Ghana Statistical Service, 2015).

The country can further be broadly divided into two regions, the developed south and the lagging north. Thus, as used in this research, the North or Northern Ghana refers to the Northern, the Upper East and the Upper West Regions and the remaining seven are referred to as the south or southern Ghana including the Greater Accra, the Western, the Volta, the Brong Ahafo, the Central and the Ashanti Regions. It is estimated that there are about ninety-two different ethnic groups in Ghana. These groups are often classified into a few large groups, with the Akans constituting the largest group (48 present), followed by the Mole-Dagbani (17 percent), Ewe (14 percent), Ga-Dangme (7 percent) and other minor groups (Asante & Gyimah-Boadi, 2004; Ghana Statistical Service, 2015).

On the choice of public sector services for analysis, the study chose to analyse one social sector, namely the educational sector. Within the educational sector the study made the basic education division the focus of attention. Basic education in Ghana comprises Kindergarten - KG, Primary and Junior High School – JHS. KG is two years of pre-primary schooling, primary school is six years of schooling and JHS is three years of schooling, these put together make up 11 years of schooling.

1.8 Planning Time and Resources

A dissertation requires various kinds of support. The most important are those of mentors and peers. The researcher combined both qualitative and quantitative techniques for this study. The quantitative techniques that were applied to the study were panel data analysis and benefit incidence analysis; these are techniques I did not have any practical experience on. This, therefore, called for guidance and patience from my research committee and my peers. Also, qualitative research technique is quite technical; there was, therefore, the need to include someone conversant with the

approach in the research committee in order to boost the quality of the qualitative analyses.

Another critical resource that requires consideration was time. Qualitative studies generally require a high degree of sensitivity to time. According to Marshall and Rossman (2011, p. 240) there are the possibilities that personal circumstances may intervene to divert the researcher's available time and drive to conduct the study. Therefore, planning for more time than initially necessary seemed prudent. Besides time constraint, the financial muscle for the successful conduct of this study appeared to be very weak. Many costs, some manifest and others concealed came up in the course of the study and the best way to manage these costs was by planning ahead. Some of the obvious costs to deal with were materials, services and personal. The materials that were required to complete the research included tape recorders, note cards and filing systems, books, photocopying of journal articles, copies of completed dissertations, purchasing of parliamentary reports and printing/copying of government budgetary allocations for the period under review (2004-2016), printing drafts of work as it progressed and the printing of the final document. I was in the field for seven months without any research grants, if I had not made financial arrangements prior to going to the field, the entire research could have crumbled.

Services that were required for the completion of this study included word processing, and since the techniques of time series cross-section data analysis was new to me I needed to consult with people who are knowledgeable with this technique. This, of course, came with a cost. For instance, I had to embark on a trip to Bangladesh to seek technical assistance for the data analysis. Furthermore, professional proofreading and editing is also a requirement that must be met. The third category of costs, which is personal costs, is quite difficult to quantify. For instance, the time intensive nature of a Ph.D. thesis takes time away from other forms of commitment such as family and friends. The ability to manage these personal costs is crucial for the sustained interest required to complete the study.

1.9 Organisation of the Study

The thesis is organised into eight chapters. Chapter One constitutes the background to the study which provides an overview of the entire study as well as a

tentative outline on the conduct of the study. The chapter espouses the problem to be studied, the objectives the study seeks to achieve as well as the research questions to be answered.

Chapter Two presents historical and contemporary literature on regional inequality on the African continent in general and Ghana in particular. An effort was made to trace the origins of regional inequality to the pre-colonial period, although the inequality during that period was largely related to the lower status of northern slaves in the southern part of Ghana (Ladouceur, 1979). The advent of colonialism introduced more pervasive and varying forms of socio-economic inequality that were to outlive the colonial days and even travelled as far into the 21st century. The chapter highlights how the exclusion of northerners[1] from education led to their adverse incorporation in to contemporary economic and political structure of Ghana, such that the northerners were unable to favourably influence policy to advance development in the northern regions.

Chapter Three presents theoretical literature on inequality with a major goal of identifying a theoretical framework within which the thesis can be situated and analysed. Some of the theoretical literature reviewed under this chapter includes the Dudeley Seers' theorizing of development, cumulative causation theory, the convergence model, and the geography and resource endowment literature on regional inequality. Finally, the chapter touches on power relations and how these affect regional inequality in a country. Based these theoretical reviews, a theoretical framework was derived to guide the course of the thesis.

The fourth chapter presents the methodology used, which basically presents 'the how' of the study. It details the various strategies that have been adopted for collecting and analysing data for the study. It also entails information on how to ensure reliability and credibility of the study. The chapter finally elaborates on how the study has dealt with the major ethical issues that arose in the course of the study.

Chapters Five, Six and Seven present analysis of data. These chapters also incorporate implications of the research findings for the international donor

[1] The term norther(s) in Ghana is often used to describe or refer to people who are from the northern parts of Ghana or are of northern descent.

community since they are recognised as important partners in ensuring inclusive development in the developing country context. Finally, Chapter Eight presents a summary of the major findings of the study, draws some conclusions from the findings and makes some recommendations for the direction of future research.

1.10 Summary of Chapter

Although the world has witnessed a lot of growth in the past decade, it is evident from the above discussion that the spoils from the growth have been unevenly distributed across groups. Such skewed distribution of wealth is a threat to both economic growth and inclusive development. Indeed, inequality should occupy the top priorities of world leaders and national governments. The world can succeed in reducing poverty and bridging gaps among different economic and social groups only when it is recognised that it is both wrong and inhumane to leave the fight against poverty to the poor and marginalised. In the next chapter, the historical causes of the exclusion of northerners in key capability enhancing opportunities during the colonial period, and how such exclusionary policies led to northerner's peripheral position in contemporary Ghana are discussed. The chapter also discusses literature on the trend of poverty and inequality in contemporary Ghana.

CHAPTER 2

REVIEW OF EMPIRICAL LITERATURE: HISTORICAL AND CONTEMPORARY DYNAMICS OF REGIONAL INEQUALITIES IN GHANA

2.1 Introduction

This chapter discusses the historical and contemporary dynamics inequalities in Africa and Ghana in particular. The historical discussions aim to providing an unbiased lens to help fully grasp the nuances of the current regional inequalities in Africa. In the following sections, the study traces the origin of the current uneven regional development in Africa and especially in Ghana to the colonial period. The chapter emphasises the complicity of various colonial administrations in the marginalisation of some geographical regions and groups during the colonial period which led to the peripheral positions of these groups at independence. Most of these groups that were marginalised both economically and politically during the colonial period do not only constitute the most vulnerable groups (in terms of both income poverty and human development) but also find themselves in the under developed regions in many parts of Africa today.

2.2 Colonialism and Regional Inequality in Africa

Economists are usually puzzled at the high levels of social inequality in Africa since the main drivers of inequality in Latin America and Asia appear to be absent in the Sub Saharan African region. According to Walle (2008) economists have explained social inequality in the Latin and Asian regions as a consequence of distribution of social assets (skewed pattern of land rights) and capital accumulation from industrialisation. However, these two factors are hard to establish in Africa except for South Africa, Kenya and Zimbabwe where there have been capital accumulation and skewed land rights respectively yet the entire African continent is doused in inequality.

Consequently, it is argued that the only reasonable explanation for this pattern of inequality in Africa is the structuring impact of colonialism (Walle, 2008). Corroborating the preceding argument is the claim that colonial policies fostered uneven development in various forms in Africa, some scholars have specifically pinned the uneven development that emerged in Africa on the economic changes introduced by colonialism. They have argued that the transportation and communication systems that were provided was not only insufficient but were very unevenly distributed in nearly all colonies (Boahene, 1987; Rothchild, 1984).

For example, colonial policies in Nigeria and Sudan acted to isolate contending groups into distinct political systems, thereby allowing the modernisation process to take diverse forms and to progress at different rates. Moreover, in Zambia great disparities were observed during the colonial times in income, employment opportunities, amenities and social services between the line-of-rail provinces and the remaining five provinces (Rothchild, 1984). Furthermore, the development of many crops was aggressively pursued close to a coastline, a capital city or a navigable river. Thus, in West Africa, much cotton cultivation was designed for areas close to the navigable Benue and Niger rivers, while cocoa in Ghana and the Ivory Coast, or palm oil in Nigeria was designed for areas relatively close to the Atlantic coast (Walle, 2008).

As a result of these skewed development policies by the colonialists, much of the regional income disparities present today have their roots in the agricultural patterns in the first half of the 20th century (Walle, 2008). Also, in Kenya, Europeans, Asians and Africans were socially compartmentalised and politically and economically stratified. The colonial state placed Europeans in top decision-making positions in the public and private sectors, allowed Asian predominance in middle-level positions, and left the unspecialised tasks for the Africans (Rothchild, 1984). Such social classification made any economic catch up very difficult for the African population.

Furthermore, the policy of the colonial administration to leave education in the hands of the Christian missionaries is viewed as a major exacerbating factor as the missions were less active in areas under indirect rule. This also meant significant

differences between Christian dominated regions and Muslim dominated regions. In Nigeria, English literacy in the south was just under a fifth of the population by 1940, but was limited to 2 percent in the North (Mustapha, 2006; Walle, 2008). It is claimed that inequality in educational attainment was woven into the fabric of the Nigerian state. For example, in 1957, the South had 13,473 primary schools with a total population of 2,343,317 pupils, while the North had only 2,080 schools and 185,484 pupils. A similar pattern existed at the secondary school level (Mustapha, 2006).

Elsewhere, it is reported that traditional African societies were pushed into poor regions with no means of modernising agriculture, forcing them to be suppliers of migrants on a large scale, thus providing cheap labour for the mines, the European farms and later for the manufacturing industries of South Africa, Rhodesia (modern day Zimbabwe and Zambia) and Kenya. These mass emigrations from the hinterlands to the coasts worked to impoverish the departure zones. In effect, at the regional level, the colonial trade gave rise to polarisation of dependent peripheral development. Such that the wealth of the coast was the impoverishment of the hinterlands. In other words, resources were exclusively allocated to coastal areas, a planned policy of colonial trade, thereby accentuating the regional imbalance. The consequence of colonial trade was a balkanisation in which the 'recipient' micro regions had no 'interest' in 'sharing' the crumbs of the colonial booties with their labour reserves (Amin, 1972).

At independence, a distinctive process of class formation emerged which exacerbated the patterns set forth by colonial administrations. Those who benefitted the most at independence were often regions and groups that had benefitted the most from the colonial era. This meant that in West Africa, the state after independence was predominantly run by ethnic groups that were close to the coast or the capital city. It does not therefore come as a surprise that in Nigeria and Ghana, the predominantly Muslim hinterland that benefitted less from the mission-dominated colonial education systems was less likely to have received the first scholarships to go and study in Europe. Similarly, Northern Nigerians and Northern Ghanaians who had little education and less positions in government feared that Southerners who had more power would take over positions of the Europeans in the North (Ladouceur, 1979; Mustapha, 2006; Songsore, 2003; Walle, 2008). Likewise, groups from the hinterland suffered from a legacy of poor infrastructure and communication. Initial

advantages were reinforced over time, exacerbating the regional differences that are so striking today (Walle, 2008).

Finally, the way social service provisioning has been implemented in post-independence Africa tends to favour the urban population, further entrenching spatial inequality. Education and health expenditures have not served the needs of the poor, and may even have been regressive in their economic effects. Health service in particular tends to favour curative health over preventive health, which is more likely to cater for the rich. In the same vein, education expenditure has largely favoured secondary and tertiary education over primary education. As it is, children from mostly privileged families get to go beyond primary schools in many part of Africa (Walle, 2008).

2.3 Regional Inequality in Ghana: A Historical Account

The Gold Coast (present day Ghana) came into contact with the Europeans as far back as the 1400s but it was not until 1874 that the Coastal areas of Southern Ghana became effective British Satellite, while the political integration of the Asante and the Northern states into the British administration was delayed until 1902 (Dickson, 1969; Songsore, 2003).

Trade in pre-colonial Gold Coast was quite advanced and was mainly with the Mande[2] of Western Sudan and became increasingly important as a source of local employment and was mainly dominated by Fante[3] middle men. However, the real economic impact of cash crops such as cocoa and mineral exports in a classic colonial model emerged as a result of colonial policy in 1874 to 1957 (Dickson, 1969; Songsore, 2003). Indeed, the period marked the emergence of broad pattern spatial inequality between northern and southern Ghana due to the pursuit of policies of colonial development in which resources were defined and exploited according to the needs of Great Britain (Songsore, 2003).

However, it is important to point out that the skewed relations between Northern and Southern Ghana dates back to pre-colonial times. The Asante Kingdom

[2] A family of ethnic groups in West Africa who speak any of the Mande Languages

[3] An ethnic group in the Central and Western regions of Ghana

was known for its military might which it used to exact much of its wealth through plunder of war and trade in slaves (Bourret, 1960). It is reported that the Asante defeated the two dominant states in the northern region namely the Gonja[4] and Dagomba[5] Kingdoms in the 18th century and imposed a regular tribute on them to be paid in the form of slaves over a period of about a century. The Gonja Kingdom in Particular was forced to pay an annual tribute to Asante consisting of "500 slaves, 200 cows, 400 sheep, 400 cotton cloths and 200 silk" (Ladouceur, 1979).

The pattern of pre-colonial relations between the north and south was that of oppression and hostility. For the Northerners, the south was feared and resented for its great power and exacting of tribute, the South and Southerners were superior and it was only as a result of Asante weakness arising from British pressure that the northern kingdoms were able to free themselves of Asante (Ladouceur, 1979). Except for the Muslims, who were mostly foreigners, Northerners derived little benefit from the extensive trade and the interest of the Asante[6] in the North was essentially exploitative in nature (Abdulai, 2012; Ladouceur, 1979).

The defeat of the Asante by the British marked the end of an era of oppression of the Northern Kingdoms by the Asante, but it also marked the beginning of a new social order which would later cause deeper and pervasive form of North-South inequality. Economically, the British were driven by an insatiable desire for extraction of natural resources to meet the needs back home. At the initial stage of the colonial economy, palm oil, palm kernels, rubber and gold dominated the export sector and constituted 89% of total export earnings in Ghana in 1891 (Songsore, 2003) and this was mostly confined to southern Ghana. By the time the colonial economy was well established, cocoa, timber, gold and diamonds were to become the major exports.

Thus, the expansion of the colonial economy into any geographical space largely depended on whether they lay within the ecology suitable for cocoa and timber production as well as mining activities. This, therefore, paved the way for

[4] One of the major ethnic groups in Northern Ghana

[5] Refer to footnote 3

[6] A major ethnic group in the Ashanti region of Ghana. The Asante Kingdom was the most powerful Kingdom in Ghana before the coming of the colonialist

broad spatial inequalities to emerge at the national level, as certain geographical regions, specifically the northern regions, did not support production of the preferred crops of the colonialists. Although, such initial advantages may appear to be purely based on natural resource endowment, the emerging spatial inequality was more a function of policy (Songsore, 2003). The Metropolitan power (Britain) deliberately designed policies that supported the production of raw materials to meet its needs. This drastically shifted income distribution in the country in favour of the southern regions as their lands could support the production of raw materials needed by colonialists.

In addition to the shift in income distribution, the British soon realised the need for an effective road and rail networks to link coastal ports and towns with mineral production. Northern Ghana was not immediately included in the programme for road development, although the problem there in the second half of the nineteenth century was more desperate than in Southern Ghana (Dickson, 1969). In relation to the point that the North-South inequality was more of policy than lack of resources up north, there is evidence from primary research in Northern Ghana that it was not the lack of resources in the north which led to low investment in infrastructural development, rather, northern under development was a by-product of the vital need for northern labour in the mining and cocoa interests in the south. The north had a competitive advantage in the production of cotton, tobacco, groundnut and sheanut as exportable cash crops (Dickson, 1969; Songsore, 2003). It was obvious that the southern lands could not support the cultivation of cotton, although it was identified by the Europeans as holding great possibilities. Both the Dutch and the British made great effort at encouraging southern farmers to grow cotton but their endeavour was meagre (Dickson, 1969). Unfortunately, such efforts were half-heartedly extended to the Northern Territories. Meanwhile, in neighbouring Togoland, cotton cultivation was more successful. The sad part of the cotton industry is that it was pioneered and sustained by the British Cotton Growing Association in 1903 and not the colonial administration, and by 1916 the association ended it operations due to disproportionate yields compared with cotton seeds distributed. The North was thus left on its own by the colonial government which had no interest to invest in areas where there were no returns.

2.4 Social and Economic Exclusion of Northern Ghana and the North-South Development gap

The Northern Territories were often regarded as a 'hinterland' rather than a constituent part of the Gold Coast. The innate poverty of the region offered no immediate returns for government expenditure. Consequently, the colonial government adopted a policy of total neglect towards development of the Northern regions (Kimble, 1963). One Governor, J.J. Thorburn, is quoted to have said that 'until the Colony and Asante have thoroughly opened up and developed, the Northern Territories must be content to await their turn', and extensive programmes designed to render the area more accessible 'must be suffered to stand over' for a long time to come (Kimble, 1963).

The only source of revenue from the Northern Territories was tax revenues collected from caravans passing through the region. This tax was dropped in 1908 in order to encourage trade with Asante and the Coast. The decision to drop the taxes affected revenues for the Northern Territories drastically. The hope that the Northern Territories would be 'almost self-supporting' never materialised, instead, the Northern Territories continued to impose a severe burden on the Gold Coast Treasury. The colonial administration therefore considered the Northern Territories as an economic liability. As a result, government expenditure in the area was strictly limited to what was necessary for maintaining a minimum administrative presence in the area and to promote such development deemed beneficial for the administration and for the needs of Asante and the Colony, especially with respect to trade and labour (Ladouceur, 1979).

Infrastructure development in the region was at a very slow pace. Road networks between North and South were slow to develop, work on the permanent trunk road from Kumasi begun in 1898, and was abandoned shortly after reaching Ejura, only sixty miles from Kumasi and still 175 miles from Tamale . With the absence of road networks, all supplies had to be brought by carriers until after the First World War. Similarly, the British saw no need of extending the rail lines to the North considering the cost of building and operating such a line in comparison with the foreseeable revenue given the absence of an adequate revenue producing cargo

(Ladouceur, 1979). In 1946, a ten year development plan was drawn for the Gold Coast, this called for a capital expenditure of £11.4 million during the period 1946/47 to 1956/57. A break down by region of the projects in table 2.1 below shows the North benefitted the least.

Table 2.1: Departmental Proposals for Ten Year Development Plan

Department	*Total Proposal (£)*	*Allocation for Northern Territories (*£)	*Percentage*
Agriculture	642,966	182,870	28.4
Education	2,086,000	200,000	9.6
Electricity Supplies	566,143	29,250	5.2
Health	1,892,650	227,000	13.1
Housing	800,000		-
Public Works	800,000	127,000	15.9
Urban Water Supplies	1,250,000	187,000	15

Source: Ladouceur, (1979)

On the educational front, the pattern of development in Ghana was not different from that observed in Nigeria. Both the state and the missionaries invested heavily in education in the south but this was not to be repeated in the Northern Territories (Songsore, 2003). It is recorded that major efforts were directed at providing minimal education in the Northern Territories beyond standard six and also discouraging educational development in the region (Abdulai & Hickey, 2016; Songsore, 2003).

The colonial administration consciously deferred the introduction of European-style education in the Northern Territories. While the first secondary school in Southern Ghana was established in 1876, the first government secondary school in the North was established in 1951 (Kimble, 1963; Quist, 2003 in Abdulai and Hickey, 2016). Governor Guggisberg (1919-1927) has been lauded for his contribution to the

educational advancement of colonial Ghana as a whole, but as noted, “Even Guggisberg’s drive... could not correct the regional disparities in education that had grown up over the years” (Kimble, 1963).

Furthermore, the First World War period saw an intensification of the demand for education, the most serious anomaly, however, was the disproportionate distribution of schools between the regions (Kimble, 1963). The statistics below provides details on the extent of disparity in education between the Northern Territories and Southern parts of the country as at 1919.

Table 2.2: Distribution of schools in the Gold Coast in 1919

Area	*Government Schools*	*Assisted Schools*	*Total Schools*
Colony:			
Eastern Province	5	114	119
Central Province	3	42	45
Western Province	3	19	22
Ashanti	4	19	23
Northern Territories	4	-	4
Total	19	194	213

Source: Kimble (1963, p.84)

As late as 1924, education had hardly begun to contribute to the development of the north. The number of schools increased to five from the 1919 figure of four and average attendance at all five government schools was two hundred and sixty-one including seven girls and only five pupils were in standard seven. By 1929, the numerical lead of the Eastern Province had reduced partly due to the closure of ‘bush schools’ and partly due to accelerated progress elsewhere but certainly not from the north. The north remained far behind in terms of education and this is illustrated by the fewer enrolment figures in both basic and secondary education from 1950 to 1971 (Ladouceur, 1979).

Table 2.3: Statistics of Public School Enrolments in Ghana 1950-1970

Enrolment in Primary Schools				Enrolment in Secondary Schools			
Year	Total Enrol.	Enrol. in Northern Ghana	% of Total Enrol.	Year	Total Enrol.	Enrol. in Northern Ghana	% of Total Enrol.
1950/51	271,945	4,963	1.8	1950/51	9,015	96	1.9
1955/56	419,362	12,592	3	1957/58	12,173	332	2.7
1960/61	441,117	26,447	6	1963/64	31,028	1,550	5
1965/66	1,137,495	89,215	7.8	1970/71	52,852	3,014	5.7
1970/71	947,502	60,115	6.3				

Source: Compiled from Ladouceur, 1979, p.257

Furthermore, the adoption of the policy induced outmigration in Northern Ghana by the British had far reaching implication for the 'development of underdevelopment' (Dickson, 1969; Ladouceur, 1979) in the region. The exclusion of the Northern Territories from educational opportunities paved the way for their adverse incorporation into the growing Southern cocoa-mining economy that needed cheap, untrained and docile labour from the north. Thus, the Northern Territories were simultaneously excluded from social opportunities and adversely incorporated into the colonial economy. Such social exclusion and adverse incorporation were later to serve as a mechanism for the peripheral political position of the people from the Northern Territories at independence. On the contrary, education in southern Ghana had provided adequate cadres in the professional but principally in the clerical category to service the export economy of the south (Songsore, 2003).

This method of forced recruitment combined with a policy of starving the northern territories of investment funds served to further widen the spatial inequalities in the level of development between the north and the south and added more pressure to the out migration (Songsore, 2003). Consequently, the northern ethnic nationalities were turned into a semi-proletariat in the interregional division of labour and exploited by the cocoa farmers and the mining firms. They ended up returning to the north 'richer in little except a harsh experience' (Songsore, 2003). It is important to

note that wage rates were as low as, if not lower than in South Africa at the time (Songsore, 2003). These exclusionary policies therefore sowed the seeds for a future long-term underdevelopment of Northern Ghana, with the adverse effect being the delayed emergence of a Northern educated elite and the marginalization of northerners in national politics, economic participation and in the distribution of public resources.

2.5 Political Exclusion and the North-South Development gap

Like the economic and social development in the Northern Territories, the political advancement and the integration of the region into the Gold Coast were delayed. The delay could largely be attributed to the meagre economic contribution of the region to the colonial economy. However, the most important factor had to do with the delay in the emergence of political elites from the region.

Generally, the colonial administration adopted a policy of isolation towards the Northern Territories. They completely separated the North from political developments of the South until 1948 when five Northerners were appointed to the Coussey Constitutional Reform Committee. The first legislative council of the Gold Coast had an official majority with only two unofficial members in 1850. The two unofficial members were merchants – Brodie Cruickshank and James Bannerman, a prosperous African and ultimately from Southern Ghana (Kimble, 1963).

During the 20th century, the legislative council became an important part of central government of the Gold Coast Colony. It was given a new form in 1916 and in 1920 it included eleven official[7] members and nine unofficial[8] members (Bourret, 1960). The official membership of the legislative council consisted of mainly British while the unofficial membership had a combination of African and British. Among the unofficial members were usually three chiefs, three educated Africans from the coastal towns of Accra, Cape Coast, and Secondi, and three Europeans representing commercial interests. All these representatives were appointed by the governor.

[7] Official members were members of the legislative council who held official positions in the colonial administration

[8] Unofficial members were members who did not hold any official post in the colonial administration

It is important to point out that both the Northern Territories and Ashanti were not represented in the legislative council at the time, thus the council was not representative of the entire Gold Coast. The problem with such partial representation is the tendency of the unrepresented regions to be left out of major development processes and outcomes. This was even more worrying because the Gold Coast council had greater influence than its counterparts in other African colonies and had more than once resisted the passage of legislations (Kimble, 1963). Indeed, the Gold Coast Legislative Council never discussed issues bordering on development in the Northern Territories as it was technically not considered a part of the Gold Coast until 1934 (Ladouceur, 1979). So, with no representation in the council, there was no one to champion the deplorable social and economic conditions in the North, thereby exacerbating the already poor conditions.

Real political consciousness developed in the North in the 1950s, as conditions in the country showed that political independence was nearer than ever. The idea of a Northern Political Party was hatched in 1953 as fears grew among the Northerners about their position in an independent Gold Coast. The Northerners were apprehensive of the advancement and protection of the interests of the North in an independent Ghana.

"… when the election was to come in 1954, we wanted a means by which the North would speak with more voice, otherwise it was unlikely that we would get anything. This urged us to come together and to fight on a united front, for development, education, agriculture, and communications" (A Member of the Northern People's Party) (Ladouceur, 1979).

Consequently, the Northern Peoples Party (the NPP) was formed and it put up candidates for the 1954 elections. The party emerged as the formal parliamentary opposition to the Convention People Party- the CPP as it controlled seventeen of the thirty-two opposition seats in the Assembly. The CPP controlled seventy-two out of the one hundred and four seats in the Legislature (Asante & Gyimah-Boadi, 2004). As the main opposition party in parliament, the leader of the NPP was to be recognised as Leader of the Opposition but it appeared it was not the intention of the NPP to be in

opposition to the ruling party since its major intention was to maintain unity among the Northern members of the Assembly which would work for the benefit of the North.

The reality soon dawned on the NPP and they sought recognition as the official opposition in the Assembly (Ladouceur, 1979). It is important to mention that the NPP was opposed to the CPP's idea of independence because it felt the North was not ready for independence since it was far behind the South in terms of development. The party therefore called for the delay of independence until the North was at par with the South developmentally. Leaders of the party feared the North would be dominated and relegated to the background by Southern politicians who were better educated and had more political experience.

The fear of the NPP was soon affirmed when the Assembly convened in July, 1954. The Prime Minister refused to recognise the members of the NPP as an opposition in a true sense because the party was organised on the basis of a single region. The attitude of the Prime Minister (Nkrumah) confirmed the fears of the Northerners about their position in an independent Ghana. Suggestions were then made to change the name of the party to give it a national coloration. But such a proposal meant a total transformation of the role of the party which was meant to advance the interest of Northerners. The move by the Prime Minister heightened the awareness of the peripheral position of Northerners in Ghanaian politics which caused them to keep to a great degree very modest goals. The party for instance made the following statement when it was suggested the party be changed into a national party.

"... we didn't come into politics in order to rule the country, but because our section of the country had particular problems. We would be compelled to fight against our allies, and we would get no support from the Southerners – many Southerners were not convinced that the Northern politicians were sophisticated enough to lead the country. We felt rather, there was the need for allies to come together to oppose the CPP" (the NPP) (Ladouceur, 1979).

Consequently, the NPP and other opposition parties including the National Liberation Movement – NLM, the Muslim Association Party – MAP, the Togoland

Congress, the Anlo Youth Organisation and the Ga Shifimo Kpee came together to form the United Party-UP in November, 1957. This new party was formed because of the passage of the Avoidance of Discrimination Act which forbade organisations formed on religious or community basis to take part in elections (Ladouceur, 1979).

By joining the UP, the NPP technically ceased to exist and the Northern elites had to find alternative means to advance the interests of the North. Hence forth, in January, 1957, the NPP leaders asked the British to make available £3 million a year for ten years for the development of the North as a condition for the acceptance of immediate independence of Ghana. Kwame Nkrumah, the president elect at the time did not like the proposal of the Northern elites to the British. In his view it undermined the independent status of Ghana. Consequently, he proposed that the money should be paid to the government in terms of a loan, and the government would in turn make the funds available for development in the North. This proposition was accepted by the NPP. It at least put to rest the fears of the Northerners about development in that part of the country after independence.

Soon after independence, it became clear to the Northerners that Nkrumah was not going to keep to the promise of the £30 million grant and the idea of special development scheme for the North simply vanished. This had been a major condition for the acceptance of independence by the Northerners since they preferred the delay of independence until such a time that the north was on level terms with south in terms of development. The Northerners did not realise soon enough that Nkrumah never had any intention to comply with such a proposition and before they realised this, Ghana was already independent, the British no longer had control over Ghana and ‘the North was on its own’ (Ladouceur, 1979).

This happened because the Northern political elites were inexperienced. Consequently, their Southern counterparts with more experience and also in the majority and did not see the Northern politicians as a serious threat to the nation. The fact that the region contributed very little to national revenue further exacerbated the bargaining chips of the northern elites in getting the then president to succumb to their demands. Thus, at independence, the Northern politician was incorporated into Ghanaian politics on very weak terms with little or no influence over national resources.

2.6 Post-Colonial Rule: Development Strategy and Regional Inequality

As demonstrated in the preceding sections, the peripheral position of the Northern Regions was established in colonial Ghana and extended into post-colonial Ghana. The immediate post independent government under Nkrumah promised to close the gap between the North and South of Ghana. Subsequent governments following Nkrumah have used different means to address the North South development gap. The strategies employed by post independent governments to address the North South inequality are the major concern of this section. These strategies ranged from political to economic strategies as discussed below.

2.6.1 Addressing Regional Inequality through Political Representation

Starting from the immediate post-independence government, one strategy that was adopted was the incorporation of the Northern elites into national institutions (Ladouceur, 1979). This strategy seems to have been utilised by all post-independent governments except for the Acheampong government, which did not have a Northerner in government (Abdulai, 2012).

The fact that the South achieved early pre-eminence in social, economic and political development meant that a specific effort to include Northerners in national politics was important if the North was to integrate with the rest of the country. The CPP government under Nkrumah therefore made a conscious effort to include Northerners in his cabinet throughout his rule. There were initially three Northern Cabinet Ministers until 1960 when J.H. Allassani was dropped for his involvement in the Yendi Chieftaincy affairs. This was now down to only two out of a total of fourteen. In 1966 there were still two Cabinet Ministers from the North out of a total of fifteen and three non-Cabinet Ministers out of twenty-one (Ladouceur, 1979).

As mentioned earlier, besides the Nkrumah government, all other governments both civilian and military have made efforts to ensure an inclusive government. They have sought to include Northerners in order to compensate for their exclusion in the past and also to foster national unity (Shepherd, Gyimah-Boadi, Sulley, Plagerson, & Musa, 2006). The National Redemption Council (NRC-1972 – 75) had two northerners; and the Provisional National Defence Council (PNDC-1982

– 92) had one northerner (Alhaji Iddrisu Mahama), two out of fourteen in Limann/PNP hailed from the north; a record seven out of twenty-seven in the Rawlings'-NDC administration (1993-96) and six out of twenty-three in the Rawlings-NDC cabinet (1997-2000) were northerners. Northern representation in the past 2000s has not been very encouraging as shown in table 2.4 below.

Table 2.4: Cabinet Representation from 2001-2016

President	Year	North	South	Total
Kuffour - NPP	2001-2004	2	19	21
Kuffour - NPP	2005-2008	4	18	22
Mills - NDC	2009-2012	7	14	21
Mahama - NDC	2013-2016	5	15	20

Source: Author's computation from Parliamentary Hansards (2009-2016) and from Abdulai (2012)

NB: Please note that cabinet as used in this table includes the president and the vice president but excludes non-cabinet and deputy ministers.

Despite these efforts by governments to ensure inclusivity, it is quite obvious from the above statistics that in most of the cases, the Northerners were pitifully under represented. Shepherd and others point to marginalisation of Northerners and the persistence of crude tokenism (Shepherd et al., 2006). Most significant is the question of the real influence that Northerners have within the Central government. Ladouceur (1979) reports that Northerners had little influence over matters of national concern and that the only area they counted in was in matters directly affecting the North itself. The trend observed during the 1950s continued into the present fourth republic where Northerners are seen as just adding up to the numbers with no real influence over policy and resource allocation (Abdulai, 2016; Abdulai & Hickey, 2016; Shepherd et al., 2006). The lack of real influence over resource allocation by Northern politicians also means they are usually not represented in the inner circles of powers, in other words they are included in adverse terms which tend to have a long lasting impact on development outcomes in the northern regions.

2.6.2 Addressing Regional Inequality: Socio-economic Policy Strategies

Economic Strategies

Shepherd et al. (2006) contend that responses to regional inequality could focus on removing vulnerability in remote and disadvantaged regions, improving their access to quality health and education services to build human capital as well as providing infrastructure and institutions to develop markets. Sadly, it appears there has been little response to vulnerability and insecurity in the North. This notwithstanding, post-independence governments have made general efforts to resolve the north-south inequality, although, most of the strategies have been badly planned and implemented (Shepherd et al., 2006).

The claims of the immediate post-independence government to speed up the economic development of the Northern regions turned out to be a mere rhetoric. Both the five-year development plan and the two-year consolidation plan (1957-1959) did not pay much attention to the development of the North. The two-year consolidation plan for example, called for an expenditure of £18.6 million. Of this amount, £10.9 million was for regional development, of which £564,912 was for Northern Region, a paltry 5.2 percent. The North was generally awarded a relatively minor share of the development funds available for the country as a whole (Ladouceur, 1979). But taking into account the attitudes of the colonial administration, this minor share was considered an improvement and substantial. The achievements of the 1950s have therefore often been touted as monumental. Indeed, by 1966, there was more visible development activity in the North than ever before. A number of rice mills and vegetable oil mills were built and went into operation. A modern meat factory and tomato factory were built in the Upper East Region and a new huge airport of international class was under construction near Tamale (Ladouceur, 1979).

Furthermore, agricultural policies are considered critical for the development of the north mainly because the north is predominantly agricultural. Ghanaian agricultural policy can be divided into three periods:

1. The statist period under the CPP (1957-1966)
2. The state-supported capitalist period under the Progress Party and then the NRC (1969-1979);
3. The structural adjustment and liberalisation period (1983 – present day).

The consistent theme that runs through the agricultural policies in the different periods has been modernisation, which typically involves the use of modern technology, including mechanisation, and commercial or large scale farming, whether state/collective or capitalist (Shepherd et al., 2006).

The period 1950-1983 was a period of positive state support for the modernisation of Agriculture and 1983 to present is characterised as a period of relative state withdrawal. Rice was the major crop during the first period and it was implemented on the basis of cooperatives. The policy was said to be a failure and only one farm survived beyond the military coup of 1966 (Shepherd et al., 2006).

The second phase was seen as more successful than the first phase. The period saw rapid private capital accumulation supported by state subsidies, and peasant farming was developing rapidly too alongside large scale mechanised farming, with its new regional labour market. This helped move Ghana very close to self-sufficiency in rice (imports ceased in 1976, with the help of tariffs/import controls). In the late 1970s the state became unable to maintain the subsidised import-substitute agricultural economy – with mismanagement of the revenue-generating sectors (especially cocoa) a deep balance of payment and debt problem emerged; and banks withdrew credit as farmers defaulted on loans in the hyper-inflationary economy. By the mid-1980s there was little of the large scale rice economy left, though some large scale farms do persist today.

The rice market was opened up in 1989, and imports and US food aid rice flooded southern markets in Ghana. Rice production in the north retreated to supply local markets in the north. If this form of investment was sustained, with subsidies being gradually phased out, with better farming systems being introduced, and more serious attention paid to organised marketing and quality processing, Ghana could probably have been a major producer of rice today, with significant exports to the sub-region.

Another potential sector for agricultural exploits in Northern Ghana is the Cotton sub-sector. Attempts were made at exploiting the sector in the 1970s with small holder out-growers as the major producers. There was little success in the sector as it crumbled in the late 1970s. The collapse was partly due to the global economic

crisis leading to a reduction in the numbers of functioning textile firms drastically, and thus the whole rationale of cotton production in Ghana.

It is worth mentioning that, the same model Ghana developed with its cotton sector has been successful in other West African countries, notably Burkina Faso which gains more than 50% of its foreign exchange from cotton (Shepherd et al., 2006). The success of Burkina Faso's cotton industry hinges on well-developed institutions, especially, coordinated markets. Indeed, the importance of market coordination is also seen in the success of the cocoa industry in Ghana.

However, it is important to stress here that the beneficiaries of the rice and cotton boom were not the poor farming households, they were mostly those tied to the centres of political power such as senior public servants and army officers, some of them from the South (Abdulai, 2012; Shepherd et al., 2006). Poverty and North-South inequality persisted in the period of the rice boom precisely because the farming households and the ordinary Northerner were not adequately targeted by the agricultural policies of the 1970. Consequently, the Northern regions continued to lag behind the Southern regions, despite the northern bubble (Dickson, 1975 cited in Shepherd et al., 2006).

Furthermore, a discussion on governmental strategies to close the North-South inequality gap is incomplete without a discussion of the impact of the Structural Adjustment Programme (SAP) or Economic Recovery Program (ERP) of the 1980s. The ERP was sponsored by the World Bank and the IMF in 1983 with an initial focus on economic stabilization, rationalization, and the rehabilitation of infrastructure (Asante & Gyimah-Boadi, 2004). The ERP was generally touted as a success with regards to restoring economic growth and macroeconomic stability (Songsore, 2003) but the much touted success of the ERP was limited to the Southern belt of the country as benefits were unevenly spread between regions. The over-emphasis of the SAPs/ERPs on the export economy meant that most of the projects were concentrated in the South. Consequently, the cocoa, timber and mineral producing areas of the Ashanti, Brong-Ahafo, and Western Regions, the port cities of Tema and Takoradi, the commercial centres of Accra and Kumasi became the main targets of the reconstruction exercise (Asante & Gyimah-Boadi, 2004; Songsore, 2003).

The historically deprived and economically depressed areas in the Northern regions appear to have suffered benign neglect during most of the SAP/ERP period (Asante & Gyimah-Boadi, 2004). It is reported that between 1982/83 and 1990/91, there was more than a fivefold increase in the price paid to cocoa farmers; this suggests that the North did not benefit from these price surges that went to farmers, since cocoa is not cultivated in the North. The most crippling effect of the ERP/SAP was the liberalisation of the cotton, rice and sheanut marketing which led to the demise of the booming northern economy of the 1970s (Shepherd et al., 2006; Songsore, 2003). Meanwhile, the cocoa sector in Ghana which is predominantly a Southern affair was untouched by the wave of liberalisation that scotched the North in the ERP/SAP period. Such lopsided policy draws attention to the ways in which a region's inability to influence policy does not only lead to the marginalisation of its development interests but it also keeps it from the mandates of public policy (Abdulai, 2012).

In order to attenuate the neglect of the North and the general hardship in the country resulting from the ERP/SAP, the Programme of Action to Mitigate the Social Cost of Adjustment (PAMSCAD) was introduced. Some of the notable outcomes of ERP/SAP were the extension of the national electricity grid through Brong-Ahafo to the Northern Regions of Ghana, the improvements in roads and telecommunications to the Northern parts of Ghana (Abdulai, 2012). Despite these mitigating programmes, the negative effects of the ERP/SAP on the poor Northern Regions were catastrophic, especially when the impact on the cotton, sheanut and rice industries are taken into account.

The cotton sector and the rice sector could have emerged as major export crops in the North. Indeed, the key loss in the North during the ERP/SAP period was the institutions which emerged in the region in the cotton and rice sectors: the banking system, the marketing and processing organisations. Although not perfect, and 'unsustainably over-dependent on subsidy, they were the kernel of a process which could have matured' (Shepherd et al., 2006).

It is also important to add that development of infrastructure in the Northern regions has generally been slow. Poor road and links between northern and southern

Ghana and between northern Ghana and neighbouring countries such as Burkina Faso and the Ivory Coast discourage inter-regional trade and capital mobility.

The Social Sector

On the educational front, post-colonial governments have made efforts to bridge the North-South educational gap. Starting with the first post-colonial government under the CPP, targeted education policies were designed to advance education in the North. One notable success as a result of pressure from the Northern politicians was the introduction of a Special Scholarships Scheme for Higher Education in 1961.

It was only in the Northern Region that the construction of primary and middle schools were wholly financed by government and the Government Secondary School in Tamale was the only secondary school where almost every pupil was on a full scholarship. The Special Scholarship Scheme actually took effect in 1957 with the objective of augmenting the number of Northerners entering University College (now the University of Ghana). Under the scheme, Northerners received full scholarship throughout their study, although, it was a complicated and limited scheme, with a maximum of ten scholarships each year (Ladouceur, 1979).

However, some scholars have drawn attention to the relentless efforts put in by Northern politicians before the Nkrumah Government paid some form of attention to the state of education in the North. Again, it appears that the lack of influence and the peripheral position of Northern politicians in Nkrumah's cabinet played a crucial role in the neglect of the North as one MP, J.A. Braimah is reported to have lamented:

"I think it is because there are no persons holding responsible posts in the administration who could draw the attention of the Government to this.... In the Cabinet we have only one resident Minister ... [whose] voice is just one in the wilderness..." (Abdulai, 2012).

The special Northern Scholarship Scheme did not survive beyond the 1980s. Only one component of the scheme persists in present day Ghana. Under the present scheme, Northerners in secondary schools in the Northern parts of the country are exempted from the payment of feeding fees in the boarding schools. A privilege not

extended to their southern counterparts. It is also important to mention that the 1980s and 1990s brought about a massive decline in the gains made in Northern education in 1960s. The reason cited for the decline was the cost recovery element attached to the provision of education and health services under SAP/ERP. The imposition of user fees seriously challenged the ability of subsistence farmers, in particular, to access quality education for their children (Abdulai, 2012).

There has also been emphasis on equal access in the 1992 Constitution which makes provision for Free Compulsory Universal Basic Education (FCUBE) and enjoins the state to make higher education progressively accessible to all (Article 25). The Ghana Poverty Reduction Strategy- GPRS, made conscious effort to locate most school construction projects in the North. The share of the three Northern regions in the rehabilitation/construction of primary classrooms increased from 20% in 2002 to 30% in 2004; 420 of 685 (61.3%) of three-unit classrooms constructed were located in the three Northern regions (exceeding the HIPC target) and 96 (21.8%) of the 440 of the six-unit classroom blocks under construction nationwide are in the three deprived Northern regions (Shepherd et al., 2006). The NDC government in May 1992 established the first University in the Northern regions (PNDC Law 279, Section 279). The university currently has three campuses located in the three Northern regions. Also, the establishment of Polytechnics in all regions of Ghana has expanded access to tertiary education in Northern Ghana.

On the whole, success in equalizing opportunities has been patchy and uneven. High levels of deprivation persist in the three northern regions. Part of the blame must go to policy inconsistencies, gaps and continuities, poor design, inadequacy of resources, and the lack of commitment on the part of officials entrusted with policy(Shepherd et al., 2006).

2.7 Empirical Review on the Dynamics of Regional Inequality in Ghana (1992-2016)

Inequality in Ghana seems to have increased since the 1990s. The level of inequality in income in Ghana was around 0.37 in the 1990s and increased to 0.428 per the 2013 world development indicators (Shepherd et al., 2006; World Bank, 2013). Much of the inequality in Ghana is accounted for by intra-regional inequality,

but inequality between the north and south remains salient even if inequalities within the regions account for the most part of inequality (Shepherd et al., 2004). Two dimensions of inequality are discussed in this section: the dynamics of poverty in Ghana (1992-2016); the relationship between poverty, education and regional inequality in Ghana.

2.7.1 The Dynamics of Poverty in Ghana-1992-2016

There have been attempts to refine the measurement of both poverty and standard of living in Ghana since the Ghana Living Standard Survey 3 (GLSS). Ghana's poverty analysis now focuses on consumption poverty which has classified *the poor as those who lack command over basic consumption needs, including food and non-food components* (Ghana Statistical Service, 2014). This puts the lower poverty line at GH₵792.05 per adult per annum. The lower poverty focusses on what is needed to meet the nutritional requirements of household members (*2,900 calories per adult equivalent per day*).

Consequently, people with incomes below GH₵792.05 per annum are classified as extremely poor, since their entire budgets will not be sufficient to meet their minimum nutritional requirement (Ghana Statistical Service, 2014). An upper poverty line is fixed at GH₵1,314, per adult per year, this incorporates both essential food and non-food consumption. Considering the upper poverty line of GH₵1,314, the proportion of the population defined as poor was 24.2 percent in 2012/2013, with a poverty gap index of 7.8 percent. The poverty gap implies that the mean income of the poor falls below the poverty line by 7.8 percent. Thus, about 6.4 million people in Ghana are poor.

There is also the need to distinguish between poverty incidence and poverty gap. Poverty incidence, also known as the headcount index, measures the proportion of the population that is poor. It is easy to understand and measure but it does not indicate how poor the poor are. The poverty gap index measures the intensity of poverty in a country, which is the average ratio of the gap to which individuals fall below the poverty line, for the non-poor the gap is counted as zero (Ghana Statistical Service, 2014).

Using the GLSS data set for 1991/92, 1998/99, 2005/06, 2012/14 and other relevant data, the trend of poverty incidence and poverty gap across the ten regions are examined to ascertain how these regions have fared over the last two decades and beyond.

Table 2.5: Poverty Incidence by Administrative Region 1991-2013

	1991/92	*1998/99*	*2005/06*	*2012/13*
Region	*Poverty Incidence*	*Poverty Incidence*	*Poverty Incidence*	*Poverty Incidence*
Western	60	27	18	20.9
Central	44	48	20	18.8
Greater Accra	26	5	12	5.6
Eastern	48	44	15	21.27
Volta	57	38	31	33.8
Ashanti	41	28	20	14.8
Brong Ahafo	65	36	29	27.9
Northern	63	69	52	50.4
Upper West	88	84	88	70.7
Upper East	67	88	70	44.4
Ghana	52	40	29	24.2

Source: Compiled from GSS, 2007, p.11 and GLSS, 2014, p. 14

Note: *(in Percentages; Poverty line = GH¢370.8 (1991/92-2005/06) and Poverty line = GH¢1,314 (2007-2012/13)*

A quick look at Table 2.5 indicates that there has been massive decline in poverty incidence in Ghana as a whole, a reduction from 40 percent to 24.2 percent between 2005/06 and 2012/13 respectively. However, the reduction in poverty is laced with inequality in the level of poverty reduction across the ten administrative regions. Poverty declined in all regions between 1991/92 and 1998/99, except in the Central, Northern and Upper East regions and in 2005/06 there was a decline in all regions except in the Upper West region where poverty increased from 84 percent to

88 percent. A nuanced examination of the poverty incidence in 2012/13 points to a general decline in poverty in all the administrative regions of Ghana but it also points to marked differences between the Northern regions and the Southern regions. All the southern regions have poverty levels lower or slightly above the national average of 24.2, while the three Northern regions have poverty levels twice or more the national average. Upper West records the highest poverty incidence of 70.7 in 2012/13, a poverty level very close to the 1991/92 level.

In terms of contribution to the national poverty and the poverty gap by the administrative regions, Upper East and Upper West regions appear to be contributing very little to national poverty with 7.4 percent and 8.4 respectively. However, these low figures are attributed to the low population density in these regions, while the Northern region, with poverty rate of 50.4 percent, account for 20.8 (1.3 million) of total poverty in Ghana. This is certainly a worrying development, not only because the region is the highest single contributor to the level of poverty in Ghana, but because over 50 percent of the population in the region are poor. One thing that is certain and consistent from the statistics is that the three northern regions have consistently been the poorest regions in the country since 1991 and also the number of poor has been unevenly distributed between the northern and the southern regions. The piece of good news, however, is that there has been some improvement since 2005 in these regions. Figure 1.0 presents statistics on the poverty gap and regional contribution to total poverty in Ghana.

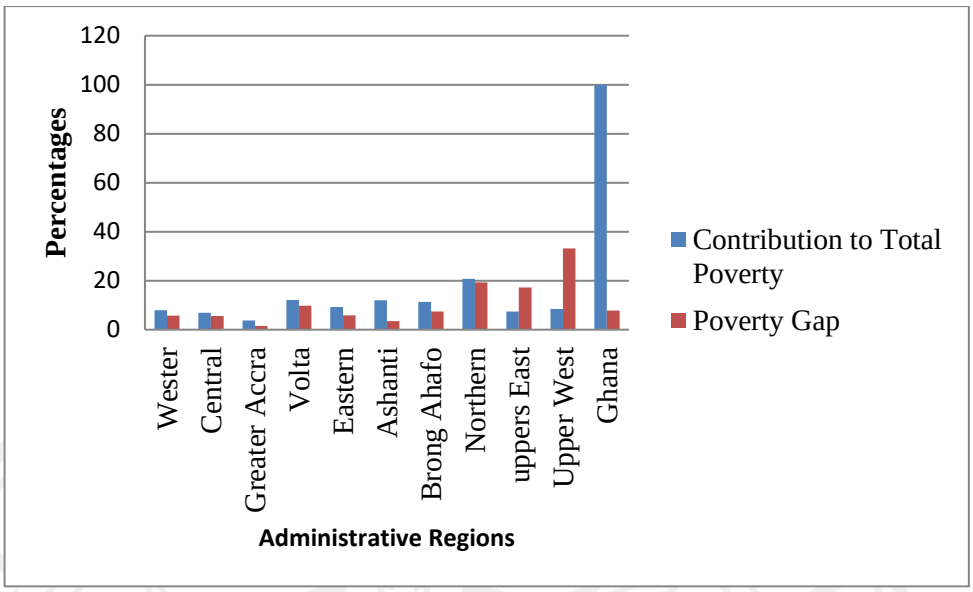

Figure 2.1: Regional Contribution to Total Poverty and Poverty Gap (2012/13)
Source: Derived from Table 3.3, GLSS, 2014, p.14

Just like the poverty incidence, the poverty gap in the country has not been evenly distributed. The national poverty gap stands at 7.8 percent. While Greater Accra has the lowest poverty gap at 1.6 percent, which is 6.2 points below the national average, the Upper West has a gap of 33.2 percent which is 25.4 points above the national average. It is also important to point out that all the regions in southern Ghana recorded poverty gaps below 10 percent while the Northern, Upper East and Upper West recorded 19.3, 17.2 and 33.2, respectively. Each of the Northern regions recorded more than twice the national average. Still focussing on the 2012/13 figures, all the regions, except the three Northern regions, have extreme poverty figures lower than the national average (Ghana Statistical Service, 2014).

Ghana has indeed come a long way in terms of reducing the level of poverty in the country in general. The 2012/13 national poverty average indicates that poverty has been reduced by half since 1991/92 (thus, the MDG 1 has been achieved) but the fact that the impact has not been evenly distributed between the Northern and Southern parts of the country suggests a deep crack in the poverty policy strategy of past governments. It is indeed therefore difficult to convince the majority of those in Northern Ghana and pockets of those in extreme poverty in the south, that the over all poverty has declined (Songsore, 2003).

2.7.2 Poverty, Education and Regional Inequality in Ghana

Educational attainment has been widely linked to both economic growth and poverty reduction (Higgins, 2009; Songsore, 2003). The belief that education has the power to enhance human development has found expressions in the reports of leading world organisations. For example, in 1996, the chairman of the UNESCO Commission on Education wrote in the introduction of its report that:

"The commission did not see education as the "miracle cure". Rather the members saw it as one of the principal means available to foster a deeper and a more harmonious form of human development and thereby to reduce poverty, exclusion, ignorance, oppression and war." (Easterly, 2002, p. 71).

Primary and secondary school attendance has in the literature been argued to have profound impact on poverty reduction (Higgins, 2009). Table 2.6 gives insight into the rates of enrolments in primary and secondary schools on South/North divide in Ghana.

Table 2.6: Net Primary and Secondary School Enrolment in the North and South

	1991/92		1998/99		2005/06	
Zone	Primary	Secondary	Primary	Secondary	Primary	Secondary
Northern						
Southern						
Total						

Source: GSS, 2007, pp.60-65

The table above shows the distribution of net primary and secondary school enrolment between the northern regions and the southern regions of Ghana. Net attendance is the number of children of official schooling age who are attending primary and secondary school as a percentage of the total children of the official

school age population. At the national level there has been tremendous progress with primary school attendance. The enrolment rates have increased steadily from 1991/92 to 2005/06. Net enrolment rates at the national level increased from about 74 percent in 1991/92 to 83 percent in 1998/99, and marginally increased to 85 percent 2005/06. When disaggregated into northern and southern sectors, the inequality is immediately evident; that the south has consistently recorded higher averages than the national averages from 1991-2006. On the other hand, the north has recorded lower averages than both the national averages and the averages recorded in the south. Primary school attendance even declined in the north in 2005/06 from the 1998/99 rates (from 78.1% to 74.5%).

It is important to treat these high primary school enrolment figures with caution especially in rural north due to the poor quality of instruction in the public schools. Comparative data between 2005/06 and 2012/13 show that net primary school enrolment in rural north is still very low. Indeed, most 'primary school children leave school as virtual illiterates given the poor quality of instruction in public schools' (Songsore, 2003).

In terms of secondary school enrolments, attendance has even at the national level been low with averages below 50 percent in most of the years under review. It was only in 2005/06 that the southern sector recorded a figure above 50 percent 50.6% to be precise. The north, as usual, recorded values far below the national average with attendance dropping from 34.7 to 27.2 percent between 1998/99 and 2005/06 respectively.

A more disaggregated statistics by age and region show a similar uneven pattern, with the regions in the south recording higher rates of attendance than the regions in the north. Greater Accra in 2012/13 recorded the highest rate with 92.0 percent and the Northern region recoded the least rate of attendance of 50.4 percent. Nonetheless, there has been steady increases in all regions when the 1991/92 and 2012/13 rates are compared.

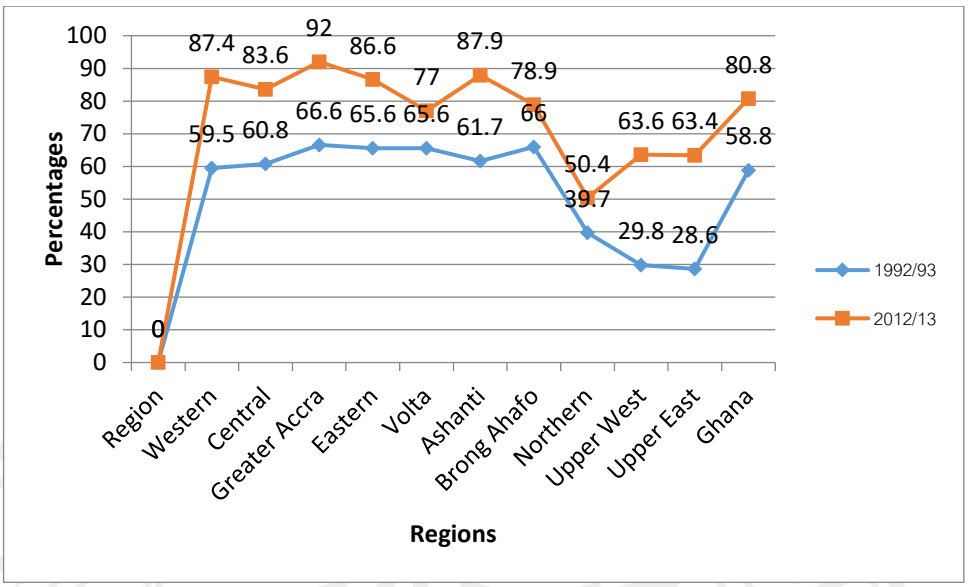

Figure 2.2: School Attendance by Age (6-25) and Region – 1991/92 and 2012/13
Source: Derived from Table 2.3, GLSS, 1995, p.14 and Table 3.3. GLSS, 2014, p.14

The trends presented in the different statistics on education tend to corroborate the argument that school attendance reduces poverty. In Ghana, the huge disparity in terms of education between the North and South has been largely linked to the development disparities between the two geographical zones (Abdulai & Hickey, 2016; Higgins, 2009). This claim finds support in the literature that there is a strong correlation between poverty and low primary and secondary net and gross enrolment rates (Coulombe & Wodon, 2007 cited in Higgins, 2009). Thus, the three northern regions have historically recorded the highest rates of poverty principally because most of the population live in education poverty which means less than four years of education (UNESCO, 2010). Moreover, the latest GLSS reported that poverty is higher among households whose heads are uneducated than among those with some education (Ghana Statistical Service, 2014).

Based on the above empirical evidence, it can be reasonably argued that the three northern regions have consistently recorded higher poverty rates than the south since the 1990s due to the low levels of education of the population up north. The cost sharing framework introduced by the SAP further eroded school attendance at the secondary level (Abdulai & Hickey, 2016). The table below presents statistics on household expenditure on basic education by region.

Table 2.7: Regional Household Expenditure on Basic Education in Ghana – 2012/2013

Regional Household Expenditure on Basic Education – 2012/2013	
Region	Average Expenditure (GH₵)
Ashanti	520.659
Brong Ahafo	331.3025
Central	463.4063
Eastern	351.7567
Greater Accra	736.6478
Northern	184.786
Upper East	142.1569
Upper West	116.5265
Volta	217.9112
Western	488.9923

Source: Author's computation based on GLSS 6 (2014)

As evinced in table 2.7 the Northern, Upper East and Upper West regions, which are the three poorest regions in Ghana, tend to spend less on basic education. They spend less, not because they are disinterested in investing in children's education, but precisely because they are poor. Thus, from the various literature linking education and poverty, it is clear that in order to make substantial progress in bridging the north-south inequality gap, education, especially in the deprived regions of Ghana, should be one of the top most priorities of government.

2.8 A Note on Benefit Incidence Analysis

Benefit Incidence Analysis-BIA is a useful tool for analysing the extent to which different income classes (e.g. the rich and the poor) are benefiting from the current allocation of social spending (Buracom, 2011). It could also be viewed as the estimation of how the poor among direct beneficiaries are affected by a project. BIA mainly concerns the allocation of public expenditures in the social sector in the form of social assistance. It therefore involves current and capital transfers to the recipients, and can be called the *transfer effects* (or the '*benefit* incidence') of spending (Demery, 2000).

The social assistance referred to above includes subsidized government services such as health, education and infrastructure services. These in-kind transfers improve the current well-being of the beneficiaries, and also enhance their longer-run income-earning potential. Therefore, considering the impact that government transfers have on the longer-run income-earning potential of beneficiaries, an unequal distribution of these transfers to the different geographical regions/groups has the potential to significantly engender unbalanced development in these regions. Consequently, accounting for the real beneficiaries of government spending is crucial since government subsidies have usually been justified on the grounds that the poor are disadvantaged in gaining access to important services and that provision of subsidies would help them escape from poverty.

2.9 Donors/NGOs and the Quest for Inclusive Growth

It is argued that the processes of state formation and development in developing countries have long been shaped by external actors (Hickey, 2013). Current literature on the ability of international donors to use foreign aid to influence resource allocation in developing countries towards greater inclusiveness has been on the ascendancy (Abdulai & Hulme, 2015; Briggs, 2014; Hickey, 2013; Parks & Cole, 2010). Moore and others have underscored the importance of international partners in the war against poverty and inequalities. They posit that the extermination of poverty among the poorest can only be achieved if a general commitment to ‘global equality and justice is fostered and sustained among the world’s powerful’ (Moore, Grant, Hulme, & Shepherd, 2008).

Luckily, there seems to be some kind of a tacit agreement that external actors really have a role in shaping state formation and development in developing countries and even more important is the notion that the nation can no longer be the dominant horizon of state life (Hickey, 2013). However, it appears that, the acclaimed power of donors to influence recipient countries and to scrutinise revenues such as aid have been blown out of proportion. Contrary to the acclaimed power of donors, many studies have found that it is difficult for donors to prevent recipients from politically targeting even closely monitored aid. Not even conditionality in Zambia and Ghana has been relatively effective in bringing about sustained policy change where this

(policy change) has been opposed by powerful domestic interests (Abdulai & Hulme, 2015; Briggs, 2014; Bryceson, 2006).

The ability of recipient countries to bypass donor conditionalities was further heightened in the 1990s due to the Poverty Reduction Strategy Papers (PRSPs) by the IMF and the World Bank. The PRSPs emphasised country ownership and civil society participation, both of which were intended to reduce the risk of slippages in implementation as the countries themselves take greater responsibility for the design and success of their economic plans (Abdulai & Hulme, 2015).

However, it is argued that the attainment of 'national ownership' would not necessarily strengthen domestic accountability or contribute to equitable development (Abdulai & Hickey, 2016). This line of argument is supported elsewhere, that the emphasis on PRSPs are a mistaken interpretation of the nature of politics in most developing countries. It highlights the tendency of proponents of the PRSPs to overstate the role that can be played by formal political processes in fostering pro-poor policy reforms in aid-dependent countries where politics is driven mainly by networks of clientelism and patronage (Booth, 2005; Hirvi & Whitfield, 2015)

Most PRSPs failed to achieve inclusive growth or to bridge interregional inequality largely because political elites abandoned the original plans that were used to obtain grants from the donors. In Ghana for example, each of the three Northern regions was to receive, in per capita terms, four times that of Greater Accra and two times that for the six other regions of Southern Ghana (Abdulai & Hulme, 2015). However, when the grant was finally secured, the planned disbursement of the grant was thrown to the dogs. The table below highlights the regional comparison of expected and actual HIPC expenditures.

Table 2.8: Regional comparison of expected and actual HIPC expenditures

Groups	Regions	Population (a)	Expected share (b)		Actual share (c)	
			Amount	%	Amount	%
Group A	Northern	1,854,994	112,659	18.3	20,157	4.8
	Upper East	917,251	55,707	9.0	7,350	1.7
	Upper West	573,360	34,822	5.6	1,351	0.3
Group B	Ashanti	3,187,601	53,279	15.7	107,927	25.5
	B/Ahafo	1,824,822	30,501	9.0	58,739	13.9
	Central	1,580,047	26,409	7.8	27,184	6.4
	Eastern	2,108,852	35,248	10.4	30,625	7.2
	Volta	1,612,299	26,949	7.9	16,087	3.8
	Western	1,842,878	30,802	9.1	58,909	13.9
Group C	G/Accra	2,909,649	16,932	7.2	94,979	22.4
All Groups	National	18,411,753	423,308	100.0	423,308	100.0

Source: Abdulai & Hume 2015, p.11

Such disregard for regional variation in major development indicators in the distribution of aid purposely intended for poverty reduction efforts have driven researchers to proffer solutions which aim to transform non-performing grants into efficient grants in order to alleviate poverty and bridge spatial inequality. These include shifting directly the benefits of economic or human development programs to excluded groups and reducing political benefits to the dominant elite coalitions (Abdulai & Hulme, 2015; Parks & Cole, 2010). Such propositions have the tendency to make donors rely more on the private sector to deliver the needed development.

However, caution must be taken against the use of the private sector or non-state actors in advancing development concerns as it has proven to be ineffective and also has the tendency to weaken democratic processes (Golooba-mutebi & Hickey, 2010). It is particularly important that donors play a definitive role by influencing development outcomes in developing countries considering the predatory nature of political favouritism in that context.

2.10 The Nexus between Normative factors, Resource Allocation and Spatial Inequality

The subject of spatial inequality has been explained from various perspectives from varying disciplines across the years. Principally, there are divergence and convergence theorists, the geography perspective, the institutional perspectives and the politics and power relations perspective. This section focuses briefly on the politics and power relations perspective which more or less presents a linear among political representation, resource allocation and spatial inequality.

The politics and power relations perspective argues that development disparities is principally political. That regional inequalities arise due to unbalanced distribution of national resources as a result of unequal representation in national politics (Mosse, 2007; Hickey & du Toit, 2007). The preceding point suggests that political representation affects resource allocation which in turn affects development outcomes (development/under development). In other words, resource allocation is the main mechanism through which spatial inequalities are produced and sustained and political representation is the major determinant of resource allocation. Indeed, many empirical studies have underscored the importance of resource allocation in the development process, especially at the sub-national level. Intergovernmental transfers are the major source of funds for subnational governments in most developing countries. Thus, the design of these transfers is of critical importance, both for efficiency and equity of local service provision of subnational governments (World Bank, n.d). Governmental allocations have also been argued to be powerful instruments with the ability to shape the future of nations in ways that advance or retard social and political progress (Salman, 2007). Consequently, a skewed distribution of resources in favour of some subnational government would ultimately result in a development imbalance at the subnational level.

However, the overemphasis on the role of political representation as a major determinant of resource allocation by the politics and power relations theory is a bit misleading. Many studies have established that normative factors such as population size, population of school children, population density are impotant determinants of intergovernmental transfers of grants. The desire of national governments to ensure equity in the allocation of resources has resulted in the use of

population size as proportional means of resource allocation (Boex, 2003; Boex & Martinez-vazquez, 2005; Hendriks, 2016; Pearson, 2002; Rothchild, 1984). Also, the population of school children has been used as a criterion for resource allocation by some studies (Boex, 2003; Hendriks, 2016; T. K. Sen & Trebesch, n.d.). Poverty and population density as a normative factors have been used as criteria for resource allocation in many studies (Rothchild, 1984; Bird & Smart, 2002; Boex, 2002; Boex & Martinez-Vasquez, 2005; Hendriks, 2016). Thus, to the extent that normative factors such as population size, population density, poverty and population of school children influence resource allocation, one can argue logically that that these factors may have the potential to produce spatial inequality via their influence on resource allocation.

2.11 Chapter Summary

Historically, the northern regions of Ghana suffered from the exclusionary and discriminatory policies of the British colonial administration. The initial exclusion of northerners from western education had many detrimental impacts on the region in terms of evolving a skilled and competent human resource base that could propel economic development in the region. It further delayed the evolution of politically conscious elites who could make demands on the colonialists to expedite the development of the region with regards to the provision schools, roads, and other infrastructural facilities that were available in the south. Consequently, northerners were incorporated into the colonial economy as a pool of cheap labour. They were also included into the post-independence government on adverse terms with less bargaining power as they were viewed as politically inexperienced and incompetent by their southern counterparts in government. Although most post-colonial governments have made efforts to accelerate the development of the north, these efforts have woefully fallen short of expectation, as the three northern regions continue to wallow in poverty. Post-colonial governments have limited their attention to social provisioning of education, health and public works which obviously does not have the potential of unearthing the productive and economic potential of the North. Until major targeted regional economic programmes are put in place, the north will mostly likely live under the shadow of the south for eternity. The next chapter

discusses theories of spatial inequality leading to the development of conceptual framework.

CHAPTER 3

REVIEW OF THEORETICAL LITERATURE ON DEVELOPMENT DISPARITIES: TOWARDS A CONCEPTUAL FRAMEWORK

3.1 Introduction

This chapter presents a review of both empirical and theoretical literature on spatial inequality pertinent to the developing world and particularly to Ghana. The chapter starts by explaining or defining development as espoused by Seers (1969) and then goes on discuss theoretical explanations of the origins and causes of spatial inequality including the economic perspectives of Myrdal (1957) and Hirschman (1988) as well as geographical explanations of regional inequalities and the power relations approach to development disparities. The different perspectives are explored in order to understand the extent to which the different theoretical expositions explain the current development disparities between the north and south of Ghana. Consequently, the limitations of these theoretical perspectives are explored in order to arrive at an appropriate theoretical and conceptual framework.

3.2 The Meaning of Development

Development has been mainly or only limited to a single aggregative yardstick such as national income. Many a times commodity output as opposed to people is emphacised and development is often confined to measures of growth in Gross National Product. Many scholars in the recent times have challenged such narrow definitions of development (Seers, 1969; A. Sen, 1999). Seers (1969) views such definitions as narrow. Indeed such definitions tend confuse development with economic development and economic development with economic growth. According to Seers (1969) development is treated as a normative concept, as almost a synonym for improvement and to pretend otherwise is just to hide ones value judgments. For Seers (1969) the goal of development is the realisation of human personality. He

identified three basic necessities for the realisation of human personality or the development. These include: food/poverty, employment and equality.

Below certain levels of nutrition a man lacks not merely bodily energy and good health but even interests in much besides food or the capacity to concentrate. Indeed, man cannot rise above animal existence. This is supported by many studies that suggest that nutritional shortages among children can lead to lasting impairment of body and mind (MIT Press, 1968 cited in Seers, 1969). However, since the ability to buy food is a matter of income. The most important issue however is that below the levels of income at which a man can buy enough food for his family, the marginal utility of income is much greater than it is above that level.

Another basic necessity without which human personality cannot be developed is a job. This does not just mean employment; it can include studying, working on a family farm or keeping a house. However, to be outside of these accepted roles, i.e. to be chronically unemployed, to be chronically dependent on another person's productive capacity, even for food, is incompatible with self-respect, especially for a person who has spent his/her entire schooling, perhaps at a university, preparing for an effective role. As a matter of fact both poverty and unemployment are associated in many ways with per-capita income. But increases in per-capita income are far from enough as the experience of petroleum economies show. Indeed, there are even situations where a rise in per-capita income has been accompanied by growing unemployment. For instance in Trinidad, per-capita income averaged more than five percent a year between 1953 and 1968, meanwhile, overt unemployment showed a steady increase to more than ten percent of labour force (Seers, 1969).

There is a direct link between income and numbers living in poverty in the form of income distribution. Thus, levels of poverty would most likely decline when there is declining concentration of income which brings us to the third necessity for the realisation of human personality namely equality. The social barriers and inhibitions of an unequal society distorts the personalities of those with high income no less than those who are of poor. Trivial differences of accent, language, dress, customs etc. tend to acquire absurd importance and contempt is engendered for those who lack social graces. Perhaps, even more important is race, since it is usually highly

correlated with income. Indeed, economic inequalities lies at the heart of racial tensions.

Consequently, the most relevant question to ask about a country's development are what has been happening to poverty? What has been happening to unemployment? And what has been happening to inequality? If all these three have declined from high levels, then beyond doubt, this has been a period of development for the country concerned. Otherwise, it would be strange to call the result 'development', even if per-capita income doubled. This criteria applies to the future too. A plan which conveys no targets for reducing poverty, unemployment and inequality can hardly be considered a development plan.

Beyond these basic necessities, there are equally other important factors necessary for development to take off. These include adequate educational levels, freedom of speech, and citizenship of a nation that is truly independent, both politically and economically, in the sense that the views of other governments do not largely predetermine his own government's decision. As undernourishment, unemployment and inequality dwindle, these educational and political aims become increasingly important objectives of development. A government could hardly claim to be developing a country just because its educational system was being expanded or a political order was being restored or limits set on engine noise, if hunger, unemployment and inequality were high or on the rise (Seers, 1969).

It is important to point out that national income is not totally meaningless. It has some significance as a measure of development potential. For instance a country that has recorded increasing per-capita income over ten years but the increases recorded goes solely to the rich and unemployment rates remain the same, then such a country has retrogressed in terms of development. However, one can argue that it has achieved greater development potential for the future in many ways. Firstly, the fiscal system could bring about development more rapidly because of the income available for transfer to the poor. Moreover, the country has greater savings potential which could lead to faster growth rate in the future, thereby increasing the possibilities of redistribution. Furthermore, the country may already have high investment per-capita and if the investment is in the form of capital needed for employment to be increased

or for schools, then it means genuine development is foreshadowed for the future (Seers, 1969).

However, this envisaged development may not materialise, if the investment has been in modern capital intensive techniques. Unemployment and the distribution of income may well grow worse in the years ahead. In order to release the potential of a high rate economic growth, the policies of a nation would be of significant importance. For Seers (1969) research efforts must be devoted above all to understanding the causes of poverty and the mechanisms by which unemployment emerges and inequalities grow as the basis for genuine development plans. Which exactly what this study is set out to achieve, namely, to understand how inequalities emerge and become sustained over time. Thus, this study is very relevant to current development discourse.

3.3 Economic Theories on Development Disparities

Myrdal's Cumulative Causation theory and Hirschman's Convergence Model are explored in this section. The fundamental argument of Myrdal (1957) is that market forces normally tend to increase rather than decrease inequalities between regions. He argues that without any policy interferences, all economic activities and non-economic activities in a developing economy will cluster in certain localities and regions leaving the rest of the country in a 'backwater' (Myrdal, 1957). These favoured regions may have been chosen due to good natural conditions and also due to a start that was met with success accompanied by increasing internal and external economies. The theory of cumulative causation therefore implies that the clustering of working population trained in various crafts, easy communications and the spirit of new enterprise strengthen and maintain continuous growth to the detriment of other regions where rather 'relative stagnation or regression became the pattern' (Ibid, p.27).

Furthermore, cumulative causation holds that developed regions do not only advance at the expense of lagging regions, they tend to produce what is termed as the *"Backwash effects"* (Ibid, p.27). This involves the movement of labour, capital and trade from the already poor regions into rich regions. At the same time, goods and

services originating from the expanding regions flood markets of the lagging regions, dislocating the little economic activities taking place in these regions. Besides these economic backwash effects, there are also non-economic factors that widen the disparities between the centre and the peripheral regions. If left to themselves, lagging regions cannot afford to maintain a good road system and all other public utilities in these regions will be inferior, thus increasing their competitive disadvantage (Ibid, p.29).

Against these backwash effects, are some form of *"spread effects"* from the expanding regions. By spread effects, it is supposed that lagging regions should benefit from the increasing outlets of agricultural products and technical advance. Consequently, if the "spread effects" are strong enough to outweigh the "backwash effects" from the older centres, then lagging regions may become new centres of economic expansion. Unfortunately, in no circumstances have spread effects established a dominance over backwash effects. In reality, the two kinds of effects always balance each other, and a lagging region will always be "stagnating" (Ibid, p.32). Market forces ultimately reinforce inequalities in space making a spatial equilibrium difficult to achieve (Aryeetey et al., 2009). In the view of Myrdal, government intervention is required to address such imbalances in development between the developed and lagged regions.

Contrary to Myrdal's (1957) model is the convergence model propounded by Hirschman in 1958 (Hirschman, 1988). Hirschman argues that economic progress does not occur everywhere at the same time, and that for an economy to lift itself to higher income levels, it must and will first develop within itself one or several regional points of economic growth (Ibid, p.183). This need for growth points in the development process means that interregional inequalities of growth are inevitable conditions for growth itself (Ibid, p.184). Hirschman, like Myrdal, explains the resulting unbalanced growth in terms of locational advantage, nearness to a growing centre with its special receptivity for innovations and enterprise. However, growth at one point builds up pressures, tensions, and compulsion toward growth at subsequent points.

The expansion of the developed regions will have a number of repercussions in the lagging regions, some favourable, others adverse. The favourable effects are the

"*trickling down"* of progress from the developed regions, which include purchases of investment in the lagging region, employment of labour from lagging regions which may raise per capita consumption levels in disadvantaged regions. On the other hand, many "*polarisation effects"* are likely to be at work (Ibid, p.188). For example, income generating activities in the lagging regions may become depressed as a result of competition from advanced regions. Also, the under developed regions will have to purchase high cost manufactured goods from the developed regions, which were hitherto imported from abroad at lower prices. Another key source of polarisation is internal migration (the loss of highly qualified people to advanced regions) and the little capital the lagging regions generate is likely to migrate to the developed regions.

However, Hirschman hypothesises that in the long run the trickling down effect will gain an upper hand over the polarisation effects if the developed region largely depends on the lagged regions for the raw materials for its expansion. Unfortunately, this may not always be the case. Hirschman acknowledges that the developed regions may develop their primary products or import them. When this happens, the lagging region will be largely cut off from beneficial contacts with the developed region while remaining exposed to the adverse effect of the polarisation effects. Therefore, Hirschman concludes that

"if the market forces that express themselves through trickling down and polarisation effects result in a temporary victory of the latter, a deliberate economic policy must come into play to correct the situation" (Ibid, p.190).

The World Bank in its report in 2009 supports Hirschman's assertion that regional inequality is inevitable in any development process. The report therefore encourages governments to resist attempts to spread expensive infrastructure to underdeveloped areas or even give firms incentives to move to such places (World Bank, 2009). Brookfield also makes the point that efforts to obtain "uniform development" over an entire country are doomed to failure (Aryeetey et al., 2009). Instead of promoting investments in lagging regions, the World Bank promotes providing basic services to lagging regions even if it costs more. The report also calls for migration of people into expanding regions.

Sadly, Hirschman's convergence theory and the propositions of the World Development Report seem to have produced no positive results in terms bridging disparities in Ghana. An argument can be put forward that the over fifty years of economic agglomeration and expansion in southern Ghana has yet to trickle down to the northern parts. Instead, the backwash effects have outweighed the spread effects, further widening the gap between the north and south of Ghana. Indeed, one couldn't agree more with (Sowa, 2002) that it appears the northern regions have not been touched by any policies and programmes of government at all.

Furthermore, the tokenistic distributive public service provisioning to lagging regions has been anything but effective in improving human development and incomes in these regions (Aryeetey et al., 2009; Shepherd et al., 2006). The theory by Myrdal seems to rather depict exactly what has transpired in Ghana over the past six decades. The regions that took off first continue to develop at the expense of the lagging regions, and as it stands, government will have to play a substantial role if the situation is to be reversed (Aryeetey et al., 2009; Myrdal, 1957).

Moreover, the encouragement of migration to developed regions has been pronounced dangerous if translated into policy. Issues such as the transference of poverty from rural to urban areas is hidden, while the delocalisation of livelihoods and the dissolution of the household as a co-residential dwelling unit comes to be seen as a mere distraction rather than a critical process in the shaping of spatial transformations. Such solutions reflect a complete erasure of histories and injustices, a denigration of regional cultures and a call for markets to resolve problems of regional politics (Rigg et al., 2009). Finally, such an approach exhibits a great degree of naivety about the importance and the consequences of politics in national development. Indeed, Rigg and others point out that policy makers have long recognised the impracticality of spatially balanced growth, but they recognise the political necessity to have an element of regional development in their strategies, even if these strategies defy economic logic (Rigg et al., 2009).

3.4 Geography and Regional Inequality

One of the famous schools of thought that has been employed in explaining regional inequalities is geography. Proponents of this school of thought maintain that

failure to close development gaps is associated with location and that the countries left behind have two unique features. (1) They are located in the tropics and (2) they are distant from coastlines and this include countries that are landlocked (Samson, 2005). It has been well acknowledged in the literature that the economies of coastal regions, with their easy access to sea trade, usually outperform the economies of inland areas. Also, a region's climate can have tremendous impact on its economic development. Countries in tropical climate zones largely face higher rates of infectious disease and lower agricultural productivity than nations in temperate zones. Sadly, the very poorest regions in the world are those saddled with both handicaps: distance from sea trade and a tropical or desert ecology (Sachs, Mellinger, & Gallup, 2001).

Dani Rodrik, a staunch advocate of institutions as an important determinant of development, accedes to the critical role that geography plays in the development process. Rodrik (2002) asserts that geography plays a direct and critical role in defining income, because natural resource endowments are shaped in large part by geography: commodities such as oil, diamonds, and copper are marketable resources that can be an important source of income. Moreover, geography is an important determinant of the extent to which a country can become integrated with world markets, regardless of the country's own trade policies. Similarly, Songsore (2003) asserts that once a centre-periphery structure has emerged, the ability and degree of integration of peripheral areas to the modernised economy of the centre is a matter of resource endowment.

Furthermore, it is observed that what is true across countries is most likely true within countries that straddle the tropics and temperate zones. The temperate regions within these countries are more highly developed than the tropical regions. This particular argument is strikingly familiar with the current development disparity dynamics in Ghana, where the northern regions have adverse climatic conditions compared to the southern regions which have more favourable climatic conditions and also home to all the coastal regions. It is therefore not surprising that the southern regions of Ghana are doing better than the northern regions, due to their superior climate, closeness to the sea and above all the rich mineral reserves. Consequently, policy makers, economists and donors must reorient their energies toward the roles

played by geography in Africa's growth predicament so as to devise more effective strategies in alleviating human misery on the continent.

Despite the significant role of geography in determining development outcomes across and within countries, it is by no means sufficient. Indeed, the role of geography in shaping development has come under serious attacks in recent times. There are examples of countries with tropical climate performing equally well on the economic front. China, Botswana, Mauritius, and Australia have been cited as the success cases in this regard (Rodrik, 2002). The successes of these countries have been largely linked to superior institutional qualities that promote free enterprise through market-oriented incentives, protected property rights of current and future investors, and an enabling social and political stability. All of these have their roots in politics and policy (Bloom, Sachs, Collier, Udry, & Bloom, 1998).

In addition, it is argued that poor agricultural productivity is not a natural outcome of Africa's geography. It is rather an outcome of geographical facts in the context of a given agricultural technology in a challenging institutional environment. The development challenge in Africa and the lagging regions within countries on the continent go beyond geography, it boils down to bad technology and market failures. Agriculture in Africa is therefore not doomed by geography to be unproductive. As a matter of fact, there are many cases of very successful, if small-scale, technological changes in African agriculture. The common characteristic of these success stories is that they are the product of research that was sensitive to both the physical features of the existing farming system and the economic and institutional environment (Bloom et al., 1998).

Rodrik (2002) puts it that, geography is not destiny: Botswana and Mauritius both started out with extremely poor initial conditions. Good institutions, it appears, can overcome geographical constraints and lousy initial conditions. Much worse than the northern regions of Ghana in terms of climate and geography is Burkina Faso, yet it has been very successful in agricultural advancement in recent years (Shepherd et al., 2006). Therefore, with good policy and technology targeted at the three northern regions, there are chances of enhancing economic growth and development in these parts of Ghana.

3.5 Reflections on the Theoretical Expositions

The complexities of development make it very difficult to identify a single theory that perfectly explains the processes and outcomes of development in specific contexts. Several models have been advanced in the past by various scholars to explain the causes and nature of regional development disparities. Hirschman's convergence theory, for instance, argues that interregional inequality is inevitable at the initial stages of economic growth and advancement and that growth will eventually trickle down to the regions left behind.

Indeed, some aspects of Hirschman's theory, notably, the inevitability of regional inequality in the initial stages of development have been witnessed in many developing countries, including Ghana. The polarisation effects espoused in the theory has also showed its head in Ghana (Mckay & Aryeetey, 2004; Shepherd et al., 2006). What is yet to come to fruition is the trickling down effect. The northern parts of Ghana have waited over a century to be touched by this trickling down effect. Hirschman believed the market was capable of equalising development among regions but he was also quick to point out that where polarisation effects are more powerful than trickling down effects, deliberate policy should be put in place to correct such development disparities. Hirschman's conclusion is more of a recognition of the need and importance of government intervention to deal decisively with regional inequalities. It is also, an agreement with Myrdal, that once a region takes the lead in economic development, the catching up by lagging regions becomes impossible without deliberate policy inducement.

Bad geography, including adverse climate, the lack or inadequate natural endowments and remoteness from the coast has also been identified as major determinants of regional inequalities. Developed regions are associated with good climates and abundant resources, while lagging regions are saddled with bad geography. Despite the primary role of geography in determining development outcomes, extant literature has shown that geography is not destiny. Many countries have achieved economic development despite unfavourable climatic conditions and the reasons cited for their escape from poverty and under development are good institutions, technology and research and development.

The above theoretical explanations of the regional development disparities have been largely studied empirically in both the developed and developing world. In SSA Africa in particular, the geographic and economic explanations have been largely explored. And though these theoretical explanations to some extent explain the reality in Africa, much of the development disparity on the continent is yet to be unravelled. There are equally important theoretical explanations that have been underexplored in the attempt to understand regional disparities in development, one of which is the political economy explanations of regional inequality. The study therefore explores this theoretical strand in order to explain development disparity in the SSA in particular. In the next section, a framework for understanding regional inequalities through a political economy perspective is explored

3.6 Political Economy Explanation of Regional Development Disparities

The study employs two strands of political economy theories to explain regional inequalities. The power relations and the public choice theories. Besides these two theoretical strands, the study recognises the need and importance to introduce some control variables into the study. The need for these control variables leads to the inclusion of some normative theoretical expositions which are capable of explaining development disparities.

Conceptual Framework for Analysing Spatial Inequality

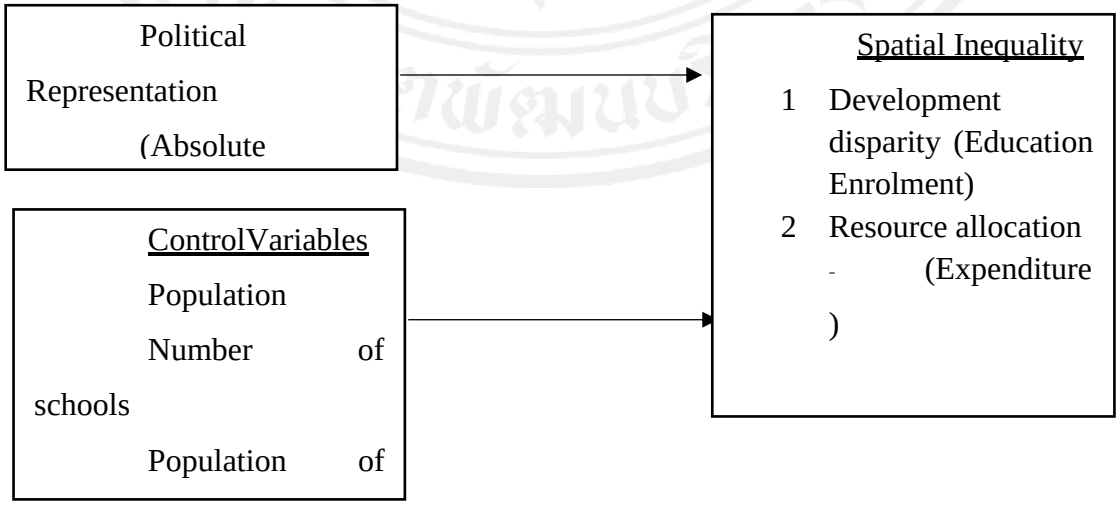

Figure 3.1: A framework for analysing Development Disparity

After a careful consideration of the arguments made by the power relations, public choice and normative models, this study reviews extant theoretical and empirical literature to determine the extent to which each of these arguments contributes to determining and explaining development disparities in Ghana. The significance of both the empirical evidence in particular goes beyond the interest of this study. It is important to verify whether governmental resource transfer (the mechanism via which inequalities are generated) are allocated in a manner consistent with government policy objectives or whether they are allocated in a different manner, for instance to benefit politically more powerful local government units (Boex & Martinez-Vazquez, 2005). It is, however, important to point out that this framework has a number of limitations especially with regards to the selection of control variables. Control variables such as poverty rate, GDP per capita, urbanisation and political vote pattern and bureaucratic variables were dropped as a result of the unavailability of annual data for these variables. These variables are supported by both theoretical and empirical literature (Bertinelli & Black, 2004; Briggs, 2014; Hopkin, 2006; Lessmann, 2011; Pearson, 2002; Rothchild, 1984). The difficulty of obtaining the needed data to facilitate analysis is not unique to Ghana, but a common phenomenon in Africa. It is reported that many countries do not provide economic data at the regional level, and one of the reasons for this may the lack of capacity of institutions which may explain why few studies in African countries employ secondary data (Lessmann, 2011).

3.6.1 The Power Relations and Public Choice Models

The power relations model argues that inequality should be viewed as the effect of social relations and in terms of inequalities in power (Mosse, 2007). The model explains inequality in terms representation and exclusion/incorporation (Hickey & Toit, 2007). This study limits its scope to the representation dimension of power relations. Viewed in terms of representation, regional inequality is explained as the outcome of unbalanced distribution of national resources resulting from the under-representation of poor regions in national politics. The issue of inequality is thus viewed as a matter of political representation and how the representatives use their influence to channel governmental allocations to their respective local government

units (Abdulai, 2012; Abdulai & Hulme, 2015; Bryceson, 2006; Hickey & Bracking, 2005; Mosse, 2010; Shepherd et al., 2006). Thus, to the extent that some regions become and remain underdeveloped is mainly because they lack the needed political representation to adjust institutions and policy in their favour (Parks & Cole, 2010).

Similarly, the public choice models generally argue that political decision making processes are usually captured by powerful interest groups, so that the distribution of public resources to local government units would be, at least partially, determined by political and institutional factors (Atlas et al., 1995; Boex & Martinez-Vazquez, 2005). Consequently, sub-national governments with powerful political interest can be expected to receive larger governmental grants. Proponents of the power relations model therefore maintain that some regions are under developed not because they lack the resources needed to advance development, but precisely because they are found at the bottom of the power pyramid with little or no interaction with those at the top of the pyramid.

Taking into consideration the significance of political representation in shaping development outcomes in developing countries, the ethno-regional structure of ruling alliances and the subsequent spatial distribution of political positions should be considered crucial in the spatial inequality discourse (Abdulai, 2016; Kramon & Posner, 2013; Lindemann, 2010). In other words, in order to appreciate how development disparity is generated and sustained over time, it is important to take note of how different geographical units are incorporated into governing coalitions and also, how political power is shared among the different geographical regions in a country.

However, an analysis of representation in government composition should look beyond absolute distribution political representation as the cause of spatial inequality. Instead, the focus should be extended to the distribution of the most important positions (Lindemann, 2010). Thus, the focus should be on identifying the real power brokers since the ability to influence government decisions by representatives differ significantly from one political position to another. Abdulai (2016) observes that spatial inequality is underpinned not just by political exclusion of deprived regions, but their inclusion into the political structure in ways that limit their

power to influence allocation decisions. In other words, some groups may have representation in national politics but they may still lack the control over resources.

The measures used to capture the spatial variation of political power vary from country to country due to variations in political systems. Many studies have identified representation per-capita as one of the measures of political representation (Abdulai, 2012; Atlas et al., 1995; Boex & Martinez-vazquez, 2005; Porto & Sanguinetti, 2001). Abdulai (2012) further identified absolute representation, relative and a representation index.

This study uses absolute representation as a measure of political representation. Absolute representation measures the quantitative/absolute distribution of government positions accruing to each sub governmental unit, whereas the representation index measures the qualitative distribution of government positions. Thus, jurisdictions which are represented at the national level by senior officials might receive substantial resources due to the influence of their representatives. e.g. it was found that in almost all countries the hometown of the president seems to receive an 'unexplained' high level of governmental transfers (Boex & Martinez-vazquez, 2005). Therefore, *Absolute Representation* is used as a measure of political representation and a *Representation Index dummy* is created from *Representation Index* to measure the effect of more important positions.

Many empirical works support the intermediary role that resource allocation plays between political representation and unbalanced development disparity. Salman (2007) argues that budgets are determined principally by the locus of power and that the political influences of various interest groups determine how the resources are ultimately allocated. He further argues that budgets are also powerful instruments for shaping the future of nations in ways that advance or retard social and political progress. Also, in for instance, Pakistan and Uganda, the extent to which school grants reach the ultimate beneficiary depends on the bargaining power of local communities. Schools in more powerful communities get juicier shares of entitlements than schools in poor communities (Reinikka & Svensson, 2004; Shafiullah, 2011).

In another study Abdulai (2016) shows how the allocations of Ghana School Feeding Programme (GSFP) reflected the regional distribution of power in Ghana,

where the three poorest regions which were simultaneously under-represented received a total allocation of 3.6 million (7 percent) of total GSFP expenditure of about GH₵50.5 million from 2005-2008. Again, it was established that patterns of resource allocation in Ghana's education sector greatly favoured southern regions with particularly negative implications for the northern regions which lacked influential political positions within successive ruling coalitions.

Similarly, Abdulai and Hulme (2015) found that Highly Indebted Poor Country-HIPC resources which were meant to be disbursed with a more equalising formula were publicly ditched. The poorer Northern Regions ended up with paltry amounts of HIPC resources while the Southern Regions ended up with a lot more than its planned share. Such unbalanced allocations highlight heavily tilted benefits towards the politically dominant and economically advanced regions. Finally, in an analysis of a comparative study of twelve countries, evidence was found in virtually all the twelve countries, that disproportionate political representation gave rise to consistent intergovernmental transfers (Boex & Martinez-vazquez, 2005).

These empirical findings above give credence to the arguments presented by the political economy model and the politics and power relations model in particular, that regional inequality is the outcome of prolonged unbalanced allocation of government resources, primarily due to power differentials in political representation.

3.6.2 Normative Theoretical Considerations

As observed from the figure 3.0, the relationship between political representation, resource allocation and development disparity have well been espoused by the political economy model. Other variables, including population, population of school going children and number of schools, are not explained by the model. These variables find support in the normative theoretical models. Governments have gone great lengths to ensure equitable distribution of national resources across population. The desire for equity therefore leads to a more pro-poor and proportional distribution of resources across sub-national government units (Boex & Martinez-vazquez, 2005). Some African leaders are noted to have made conscious efforts to direct resources at ethno-regional units on the principles of *proportionality and extra proportionality*. By utilising the principle of proportionality, dominant elites

seek to guarantee ethno-regions a fair resource allocation by taking into account the size of population of various regions or groups (Pearson, 2002; Rothchild, 1984). Thus, it is likely for resources to be allocated to a group by virtue of its population size. In such situations, political representation does not play a definitive role in resource allocation. Similarly, with regard to extra proportionality, elites have tried to develop programmes aimed at interregional corrective equity such that government might allocate resources to groups/regions on the grounds of poverty levels or deprivation in these regions. Poverty prevalence or expenditure needs then become the basis of resource allocation rather than political representation (Rothchild, 1984). Consequently, local governments with greater expenditure needs/poverty levels would most likely receive more government allocations (Boex & Martinez-vazquez, 2005) which then have the ability to influence development outcomes across spatial units.

Variables that have been used as proxy for the normative principle differ from country to country. However, all studies include commonly used measures such as demographic variables, including population density, population size, economically dependent population and size of school aged population. Consequently, the study incorporates regional population size, the population of school going children and number of schools as control variables in the framework. These control variables can be viewed as both expenditure need and equity measures. If the government allocations intend to promote equity in education expenditure at regional/local levels, then needier local units should receive higher government transfers. For example, units with more school age children higher government allocations. In the same vein, units with many number of schools should receive more allocation from government.Many studies tend to concentrate on per-capita allocations, thus a negative relationship will normally exist between population size, population of school children and per-capita allocations (Boex, 2003; Boex & Martinez-vazquez, 2005; Hendriks, 2016; T. K. Sen & Trebesch, n.d.). However, this study does not measure allocations in per-capita terms, therefore a positive relationship is anticipated between population size, population of school children and resource allocation.

Empirically, local expenditure needs, including population size, population of school children and number of schools generally have a positive impact on government transfers. In Uganda, for example, it is reported that the allocation of

resources to health was based on many factors, including population size and the human development index. Furthermore, researchers found that the concentration of Aids cases (population density) in urban areas drives funding more than factors such as region, poverty and race. Thus, population tends to influence funding more than even poverty in some jurisdictions. In another study, weak evidence was found to support the pro-poor allocation of resources to local governments by the central government whilst in Pakistan, it was found that some local governments do indeed utilise pro-poor budgeting and resource allocation (Boex, 2003; Pearson, 2002; Salman, 2007). Based on the above model, hypotheses are drawn:

H1: There is a positive relationship between development disparity and political representation

H3: There is a positive relationship between resource allocation and political representation

3.7 Chapter Summary

Different theoretical explanations have been put forward as potential causes of regional development disparity. The development disparity between the north and south of Ghana could be partly attributed to the bad geography in the north and the fact that the north is not endowed with many natural resources compared to the south. This notwithstanding, a major blame for the current development gap has been put largely on policy/politics. In other words, the underdevelopment of northern Ghana is largely political and can be traced back to the British colonial administration. The late introduction of western style education in the north particularly affected human development greatly – translating into delays in the development of educated and political elites in the north at independence. This led to the unfavourable incorporation of northerners into the economy and political system of Ghana with little influence over policy to affect the needed development. In brief, the north is poor because the south has more power and control over resource allocation than the north does. The next chapter discusses the how the study is going to be implemented.

CHAPTER 4

METHODOLOGY

4.1 Introduction

The following discussions highlight the strategies devised to achieve the research objectives and to answer the questions stated in Chapter One. Specific details are provided on how the entire study was conducted – the research approach, data collection, data analysis and how the study intends to ensure trustworthiness of the research findings are some of the key issues discussed in this chapter.

4.2 Philosophical Worldviews

This section discusses five dimensions of research and how these dimensions are are put into practice to achieve the goals of a research depending on the worldview of the researcher. Teddlie and Tashakkori (2009) distinguish five philosophical research paradigms: constructivism, the transformative paradigm, pragmatism, post positivism and positivism. Among these paradigms, this study is situated within the pragmatists' paradigm, primarily due to the nature of the research objectives.

In the choice of research methodology, pragmatists are of the belief that either a quantitative or a qualitative approach is useful. Following the pragmatism worldview, I believe that one should rather focus on the research problem and use all approaches available to derive knowledge about the problem under consideration (Rossman & Wilson, 1985 cited in Creswell, 2014; Teddlie & Tashakkori, 2009). Pragmatism appears to be more relevant in answering the questions this study seeks to answer. Pragmatism affords the researcher the opportunity to expand the research procedures in such a way that one data base could explain the other data base and also, one data base could explore different types of questions that the other cannot. Consequently, the study adopts both the quantitative and qualitative methods for this study, since none of these methods on their can exhaustively deal with the questions this study seeks to study.

Secondly, when it comes to the use of logic, the approach uses both inductive and deductive logic. This study actually began with a conceptual framework on the basis of theoretical literature which could be highly inductive and at the same time it seeks to determine if government allocations are pro-poor or not through interviews and content analysis, a highly deductive approach. As Tashakkori and Teddlie (2009) put it, at any point during the research process, researchers are likely to use both types of inferences simultaneously. With regard to epistemology, the approach accommodates both subjective and objective points of view, depending on the phase of the study. The subjective part includes what the researcher decides to study based on what he or she considers important (Tashakkori & Teddlie, 2009). Consequently, neither the choice of Ghana nor the choice of the north-south spatial inequality is by accident. Each of these choices has been carefully considered, as I am a Ghanaian and someone who has been touched by the consequences of underdevelopment in the three northern regions of Ghana, these choices are dear to my heart.

Moreover, pragmatism accepts diverse views concerning the nature of reality or ontology. I do not, therefore, reject the position of positivists on the existence of an objective reality independent of the minds of individuals (Cherryholmes, 1992 cited in Tashkkori & Teddlie, 2009, p.92). However, I do hold conflicting thoughts on the notion that truth can indeed be determined. Consequently, my choice of one particular explanation over another is purely based on the belief that the chosen explanation is better than the other in generating the desired outcomes. Thus, “truth is what works” (Howe, 1988 cited in Tashakkori & Teddlie 2009:92). Also, the concept of causality is of immense importance to pragmatists. Causality is related to the quantitative concept of validity and the qualitative concept of credibility. Consequently, a pragmatist is concerned with both internal validity and the credibility of their findings.

Finally, on the possibility of a generalization of research findings, pragmatists are concerned with issues of external validity and the transferability of results. The findings of the quantitative aspect of the study that employs inferential statistics can be generalized. On the contrary, findings of the qualitative part of the study can only transfer results from one specific context to another.

4.3 Overall Research Approach

The study seeks to establish the nexus between political representation and development outcomes. In response to the research questions of the study and also based on the philosophical stance of this thesis, a mixed method approach was adopted for the study. Tashakori & Teddlie (2009) identify two major strands of mixed methods designs. The monostrand designs and the multistrand designs. Within the multistrand designs is the mixed method multistrand designs which include the following typologies:

1. Parallel mixed designs
2. Sequential mixed designs
3. Conversion mixed designs
4. Multilevel mixed designs
5. Fully integrated mixed designs

This study falls more within the multilevel mixed designs. These are either parallel or sequential designs: mixing occurs across multiple levels of analysis. The quantitative and qualitative data from these levels are analysed and integrated to answer aspects of the same question or related questions. The first objective/question of this study is analysed using a purely quantitative approach and the second objective is analysed using a blend of qualitative and quantitative approaches. However, the data from both approaches are analysed and integrated into answering the bigger question of whether development disparities are a matter of political representation and whether efforts are being made by government to bridge regional inequality through equitable resource allocation.

Furthermore, the study shall employed the case study approach to research. A mixed research method can choose to employ a case study approach to a problem (Tashakori & Teddlie, 2009). The case study method has been defined in many ways by different scholars. Bromley defined the case study as method as an attempt to systematically investigate an event or a set of related events with the specific aim of describing and explaining these phenomena (Bromley, 1990 cited in Berg & Lune, 2012). Berg and Lune also defined a case study as a method involving systematically

gathering enough information about a particular person, social setting, event, or group to permit to permit a researcher to effectively understand how the subject operates or functions (Berg & Lune, 2012). A look at these definitions indicate that the case study approach is a method that can be used examine both simple and complex phenomenon, with analytical units varying from individuals to large corporations.

The case study method is most suitable for the qualitative aspect of this study because the study attempts to systematically investigate a social setting namely the governmental resource allocation setting with the aim to understand how governmental resources are allocated and to further explain if these allocation are targeted at underdeveloped regions in order to bridge existing spatial inequalities. Furthermore, the study involves both organisations and individuals as units of analysis that is the government organisations in charge of allocating resources, beneficiary local government units and individual beneficiaries including school children and teachers. In fine, the case study method mostly deals with how or why? He also argued that if one needs to know why and how a programme had worked or not, a case study or a field experiment would be appropriate (Yin, 2014)

There three types of case study methods including (1) explanatory or causal case studies (2) descriptive case studies and (3) exploratory case studies (Yin, 2014). In eexploratory case study, field work and data collection are undertaken prior to the final definition of study questions or specific methodological procedure. Descriptive studies assume greater importance if the case being studied covers one of the following. Situations not normally accessible to social scientist (revelatory), one of a kind situation (unique cases), instances of exceedingly successful ventures (exemplary cases) or even ordinary conditions (typical cases). Finally, the ‘How’ and ‘Why’ questions are more suitable for designing and doing explanatory case studies. The complex the explanatory theory, the better. Thus, this study falls under explanatory case study as it sets out to understand whether and how government is working to bridge spatial inequalities.

4.4 Site Selection

Ghana is undoubtedly not the only country in the developing world with a pattern of skewed development. Indeed, the case of Ghana is but a reflection of many countries in the developing world, particularly in Africa (Lindermann, 2010; Golooba Mutebi & Hickey, 2010, Abdulai, 2012; Kramon & Postner, 2013). There must, therefore, be a combination of reasons for the choice of Ghana over and above other countries with equally persistent development disparities.

The first of these reasons is that Ghana has consistently maintained economic growth and poverty reduction at the national level over the past two decades, but these has been accompanied by increased disparities in regional development (Abdulai, 2012; Ghana Statistical Service, 2008, 2014). The second reason for the selection of Ghana is related to the long standing political culture of national unity and ethno-regional inclusivity particularly emphasized by article 35 (5) and (6a-e) of the Constitution of Ghana. Article 35 (6b) specifically mentions that "the state shall take appropriate measures to achieve reasonable regional and gender balance in recruitment and appointment to public offices" (Republic of Ghana, 1992, p. 31). Unfortunately, Ghana has not been able to honour this noble constitutional provision. Thus, the inability of Ghana to ensure inclusive regional development, as emphasized in the constitution, presents a puzzle that needs to be investigated.

The third reason has to do with the dynamics of the political representation in Ghana in the last decade. For more than five decades the three northern regions have been underrepresented in national decision making in terms of appointment to political offices. From 1952 – 1992 the three northern regions never enjoyed a representation above or even up to 17 percent of political appointments. The highest they ever enjoyed was 16.67 percent between 1969 and 1971. However, their representation started appreciating under the fourth republic (1993 to present), rising to as a high as 25.02 percent under the Mills administration (2009- 2012). From the table below it can be observed that the political representation of the northern regions have improved significantly in proportionate terms, since the three northern regions constitute 17.3 percent of the total population of Ghana (Ghana Statistical Service, 2012). Not only have they made in roads into the share of political appointment in the last decade, they have also succeeded in occupying influential ministerial positions.

Northern Ghana has also produced two vice presidents between 2000 and 2012 and in 2013, the region produced the second president from northern Ghana since independence. These dynamics are interesting developments in Ghanaian politics which requires the attention of researchers.

Table 4.1: Political representation of southern and northern Ghana – 1993 – 2016

Administration/Political Party	Years	Southern representation (%)	Northern representation (%)	Total Percentage (%)
Rawlings – NDC	1993-1996	80.6	19.4	100
Rawlings – NDC	1997-2000	78.9	21.4	100
Kuffour – NPP	2001-2004	86.6	13.4	100
Kuffuor – NPP	2005-2008	83.7	16.3	100
Mills – NDC	2009-2012	75.0	25.0	100
Mahama – NDC	2013-2016	73.2	26.8	100

Source: Researcher's own competition based on Abdulai (2016) and parliamentary Hansards (2009-2016). Note: one minister was accounted for under Mills – 2009-2012.

Besides the above reasons, there is the also the need for a justification for the choice north/south spatial inequality since there are other forms of inequalities in Ghana including gender and urban/rural inequalities (Ghana Statistical Service, 2014). The latter tends to be very pervasive. The share of rural population in Ghana is 49 percent meanwhile, it accounts for 78 percent of poverty incidence. This has been the case for the past three decades where above 80 percent of the total population living below the poverty line resided in rural Ghana (Ghana Statistical Service, 2008, 2014). A subtle examination of the phenomenon shows that poverty is much higher in the rural north, accounting for more than 40 percent of overall poverty in Ghana, when indeed, the three northern regions account for only 17.1 percent of the Ghanaian population. Moreover, extreme poverty in the rural north stands at 27.3 percent, accounting for nearly three-fifths of those living in extreme poverty in Ghana. It can therefore be reasoned that rural poverty in Ghana is fundamentally poverty in northern

Ghana as 78.11 percent of the population in northern Ghana live in rural areas. Table 2 presents statistics on regional share of rural population in Ghana.

Table 4.2: Rural Population in Ghana by Region

Region	**Regional population**	**Rural population**	**Share of rural population within region (%)**	**Share of urban population within region (%)**
Western	2,367,247	1,370,636	57.79	42.21
Central	2,194,635	1,368,052	53.04	46.96
Greater Accra	4,019,388	1,163,985	9.43	90.57
Volta	2,120,659	379,099	66.23	33.77
Eastern	2,638,494	1,404,517	56.44	43.56
Ashanti	4,793,812	1,489,236	39.69	60.31
Brong Ahafo	2,317,929	1,883,090	55.33	44.67
Northern	2,490,541	1,282,510	69.41	30.59
Upper East	1,035,671	1,728,749	79.84	20.16
Upper West	690,447	826,899	85.08	14.92
Total	24,658,823	587,457	49.1	50.9

Source: Researcher's own computation based on the 2010 national population Census report, GSS (2012).

Besides the fact that rural poverty in Ghana is mainly a northern phenomenon, the three regions at the bottom of the poverty index in Ghana are the three northern regions (Ghana Statistical Service, 2014). Upper East occupies the eighth position where more than four in every ten persons are poor (44.4%), increasing to one in every two in the Northern region (50.4%) placing it on ninth position with the Upper West coming in tenth, where seven out of every ten are poor (70.7%). The three northern regions put together account for more than half of those living in extreme poverty (52.27%) in Ghana. This pattern has not changed much from the 2005/06 survey, although the three northern regions account for slightly less

of the extreme poor in 2012/13. It is indeed true that the success of Ghana in achieving goal one of the MDCGs is a success of the south and not the entire country (Abdulai, 2012). The severity of the north-south disparity in Ghana, as presented in the preceding paragraphs, qualifies Ghana as a case worthy of examination.

Finally, there is a need for justification of the period 2004 to 2016 as the period under consideration. Firstly, the period falls within the fourth republic which marks the return of Ghana to not only civilian rule but to a democracy. The country has since 1993 sustained this democratic rule and has also successfully conducted six successive elections. Also, within this period the machinery of government has changed hands between the two dominant parties in the country. The NDC ruled from 1993-2000 and handed over to the NPP in 2001- which ruled from 2001-2008 and again in 2009, the NDC came back to power and ruled from 2009-2016. This means there has been continuity in government for the period (2004-2016) which makes it possible to track the way the ruling coalition have been shaped in this period among the various regions. Continuity in the period also means continuity in the allocation of government resources, making it possible to track how resources have been allocated to the various regions over time.

4.5 Unit of Analysis

This study has both micro and macro level units of analysis. The quantitative aspect of the study had only macro level units which are mainly government institutions. These institutions are the Ghana Education Service – GES and the cabinet and its composition. The qualitative part of the study had a combination of macro and micro level units. The macro units were the GES and some 75 district directorates of education. At the micro level, the units of analysis for the qualitative study included staff of the GES headquarters, staff of the Savelugu District Assembly, teachers and school children in the district. The Savelugu district was selected out of the 75 districts because it is one of the poorest performing districts in terms of key educational indicators in Ghana and also because it is easily accessible due to its proximity to the northern regional capital, Tamale.

4.6 Population and sampling Strategies

The quantitative part of this study is based purely on secondary data. The data was a TSCS, which means the cross sectional units constituted the entire population, that is the ten administrative regions of Ghana. Thus, there was no need for a sampling strategy for the quantitative aspect of the study.

Sample in qualitative studies is always an issue of heated debate. Generally, the sample size in qualitative studies are much smaller than sample size quantitative studies. Many reasons have been advanced for the small size in quantitative studies. One of such reasons is that there is a point of diminishing returns in qualitative samples, which is that as the study goes on, more data does not lead to more information. Secondly, the occurrence of a piece of data or a code is enough to secure its entry into the analysis framework. More importantly, because qualitative research is very labour intensive, analysing a large sample can be both time consuming and simply impractical (Crouch & McKenzie, 2006; Ritchie, Lewis, & Elam, 2003). According to Bertaux, fifteen is the smallest acceptable number and Creswell recommended five to 25 sample size for phenomenology (Creswell, 2014; Bertaux, 1981 cited in Guest, Bunce, & Johnson, 2006). This study however, used the saturation method which is the rule of thumb commonly applied by most qualitative researchers. A total of twelve face to face interviews and one Focus Group Discussions - FGD were conducted. The FGD was consised of three students from the Savelugu M/A JHS 'B'. A list and dates of the interviews are provided in Appendix 1.

4.7 The Researcher's Entry Role

It is sometimes not easy for a researcher to gain access and sustain the interest of organizations and/or groups in the research process. As a result, it is important to pay considerable attention to how to gain access to an organization and how to sustain the enthusiasm of organizations throughout the data collection phase of the study. Three main issues are of immense importance in relation to the researcher's entry role, these include technical considerations, interpersonal considerations and reciprocity. Technical considerations include decisions relating to the placement of the researcher's time and other resources as well as his or her negotiating access. An important dimension of technical consideration is the issue of 'revealedness'

(Marshall & Rossman, 2011) which tends to have some ethical dimension. Should the researcher conceal or reveal the purpose of his or her study to participants?

For this study, I used complete disclosure. Gaining access to the organisation was quite an easy task. My first point of call at the Ghana Education Service office was the Budget office. I was later introduced to the financial controller and the chief accountant. These two people were very helpful and instrumental for me to securing details of the organisation's expenditure which was not on the Education Management Information System data base. The financial controller was particularly helpful because he had just finished his Doctoral degree and perhaps understood and appreciated the challenges of Doctoral studies.

Although, I was easily accepted by both organisations and individuals, they still demanded some form of identification to be sure I really was who I claimed to be. Whenever the issue identity was raised, I presented an introductory letter I had collected from the University for such Anticipated Reasons. The letter was important because it served as a contract with both parties, especially with me the researcher for not to use the findings in ways that might injure the organization and individual participants in the study. Finally, researchers are encouraged to reciprocate the time and resources invested by participants and their organizations to a research process. Reciprocity can be in the form of giving time to help out, providing informal feedback and being a good listener. In line with the principle of reciprocity, I provided a soft copy of budgetary allocation data which I had sifted out from the GES budget books to GES headquarters in Accra. I also made an appointment with the Savelegu District Director of Education to give a talk to the high school students in the districts upon the request of the director. Unfortunately, the talk could not take place because schools were not back in session when I was exiting the field.

4.8 Data Collection

This study sets to achieve two main objectives:

1. Establish whether political representation has any effect on development outcome in Ghana in the period 2004-2016.

2. Examine whether government is making any conscious effort to reduce north-south development disparities through targeted resource allocations.

In order to achieve the above objectives, the following data sets were required:

1) The regional budgetary allocations to education (2004-2016) – here, there is the need to distinguish between budgetary allocations and actual expenditure. The amounts that are usually budgeted for are not often the exact amount allocated to government units. Actual receipts are not always the same as budgetary allocation, they are either less or more. Reinikka and Svensson (2004) found differences between government budgetary allocation and actual spending. Abdulai (2012) also used actual spending instead of budgetary allocations. Consequently, this study also used actual institutional spending as it gives a better and more accurate forecast. Furthermore, it is important to mention that only Government of Ghana - GoG allocations were used for the time series analysis. The normal government allocations is made up of GoG, Internally Generated Funds – IGFs, Donor Funds and others. IGF was excluded because the funds from that is based purely on local capacity and has nothing to do with the central government. Consequently, some regions are able to raise more IGFs than others, which automatically inflate their shares of allocation. Thus, including IGFs would defeat the main objective of this study, since political representatives have no control over IGFs and cannot influence transfer of IGFs to their jurisdictions. Furthermore, donor funds were excluded from the allocation because most donor funds are specifically targeted at some jurisdictions. Thus, they are not often allocated nationwide.

2) The patronage of social services (education) by households on regional basis, here we were interested in both enrolment data for basic schools and household expenditure on basic services – (2004-2016);

3) Regional distribution of government positions – (2004-2016); 4) regional population data and data on population of school going children aged 4 – 14 years (2004-2016);

5) Number of schools in each region (2004-2016); regional population data (2004-2016); data on population of school going children aged 4-14 years (2004-2016); and

6) Data on disbursement of the US$75.5 million to the 75 Ghana Partnership Education Grant (GPEG) beneficiary districts.

Consequently, secondary data was mainly utilised for data gathering process for the quantitative part of the study. Parliamentary reports which normally document the appointment of individuals to political positions were used for collection of political representation data. Also relevant population census reports, particularly the 2010 census report, and household expenditure data on basic education were gathered from the Ghana Statistical Service. Furthermore, Government annual budgetary documents as well as actual government expenditures, newspapers, published and unpublished documents were all used in the data gathering process.

For the qualitative part both primary and secondary data collection methods were used. The secondary documents that were analysed include government documents such as development blueprints specifically, the GPEG project implementation manual-2013 (Ministry of Education, 2013), the GPEG project implementation status report-2014 (Ministry of Education, 2014) and the GPEG project completion report-2016 (Ministry of Education, 2016). Finally, primary data collection technique used was the interview technique. One of the most effective ways to learn about the condition of people's lives is to ask them (Berg & Lune, 2012).

One advantage of the qualitative studies and for that matter case study is that, the researcher is able to triangulate data. Triangulation is basically a technique that facilitates the validation of data through a process of cross-verification from two or more sources (Marshall & Rossman, 2011). Triangulation can be done through data gathering from multiple sources, using multiple methods, and using multiple theoretical lenses. For example, this study collects both interviews and content analysis, these different data collection techniques used to study the same phenomenon. Contradictory data may be an indication of false data being given to the researcher from one of the data sources which would alert a researcher to dig deeper. Other ways of triangulation include searching for disconfirming evidence and

engaging in reflexivity. In terms of searching for disconfirming evidence, the study did not limit the interviews to the implementers of the programme (Ghana Education Service). Interviews were extended to include the beneficiaries of the programme to ascertain their perspective on the performance of the programme. On the use of reflexivity, the researcher reflected over the responses from time to time which led to follow up interviews mostly via phone and even 'Whatsapp' chats.

The use of interviews and secondary data in academic research have a number of limitations. The challenges encountered in the collecting the especially secondary data on actual government expenditure have already been well documented in Chapter One under the section that discusses the limitations of the study. Fortunately, apart the difficulty encountered in the gathering actual expenditure data, gathering the rest of the data was less hectic. The table below provides details on the sources of the entire data that was used in this study.

Table 4.3: List of Data Sources

Data description	**Institution**	**Reference year**
1. Regional population	GSS	2004-2016
2. Enrolment in primary schools by region	GES/EMIS	2004-2016
3. Enrollment in JHS by region	GES/EMIS	2004-2016
4. Enrolment in Kindergarten	GES/EMIS	2004-2016
5. Population of school going children (4-14 years)	GES/EMIS	2004-2016
6. Number of Schools by region	GES/EMIS	2004-2016
7. Expenditure on basic education by region	GES Accounts Office and a Researcher from the University of Ghana	2004-2016
8. Political representation data	Parliamentary reports and Abdulai (2012)	2004-2016
9. GPEG disbursement data	GES	2004-2016
10. Interviews	GES headquarters,	January-February,

	Savelugu district education office and some selected schools in the district	2017

Source: Author's Compilation

4.9 Operational Definition, Measures and Specification of Variables

This section intends to clarify, measure and quantify the variables used in this study. The variables used in this study include: net enrolment ratio in basic schools, resource, political representation, population size, number of schools and population of school children. Net enrolment ratio in basic schools and resource are the dependent variables. Political representation is an independent variable and the rest of the variables are control variables, including population size, number of schools and population of school children. The rest of this section discusses each of the variables.

Resource

Resource, as used in this study, mainly refer to government's annual budgetary allocations. This study limits its analysis to resource allocation to the education sector and within the education sector, the allocation is further narrowed down to allocations to the Ghana Education Service (GES) which is in charge of basic and secondary education. For purposes of this analysis, the budgetary allocations will not be used, rather, actual expenditures would be used. The study chose to use actual expenditure because the amounts that are stated in the budget are not often the exact amounts released to governmental units. The actual receipts are not always the same as the budgeted amount, they are either less or more. Reinikka & Svensson (2004) found differences between government budgetary allocation and actual spending. Abdulai (2012) also used actual spending instead of budgetary allocations. Consequently, this study chose to use actual institutional spending, as it gives a better and more accurate forecast. Furthermore, it is important to mention that only Government of Ghana - GoG allocations were used for the analysis. Therefore, the allocations used for this study did not include donor funds, internally generated funds

and other non-GoG funds. Data on actual expenditures of the various regions were gathered from the Ghana Education Service. The study anticipated a positive relationship between resource and political representation in model 2.

Net Enrolment Ratio in Basic Education

The Net Enrolment Ratio (NER) in basic schools is a dependent variable and it is used as the measure of development disparity, that is differences in enrolment ratios across administrative regions. Development may relate to any field, including social, political, physical, psychological or moral and can thus be measured using subjective or objective indicators. Objective indicators must be quantifiable and measurable like income, health, education, doctor per thousand inhabitants etc. (Molle, 2007; Rajalakshmi, 2013). Different studies have used different indicators to measure development or development disparity. The use of an educational indicator in this study is based on the fact that education has been widely regarded as a key element in the development process. In some studies primary school enrolment rates and educational attainment constitute measures for wellbeing (Sahn & Stifel 2003). Furthermore, investment in education can contribute to economic development and raise income of the poor just as investment in physical capital (Easterly, 2002; Higgins, 2009; Psacharapoulos & Woodhall, 1985; Songsore, 2003). It is even asserted that many natural resource endowed nations have recorded slower economic growth than other countries that are less well-endowed because they have devoted inadequate expenditure to education (Gylfason, 2000). The HDI also includes education as one of the indicators for development(UNDP, 2016). It is therefore not out of order for this study to use an educational indicator as a measure of development. The HDI, in particular, measures education using two dimensions: 1. the mean years of schooling for adults aged 25 years or more and 2. expected years of schooling for children of school entering age. Yearly data on the two indicators used by the HDI are not computed by Ghana Education Service. Consequently, this study used Net Enrolment Ratio in basic schools as a proxy for development or development disparity. Annual NER data are accessible on the Ghana Education Service website. Basic school in comprises KG, Primary and JHS.

Political Representation

The measures used to capture political representation vary from country to country due to variations in political systems. Many studies have identified representation per-capita as one of the measures of political representation (Atlas et al., 1995; Boex & Martinez-vazquez, 2005; Porto & Sanguinetti, 2001). Abdulai (2012) also identifies absolute representation, relative representation (which is equivalent to representation per-capita) and the representation index. This study uses absolute representation as a measure of political representation. Absolute representation measures the quantitative/absolute distribution of government positions accruing to each regional unit. For example, if region 'A' has ten representatives we use just ten. Unlike other studies that have used per capita representation, absolute representation is used here because the study controls for the effect of population.

The Control Variables

The rest of the variables used in this study are population size measured as population in thousands, number of schools in thousands and population of school children in thousands. These are the control variables in the study and they are quite straight forward and do not need any elaboration. These variables are computed annually by the Ghana Education Service.

Table 4.4: Variable specification

Variable	**Measurement**	**Source of Data**	**Empirical Support**	**Expected Sign**
Basic_net (DV)	Net enrolment ratio	GES/EMIS	Sahn & Stifel (2003); Gylfason (2000); HDI	N/A
Lexp (DV)	Log of absolute expenditure	GES	Abdulai (2012)	N/A
Prep (IV)	Absolute representation	Parliamentart reports/Abdulai (2012)	Atlas et al (1995); Porto & Sanguinetti (2001)	+
Pop (CV)	Population	GSS	Boex (2003): Boex & Martinez-Vazquez (2005)	+
Child (CV)	Population of school children (4-14 years)	GES/EMIS	Boex (2003); Hendriks (2016)	+
Sch (C V)	Total number of schools	GES/EMIS	Field interview (2017)	+

Where DV means dependent variable, IV means independent variable and CV means control variable.

4.10 Managing, Analyzing and Interpreting

The analysis of data for this study shall be done in two phases, quantitative and qualitative. The quantitative phase further involves three distinct analyses 1) analysis of the regional distribution of political power 2) a TSCS analysis to establish whether there is a causal relationship between political representation and development disparity and 3) a benefit incidence analysis to determine whether poor regions are targeted by government allocations or not.

4.10.1 The analysis of regional distribution of power

1. The starting point was to compile a list of all ministers and deputies of all government ministries from 2004-2016. This task was made quite easy as the list of ministers from 2004-2008 were found in Abdulai (2012). This means there were only eight years left to cover. To obtain the list of ministers from 2009-2016, I made use of mainly parliamentary reports, and since the reports are produced on daily bases one would need to know the specific reports that contained this. To do this I used a Google search and newspapers that reported these appointments. The major challenge with the compilation of the list had to do with frequent reshuffles of ministers. It was indeed a difficult task to keep track of all the changes, but in order to ensure accuracy of the list I used a lot of triangulation ranging from newspapers to personal verification with the Parliamentary Librarian and with the Director of the Parliamentary Appointment Committee – PAC.
2. The next task was to identify the regional affiliation of each office holder. Langer, in his study, was able to do this in the Ivory Coast by inferring the origin from their names (Langer, 2004 cited in Abdulai, 2012). The same cannot be done in the case of Ghana. Abdulai (2012) identified two challenges in identifying the regional affiliation of office holders in the Ghanaian context. First, it is difficult to determine where a minister or bureaucrat calls a home town since six out of the ten regions of Ghana are dominated by Akans, consequently, making it impossible to make inferences on the region of origin of persons by using their names. Second, in Ghana, MPs serve in constituencies or regions, they do not consider as their region of origin. Following Abdulai (2012), this study considered those politicians as part of the regions in which they had served or were presently serving as Members of Parliament, taking into consideration the strong clientelist relations between Ghanaian MPs and their constituents.

In order to identify the region of origin of ministers, I had to rely on key informant who had knowledge on the region of origin of the ministers. These key informants were mostly politicians, but I had to make sure that the information I was

fed was accurate, reliable and valid. Consequently, this information was cross-checked with the Parliamentary Librarian and the Director of PAC to make sure that the information was right. Besides, some of the ministers are well known to almost every Ghanaian, for such ministers I did not need to verify the origin since their region of origin was in the public domain.

- Lindermann (2010) and Abdulai (2012) note that from the angle of equitable regional development, two vital issues should be looked out for when dealing with the inclusiveness of apolitical regime. The first is to account for each region's percentage share of the total population to its share representation in government, so as to ascertain the equitability of the ***quantitative*** distribution of political power. The second is to note that the qualitative sharing of cabinet position is predisposed to understating inequalities in positions of power. This second distinction is crucial because the power of patronage differs greatly across different ministerial portfolios. Thus, the qualitative distribution of actual governmental powers might be different from the quantitative distribution of positions and should be distinguished in the study to examine which regions have the most prominent positions and thereby the real decision making powers. Unfortunately, this study is unable to make such distinctions because the period under consideration is quite short, thereby posing some methodological challenges when an attempt was made to make such distinctions. Details of this challenge is discussed in Chapter Eight under Limitations of the Study.

Consequently, this study used absolute representation as a measure of political representation. Per capita representation was not used because the study controls for population which takes care of the equity issues Lindermann (2010) and Abdulai (2012) mentioned above. Absolute representation measures the quantitative distribution of government positions accruing to each sub governmental unit in absolute terms.

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4.10.2 Times Series Cross Section Analysis

The first objective of this study attempted to identify the relationship between variables across individual units (10) over time (2004-2016). The relationship between representation and disparity in enrolment in basic schools and the relationship between representation and resource allocation across spatial units

and time were measured. In order to establish the above stated relationships, the study focussed on education sector.

The study focussed on education because it is generally considered an important determinant of development, particularly human capital development. It is therefore not surprising that it is among the key goals of the MDGs. Similarly, literacy rate or years of schooling is one of the three indicators of the Human Development Index HDI (Streeten, 1994; United Nations, 2000). Furthermore, education has been widely linked to both economic growth and poverty reduction. Primary and secondary school attainment, in particular, have been argued in the literature to have profound impact on poverty reduction (Easterly, 2002; Songsore, 2003; Higgins, 2009). Besides the poverty reducing and growth potential of education, the government of Ghana tends to devote a lot of social sector expenditure on education. The education sector constituted 23.6 percent and 22.7 percent of government expenditure in 2013 (World Bank, 2016). Furthermore, the government has consistently met the UNESCO target of allocating 6 percent of GDP to education. With a global average of about 5 percent, Ghana spends about 6 percent of its GDP on education which makes Ghana one of the highest investors in education in the world. In 2015 it spent over 6 percent of GDP and over 30 percent of total government budget in the education sector and in 2017, the government spent 15.3 percent of total national budget on education. Although the 2017 figure in percentage terms is a decline compared to 2015 and 2016, in real value however, it is still higher than those of 2015 and 2016. The rate of growth of the sector between 2015 and 2017 in nominal terms is approximately 24 percent (Abdulai & Hickey, 2016; Afful, 2015; Ministry of Finance, 2017). Also, the focus on education becomes even more pronounce as a result of inequalities in the sector especially at the regional level.

In order to establish whether or not there is a causal relationship among political representation, development disparity and resource allocation, a TSCS dataset was collected across ten units and over thirteen years. A TSCS dataset consist of repeated observation on a series of fixed units. Our data thus exhibit the characteristics of a TSCS data, since there are ten fixed cross section which were observed over thirteen years. TSCS data can either be pooled or a panelled cross section. A pooled cross section is characterised by a short period of observation, for

example, a combination of 20 firms over a short period of time say a year or two. It is basically a snapshot. A panelled cross section, on the other hand, is a special kind of pooled cross section in which a fixed cross section is surveyed over a given period of time (Edekin, 2017).

TSCS data can be analysed using different econometric techniques including OLS, Dynamic OLS, and Autoregressive Distributive Lag ARDL, among others. The choice of technique generally depends on the characteristics of the data – whether the series are I (0), I (1), or a combination of I (0) and I (1). For this study the ARDL technique was used for the analysis, this was done using eviews. Details of the technique are discussed in the next chapter

4.10.3 The GPEG Expenditure and Benefit Incidence Analysis – BIA

Objective three of the study sought to examine whether government was making any conscious effort in bridging disparities through pro-poor allocations. To achieve the said objective, the study examined the Ghana Partnership Education Grant GPEG, a social intervention aimed at improving the quality of basic education in deprived districts. Strategies used for analysing the GPEG project were content analysis, qualitative interview analysis and BIA. The content analysis and qualitative interview analysis are discussed in the next section, while the BIA is discussed in this section.

The BIA analysis measured the transfer effect (benefit incidence) of GPEG funds to the various regions. In other words, it analysed the degree to which GPEG disproportionately benefitted poor regions as a mechanism of reducing inequality and poverty in those regions. A benefit incidence analysis helps to establish whether government expenditure is targeted at poor regions or not. Results from the BIA has the prospect of influencing public expenditure decisions when decision makers become aware of the extent to which state subsidies affect the poor.

Four reasons have been advanced by Demery (2000) for classifying education spending as a suitable candidate for the analysis of benefits that accrue to the public. 1) It is one of the most important services the poor need to escape from poverty. Whatever the level of analysis (micro or macro), education is said to be vital

for poverty reduction. 2) Education spending is considered to be subject to high levels of external benefits, and so a strong case can be made for the continued involvement of the state in its funding. 3) Governments generally devote a significant proportion of their budgets to educate. 4) Data on the use of education services (enrolment figures) are commonly found in household surveys. For these reasons education spending lends itself to benefit incidence analysis. Following Buracom (2011) four main steps shall be followed in calculating the benefit incidence of government spending on education:

1. The average unit cost of providing a public service is obtained by dividing government spending on the service by the total number of users of the service. In the case of education, users are both the basic and the secondary school children.
2. Average benefit from government spending on a service is simply equated with the average unit cost of providing the service as derived from the previous step.
3. Unlike Buracom (2011) who ranked the population of users (individuals or households) from poorest to richest, using an income measure and aggregating it into income classes. I choose to rank the population of users from poorest to richest using an income measure, but instead of aggregating the population into income classes, I aggregate them on a regional basis. According to Demery (2000), although the most common grouping is by income/expenditure class, many other means of disaggregation are possible – regional groupings are conventionally (though not necessarily) applied along with income – or expenditure-based groupings. Also, Krongkaew (1979) computes benefit incidence on a regional basis.
4. The distribution of benefits across regional grouping obtained by multiplying the average benefit derived from the previous step by the number of users of the service in each regional group. The decile shares of benefits accrued to each regional group from a public service is simply the total benefits thus derived for each region divided by the total spending on the service across regional groups.

I used excel for the calculation of the benefit incidence.

4.10.4 Qualitative Analysis GPEG Expenditure

The qualitative phase of the GPEG analysis sought mainly to triangulate the BIA of GPEG and also to examine whether political representation had any form of influence on the allocation of GPEG funds, which are independent of mainstream budgetary allocation. A combination of interviews and content analyses were employed for the analysis of the GPEG case.

For the interviews, a total of twelve interviews and one FGD were conducted. The study adopted an interpretative analysis approach which makes it possible for interviews and observational data to be transcribed into written text for analysis (Berg & Lune, 2012). The transcribed interviews are then put through several stages including organizing the data, immersion in the data, generating categories and themes, coding the data, offering interpretation through analytic memos, searching for alternative understanding and writing the final report.

For the content analysis, three documents were examined: the GPEG project implementation manual (2013), GPEG implementation status report (2015) and the GPEG project completion report (2016). Content analysis is a careful, detailed, systematic examination and interpretation of a particular of material in an effort to identify patterns, themes, biases and meanings(Berg & Lune, 2012). Content analysis is performed on a different forms of human communications which may include written documents, photographs, motion pictures or videotape and audiotapes. The analysis is designed to 'code' the content as data in a form that can be used to address research questions. Content analysis is used by a wide variety of disciplines including sociology, psychology, political science, education, business, journalism and arts. Irrespective of where it is used, content analysis is chiefly is simply *a coding operation and data interpreting process* (Berg & Lune, 2012)

4.11 Issues of Reliability and Validity

This section discusses issues bordering on reliability and validity in the use secondary data and qualitative inquiry. There is division in the research community regarding whether studies that use secondary data should worry about issues of validity and reliability or not. Since this study combines both secondary data and

qualitative inquiry, the issues of validity and reliability of both secondary data and qualitative studies were explored.

We started by discussing reliability and validity of the qualitative part of the study. According to Morse and Richards (2002), people who claim that reliability and validity have no place in qualitative inquiry, seek to place the entire paradigm under suspicion (Morse & Richards 2002, cited in Marshall & Rossman 2011). One common way used by qualitative researchers to enhance trustworthiness is triangulation methods (interviews and analysis of documents) and member checking which involve giving out summaries to participants for their reactions, corrections, and further insights with the main objective of ensuring that their views are accurately captured.

This study employed both interviews and analysis of documents to check both the validity and the reliability of the information that was given. The use of member checks was not possible, because of limited time on the part of the researcher and also due to busy schedules of participants who could not guarantee early response to the study. The weakness of these approaches is the emphasis on convergence and corroboration which may lead to reliability but does not necessarily translate into validity. For this reason, extra effort was put in by the researcher to ascertain reliable and valid information.

For the quantitative part of the study which used purely secondary data, the study ensured validity and reliability of the data through different means. First of all, there are primary sources of secondary data and secondary sources of secondary data. For example, census reports are primary sources of secondary data but when the primary sources are taken through that they may modify the data, results out of that process become a secondary source of secondary data (Tasić & Feruh, 2012). The reliability of secondary data increases when it is a primary source of secondary data. All the data used in this study are primary sources of secondary data, collected directly from the institutions in charge of gathering such data.

Secondly, data for the study were principally collected from three sources namely, the Ghana Statistical Service GSS, the Ghana Education Service GES and the Parliament of Ghana. These are government agencies with the main mandate for/of overseeing such information. The data from GSS and GES in particular are technical

and for this reason, competent professionals are recruited for designing and collecting data. For issues of reliability and validity, one should be concerned if the data were collected from the appropriate population, whether the right sample size was used or and whether the variable measures what it is intended to measure.

On the issue of whether the data were collected from the appropriate population, for the GSS one can be 100 percent sure, since these data, are normally collected within Ghana, and data on foreign nationals are also collected. Similarly, one can trust the data from the GES since their mandate is purely education and they have jurisdiction over all basic and second cycle institutions. On whether the right sample size was used for the data collection, the GES collects data on the entire population of students, and thus there is no need to worry about the appropriateness of sample size.

On the other hand, the GSS collects random data from the population and that matter there is the need to validate whether the appropriate sample size was used or not. According to Research Advisors (2006), with a population of 25,000,000; a confidence level of 99 percent and a margin of error of 1.0 percent, a sample size of 9,972 will suffice. In order to validate the appropriateness of samples used by the GSS, I validated their latest report, the GLSS (6) and proceeded to generalise based on the GLSS (6) that all past reports of the GSS are valid. The GLSS (6) was conducted in 2012/2013 and the population of Ghana in 2013 was 25,009,153. The GLSS (6) sampled 18,000 households for this particular survey (GLSS 6, 2014). Clearly, a sample of 18,000 households at 99 percent confident level and a margin of error of 1.0 percent is over-sampling since they needed just 9,972 households. Thus, the GSS used twice the sample that is required for the survey. From there, we proceed with confidence, that the data used for this study are both valid and reliable.

4.12 Ethical Consideration

Issues of ethics are highly valued by the research community. Marshall and Rossman (2011) note that issues of ethics in research have been reduced to procedural matters of obtaining the informed consent of participants. Following this observation, this study moves beyond obtaining informed consent from participants to

incorporating issues of ‘respect for persons, beneficence and justice’ (Marshall & Rossman 2011, p.47). Respect for persons includes the seeking of informed consent and the protection of the identity of participants (anonymity). In the qualitative analysis in particular, conscious effort has been made to protect the identity of respondents by refraining from using the names of respondents.

The study also ensured that participants are not used as means to an end – that is assuring participants that their privacy shall be respected but not invaded. Also, the dictum of beneficence was a guiding principle throughout the study; for instance, I made available soft copies of budgetary allocation data I had compiled to the GES and I gave a soft copy of the list of ministers to the Parliamentary Library. Hitherto, the library had not had a single document that contained such iformation of a ministerial list.

4.13 Chapter Summary

The methodology section of any thesis determines to a large extent whether the thesis can be accomplished or not. A step by step demonstration of how research objectives and questions were handled were discussed in this chapter. As clearly pointed out in the preceding sections, the study employed a mixed method approach, that is, a combination of both qualitative and quantitative research approaches. The adoption of a mixed method approach allowed the researcher to dig deeper into why certain results were obtained or not. It made it possible to explain the reasons behind the numbers derived from the quantitative analysis. In the next chapter the data preparation and model estimation are discussed.

CHAPTER 5

DATA PREPARATION AND SELECTION OF ESTIMATION TECHNIQUE

5.1 Introduction

This chapter focusses on the preparation of the data for analysis and the selection of the appropriate estimation technique. The study sets out to establish whether there is a causal relationship between political representation and development disparity. The data collected for this analysis was Time Series Cross Sectional-TSCS data which are most suitable for establishing causal relationships between two or more variables. There are very few techniques available for estimating long run relationship based on pattern of variables whether they are stationary or non-stationary series. One of the techniques usually employed in estimating TSCS data is the Autoregressive Distributive-Lag, the ARDL technique. The ARDL was used in this study. This chapter is organised into five section. Section two briefly discusses the concept of stationary and non-stationary series, the third section performs a panel unit root test. Section four presents the ARDL model and section five concludes.

5.2 Stationary and Non-Stationary Series Concept

Non-stationary data are normally data points that have means, variances and covariances that change over time. Non-stationary data are unpredictable and cannot be modelled or forecast (Iordanova, n.d.; Nason, 2006; Nkoro & Uko, 2016). The results obtained from using non-stationary series may be spurious in the sense that they may indicate a relationship between two variables where one does not exist. In order obtained consistent and reliable results, the non-stationary data needs to be converted into a stationary data. On the other hand, stationary data mutates around a constant long term mean and has a constant variance independent of time.

A non-stationary time series could be Trend Stationary (deterministic), Process (TSP) or Difference Stationary Process (DSP). A series is said to be trend stationary if the trend is completely predictable and not variable; and where it is not predictable, it is called difference or integrated stochastic trend. In the case of deterministic trend, the divergence from the mean is purely random and will die out quickly. Thus, the deterministic trend does not affect the long run development of time series. But in the case of the integrated stochastic trend, the divergence affects the long run development of the series. In order to use time series with these features in an empirical analysis, the series must be transformed into stationary series.

If the series is a difference stationary process, the differencing of such a process makes it stationary. That is subtracting Y_{it-1} from Y_{it}, taking the difference Y_{it}-Y_{it-1} and then the process becomes differenced stationary. The disadvantage with differencing is that the process loses one observation each time the difference is taken (Iordanova, undated). A non-stationary series with a deterministic trend maybe I (0) after regressing such series on time (detrending). No observation is lost when detrending is used to transform a non-stationary series to a stationary one. Thus, the two types of non-stationary series can be resolved by either differencing or regressing on time. However, it is possible for a non-stationary series to combine characteristics of stochastic and deterministic trends at the same time. In order to avoid misleading results, it is better to difference and detrend at the same time.

Most time series tend to be DSP and when such time series are used in estimating a model, the OLS traditional diagnostic for evaluation, such coefficients of determination (R^2), Fisher's ratio (F-Statistic), t-statistic etc. become highly misleading and unreliable in terms of forecast and policy (Nkoro & Uko, 2016). Thus the non-stationary series generally violate the assumption(s) of OLS.

Many time series variables are stationary only after differencing, and as already mentioned above, using differenced variables results in the loss of relevant long run properties. Cointegration then becomes the solution to retrieve the long run information of the relationship between variables. Cointegration is the basis for obtaining realistic estimates of a model – it is concerned with analysis of long run relationship between variables. Under conventional Granger (1981) and Eagle and Granger (1987), cointegration analysis is not applicable where the variables are

integrated of different orders I (0) and I (1), while in Johansen and Juselius (1990) the ARDL cointegration procedure allows for a combination of I (0) and I (1) series. It is therefore in order to prepare the data for estimation by first checking whether the variables to be analysed are all I (0), I (1) or the combination of both or even I (2). It is only when we know the order of variables that an appropriate estimation technique can be selected. The panel unit root test is the technique often used to check stationarity of variables.

5.3 Panel Unit Root Test

In statistics, a unit root test tests whether a time series variable is stationary or non-stationary. If a variable is stationary, it means it has no unit root but if a variable is non-stationary, it means it has a unit root. Furthermore, a variable that is stationary (no unit root) implies there is no need to worry about the possibility of spurious regression. Thus, this study proceeds to test for unit root. In general, the unit root testing approach assumes that the time series to be tested can be written as:

$$y_{it} = \rho_i y_{it-1} + X_{it}\delta_t + \epsilon_{it}$$

Where $i = 1, 2, \ldots N$ cross-section unit or series observed over periods $t = 1, 2, \ldots, T_i$. The X_{it} represents the exogenous variables, p_i are the coefficients and ϵ_{it} is the disturbance term in the model. If $p_i < 1$, it is said to be weakly stationary. On the other hand if $p_i = 1$ then y_i has unit root or is non-stationary.

There are several unit root test procedures. In some tests, it is assumed the parameters are common for all cross sections so that $p_i = p$ for all *i*. For the sake of a convergence hypothesis, these tests will not suffice. The Levin, Lin, and Chu (2002) and Breitung and Das (2005) tests both employ this assumption. There are some other tests in which p_i can be varied, in other words, it allows for convergence hypothesis. The Im, Pesaran, and Shin (2003) – (IPS, 2003) and Fisher-ADF are of this form.

The IPS (2003) proposed a standardized *t*-bar test statistic based on the Augmented Dickey-Fuller statistics averaged across groups and included a separate ADF regression for each cross section.

$$\Delta y_{it} = \alpha y_{it-1} + \sum_{j=1}^{p_i} \beta_{ij} \Delta y_{it-j} + X_{\iota t} \delta' + \epsilon_{\iota t}$$

Which may be interpreted as different alternative hypotheses for different cross sections. After estimating the ADF for all cross sections separately, the average of the t-statistics and α_i from the individual ADF regressions $t_{iT_i}\ (p_i)$:

$$\overline{t_{NT}} = \left(\sum_{i=1}^{N} t_{iT_i}\ (p_i) \right) / N$$

This can be used for the unit root test for a panel data set. Though it allows a convergence hypothesis, the limitation of the IPS test is that the time dimension *T* has to be same for all cross-sections, in other words, it does not allow for unbalanced panel data.

Maddala and Wu (1999) proposed the use of the Fisher ($p\lambda$) test which is based on combining the probability value (p-values) of the test-statistic for a unit root in each cross-sectional unit. Let πi be the p-values from the *i*th-test such that πi are uniform distribution over [0, 1] or U [0, 1] and independent. And $p_\lambda = -2\sum_{i=1}^{N} log_e \pi_i$ has a $\chi 2$ distribution with 2 degrees of freedom. The null and alternative hypotheses are the same as in the IPS test.

Though both IPS and Fisher's test proposed by Maddala and Wu (1999) allow for convergence hypothesis, Fisher's test is more meaningful for both balanced and unbalanced data. Thus, T can be varied over cross-section. In addition, the ADF test is commonly used in most studies (Nkoro & Uko, 2016). Therefore, we proceed to perform unit root test for the dependent and independent variables using the ADF test.

5.4 Autoregressive Distributive Lag Model (ARDL)

ARDL cointegration technique is employed when dealing with variables that have a stochastic trend of I(0) or I(1) or a combination of both. According to the results of the unit root test, the variables under consideration are a combination of I (0) and I (1) which makes the ARDL model a suitable technique for this study.

Researchers in the past often assumed that all time series data were stationary and as such exhibited a long run relationship. As a result, it was normal to formulate an econometric model in the conventional way by assuming that the means and variances of the variables were constant not depending on time (Beck, 2001; Nkoro & Uko, 2016).

However, recent studies have revealed that most time series are not stationary as conventionally thought, thus, it is possible to see some time series that tend to diverge away from their mean over time while others may converge. Thus, the classical estimation of variables with this relationships most times gives misleading inferences or even spurious regression (Nkoro & Uko, 2016). The Granger (1981) and Engle and Granger (1987) Autoregressive Distributed Lag (ARDL) cointegration technique or bound test of cointegration Pesaran, Shin and Smith (2001) have become the solution in determining long run relationships between series that are non-stationary. Non-stationary series that have a deterministic trend or difference stationary can be modelled directly into an ARDL model by including the lags and difference of non-stationary series. The technique is also able to re-parameterise them to the Error Correction Mechanism (ECM). The ECM gives short run dynamics and a long run relationship of the underlying variables.

The ARDL technique, therefore, has a number of advantages. Besides the ability to detect short run and long run relationships, it can solve the small sample size problem. Also, the ARDL approach can be applied irrespective of whether the underlying regressors are purely first order I (1), purely zero order I (0), or a mixture of both. Another advantage of the ARDL approach is that it allows for the inclusion of dummy variables in the cointegration test process. The example of ARDL (2.2.2.2) model is as follows:

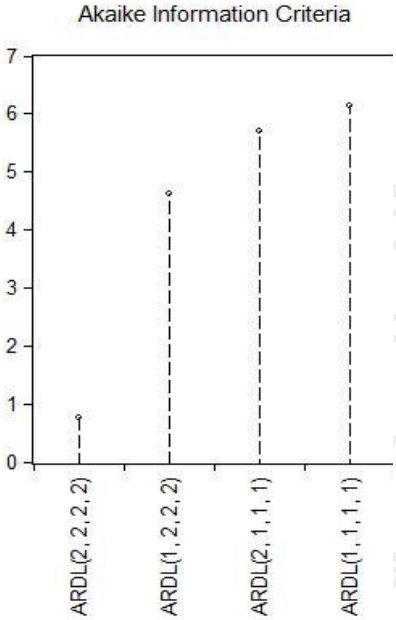
$$\begin{aligned}\Delta y_{it} = \alpha_0 + \alpha_1 \Delta y_{it-1} + \alpha_2 \Delta x1_{it} + \alpha_3 \Delta x1_{it-1} + \alpha_4 \Delta x2_{it} + \alpha_5 \Delta x2_{it-1} \\ + \alpha_6 \Delta x3_{it} + \alpha_7 \Delta x3_{it-1} + \beta_1 y_{it-1} + \beta_2 x1_{t-1} + \beta_3 x2_{t-1} \\ + \beta_4 x3_{t-1} + \varepsilon_t\end{aligned}$$

In this thesis, we tried to show the long run association and the short run dynamics of the two models. In the first model we wanted to observe the long run

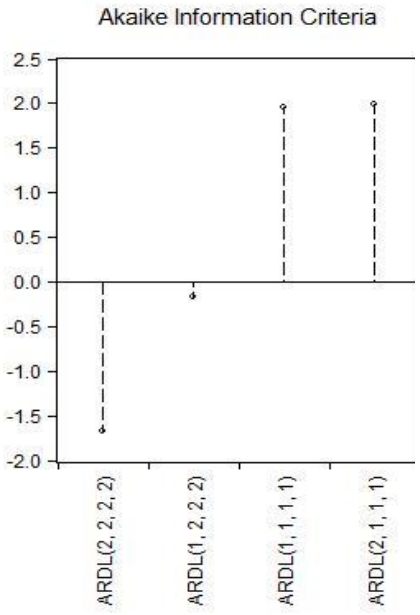
effect of political representation on net enrolment, whereas in the second ADRL model we tried to show the relationship between political representation and public education expenditure or resource allocation. We controlled for regional population and number of school for the first model (see equation 4), which might have the effects in net enrolment. For the second model in equation (5) we controlled for population of school going children and number of school.

In the second ARDL model, we wanted to find out whether political representation has a long run effect on development disparity or not. We used net enrolment in basic education as a proxy for development. The model was to help us test the assumptions of the power relations theory whether differences in development across regions are as a result of unequal representation in national politics. Therefore, we expect political representation to have a positive impact on educational outcome in the long run. In the short run there may not be any observed relationships since it takes longer time for the impact of policy or any government spending to materialise.

In the second ARDL model, we wanted to find out whether political representation has both a short run and a long run relationship with resource allocation. According to the public choice theory and many empirical studies political representation tends to have a positive effect on resource allocation (Abdulai & Hickey, 2016; Porto & Sanguinetti, 2001; Salman, 2007; Su & Yang, 2016). Similarly, the power relations theory believes that resource allocation is the main mechanism through which development disparity evolves and persists. It is assumed that political representation affects resource allocation which in turn affect development outcomes. The second ARDL model is therefore introduced to principally test whether there is a long run and a short run relationship between political representation and resource allocation. The study expects to find a positive relationship between political representation and resource allocation while there may not be a relationship between the variables in the short run. The optimal lag length is selected by the Akaike Criterion (AIC) or the Shwartz Criterion (SIC). The figure below provides results of AIC for both model.



For ARDL model (1) in equation (4)



For ARDL model (1) in equation (5)

Figure 5.1**:** Results of Akaike Information Criterion

From the above graphs, the models with the two-year lag length should be selected per the AIC criterion for both model. According to AIC, the lag length with lower values best fits the model. Therefore, our ARDL model is as follows:

$$\Delta basic\_net_{it} = \alpha_0 + \alpha_1 \Delta basic\_net_{it-1} + \alpha_2 \Delta prep_{it} + \alpha_3 \Delta prep_{it-1} + \alpha_4 \Delta pop_{it} + \alpha_5 \Delta pop_{it-1} + \alpha_6 \Delta sch_{it} + \alpha_7 \Delta sch_{it-1} + \beta_1 basic\_net_{it-1} + \beta_2 prep_{t-1} + \beta_3 pop_{t-1} + \beta_4 sch_{t-1} + \varepsilon_t$$

$$\Delta lexp_{it} = \gamma_0 + \gamma_1 \Delta lexp_{it-1} + \gamma_2 \Delta prep_{it} + \gamma_3 \Delta prep_{it-1} + \gamma_4 \Delta child_{it} + \gamma_5 \Delta child_{it-1} + \gamma_6 \Delta sch_{it} + \gamma_7 \Delta sch_{it-1} + \delta_1 lexp_{it-1} + \delta_2 prep_{t-1} + \delta_3 child_{t-1} + \delta_4 sch_{t-1} + \varepsilon_t$$

Where $\Delta Basic\_net_{it}$, $\Delta Prep_{it}$, $\Delta lexp_{it}$, ΔPop_{it} ΔSch_{it}, $\Delta Child_{it}$, denote the first difference of the variables which capture their short-run disturbances; i = 1, 2, …, N regions over periods t = 1, 2, …, T; ϵ_{it} is the white noise error term and $Basic\_net_{it-1}$, $Prep_{it-1}$, $lexp_{it-1}$, Pop_{it-1}, Sch_{it-1} and $Child_{it-1}$ denote the error correction term, ECT, that is resultant from the long-run cointegration association and evaluates the extent of the past disequilibrium. The coefficient of ECT determines the deviation of the dependent variable from a long-run equilibrium

We needed to check whether $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ and $\delta_1 = \delta_2 = \delta_3 = \delta_4 = 0$, which is our null hypothesis for having any long run association among the variables for equation (4) and (5) respectively. This is the null hypothesis which means that there is no cointegration or long run relationship among the variables. From the Wald test, the F-statistics is calculated and compared with the Pesaran table. If the F-statistic is more than the upper bound, then we can reject the null hypothesis.

5.5 Chapter Summary

Having a meaningful research results with meaningful forecast for policy requires the use of appropriate estimation technique. Most research findings and the subsequent policy recommendations suggested are misleading because the wrong estimation techniques were used in analysing the research data. To avoid the trap of misleading results, this chapter discussed pertinent issues in time series data leading to the selection of an estimation technique. The chapter discussed the concept of stationary and non-stationary series, it revealed that data that contains non-stationary series lead to spurious and unreliable results leading to poor understanding and forecasting. The solution to non-stationary series is by transforming such data, so that they become stationary. The panel unit test is the technique that is used for detecting whether a series is stationary or not. It is able to help identify whether a researchers variables are of order I (0), I (1), combination of I (0) and I (1) or even I (2). Test of unit root test for the variables in this study showed they were of order I (0) and I (1). The ARDL model is the only cointegration technique that is able to estimate models that are a combination of I (0) and I (1). Consequently, the ARDL technique was selected as the most appropriate technique for estimating the models in this study.

CHAPTER 6

PRESENTATION OF RESULTS, HYPOTHESIS TESTING AND DISCUSSION

6.1 Introduction

The preceding chapter discussed issues in time series and the selection of an estimation technique. Non-stationary series have the tendency to lead to wrongful interpretations of results, necessitating the need to perform a unit root test. Results from the unit root test indicated that the variables under consideration were of order I(0) and I(1). Similarly, results from AIC tests supported the use of two year lag length in this study. The ARDL model is therefore appropriate for this study for the following reasons; the fact that none of the variables is of order I(2), it also has the ability to deal with issues of non-stationarity in time series data, and finally, it has ability to establish long run cointegration among variables. This chapter is organised into six sections. The second section presents results from the unit root test. Section three presents results of the ARDL estimation, while section four presents results of the hypothesis testing, section five discusses the findings of the study in relation to existing literature, and section six concludes the chapter.

6.2 Panel Unit Root Test

The use of the Fisher (pλ) test for all variables is based on combining the probability value (*p*-values) of the test statistics for a unit root in each cross-sectional unit. A total of six variables were tested to determine whether they are stationary or not. The variables were net enrolment in basic schools (Basic_net), log of expenditure (lexp), number of schools (sch), population of school aged children (child), population (pop) and political representation (prep). The tests showed that the null hypothesis for unit root could be rejected for the variables: net basic enrolment (Basic_net), log of expenditure (lexp), population of school children (child) and number of schools (sch) at level when checked with an individual intercept at 0.05 significant level. Thus, all

these four variables were of order I(0). The variables population (pop) and political representation (prep) are non-stationary when checked at level with individual intercept at 0.05 significant level. However, if the first difference is taken, the tests showed that the null hypothesis for unit root could be rejected for both population (pop) and political representation (prep) at a 0.05 significance level. The results of the panel unit root test are shown in table 6.1.

Table 6.1: Panel Unit Root Test

Variable	**P-value**	**Test Result**	**Null Hypothesis**
$Basic\_net$	0.0001	No unit root	Rejected
$Prep$	0.5637	Has unit root	Fail to Reject
$\Delta Prep$	0.0006	No unit root	Rejected
$Lexp$	0.0115	No unit root	Rejected
$Popu$	1.0000	Has unit root	Fail to Reject
$\Delta Popu$	0.4241	No unit root	Rejected
$child$	0.0000	No unit root	Rejected
sch	0.0066	No unit root	Rejected

Meanwhile, the optimal lag length is automatically selected with the Akaike Information Criterion (AIC) for all variables at a 0.05 level.

6.3 ARDL Estimation Results

This section presents results of the ARDL estimation. The section presents both the long run relationships and short run dynamics among variables. This is made possible by ECM, the ECM allows for the incorporation of both long run and short run information into the model, thereby making it possible to estimate both long run and short run relationships. Table 6.2 presents results of Basic net enrolment (Basic_net) – the explained variable and regressors such as political representation (prep), population (pop) and number of schools (sch).

Table 6.2: Panel ARDL Result

Method: ARDL
Sample: 2006-2016

Included observation: 110

Maximum dependent lags: 2 (Automatic selection)

Model Selection Method: Akaike Info Criterion

Dynamic Regressors (2 lags automatic): PREP, POP, SCH

Number of models evaluated: 4

Selected Model: ARDL (2,2,2,2)

Dependent Variable: D(Basic_Net)

Variable	Coefficient	Std. Error	t.Statistic	Prob.
	Long Run Equation			
Political representation	0.544485	0.005144	105.8530	.0000
Population	9.01E-06	1.83E-07	49.33537	.0000
Number of Schools	0.003884	5.52E-05	70.33392	.0000
	Short Run Equation			
COINTEQ(-1)	-0.660229	0.226095	-2.92015	.0059
D(Basic net enrolment(-1))	0.235298	0.241909	0.972671	.3370
D(Political representation)	-0.951766	1.067380	-0.89168	.3783
D(Political representation(-1))	-0.677446	0.666315	-1.01671	.3159
D(Population)	2.16E-05	3.93E-05	0.549324	.5861
(Population(-1))	-4.21E-05	2.42E-05	-1.74078	.0900
D(Number of schools)	0.019409	0.008529	2.275608	.0288
D(Number of schools(-1))	0.004839	0.004623	1.046700	.3020
Constant	5.622489	4.587147	1.225705	.2281
Mean dependent var	3.110000			
S.E. of regression	2.741708			
Sum of squared resid	278.1277			
Log likelihood	51.41833			
S.D. of dependent var	6.417616			
Akaike info. criterion	0.639718			

df = 2, level of significance = 0.05

The output from the ARDL estimation (table 6.2) can be grouped into two parts. The first part of the output gives a summary of the settings used during the estimation. Here we can observe that automatic selection was employed using the Akaike Information Criterion with a maximum of 2 lags of both the dependent variable and the regressors. Four models were evaluated via the AIC, and out of these models, the procedure selected ARDL (2,2,2,2). For the selection of a suitable ARDL model, the model with the lowest value was considered the best, and per the results of the AIC, model (2,2,2,2) had the lowest value of 0.9. Since the selected model has fewer lags than the maximum lag, the sample used in the estimation would be fewer than the sample used during the selection. The degree of freedom and level of significance are df = 2 and the level of significance = 0.05 respectively.

The second part of the output presents the long-run and short-run causal relationship. The dependent variable is net enrolment in basic education and the independent regressors are political representation, population and number of schools.

Starting with the analysis of short-run relationship. In the short-run, results of all variables are not significant, except number of schools which is significantly and positively related to net enrolment in basic schools (β = 0.028, $p < 0.05$). However, the interesting observation is that all the independent variables are able to converge back to the mean in the long-run. We are able to determine the ability of the variables to converge to the mean in the long-run using the error correction term, depicted as COINTEQ(-1) in table 6.2. To determine the existence of a long-run relationship, the COINTEQ should be negative and significant. Per the results in table 6.2 the COINTEQ has a value of (-0.66) and a significant *p-value* (0.0059). This means there is long-run causality running from independent variables to dependent variable. Another way of interpreting the error correction term is to say that about a 66 percent gap between the long-run equilibrium value and the actual value of the dependent has been corrected. In other words, the speed of adjustment towards long-run equilibrium is 66 percent.

We now turn the attention to the long-run coefficients. From table 6.2, the results show that there is a positive and significant long run relationship between the explained variable and the regressors in the long-run. The existence of long-run

relationships among the variables does not come as a surprise considering the high rate of speed of adjustment. Focussing on the individual variables, it can be observed that there is positive and significant long run relationship between Net enrolment in basic schools and Political representation (β = 0.54, p < 0.05). Population tends to have a positive and a negligible effect on Net enrolment in the long run (β = 0.00000901, p < 0.05). While number of schools has positive and quite significant relationship with Net enrolment in the long run (β = 0.0038, p < 0.05).

With regard to the goodness fit of the model, there are four goodness fit statistics that can be used to determine how well the data fits a model.

- The Sum of Squares due to error (SSE)
- R-square
- Adjusted R-square
- Root means squared error (RMSE)

The output for this study reported the Sum of Squares due to error, it is also called the summed squared of residuals (SSE). The SSE measures the total deviation of the response values from the fits to the response values. An SSE value closer to 0 indicates that the model has a smaller random error component and that the fit will be more useful for prediction (MathWorks, 2017). The SSE for this model is 278.12, a value which very distant from 0. This supposes that the model has a large random error and would not be very useful for prediction. The large random error of the model can be attributed to both the short period under consideration (13 years) and the unavailability of data for variables that could help explain the dependent variable better.

The next table, table 6.3, presents ADRL results for log expenditure (explained variable) and the following regressors: political representation, population of children of school going age and number of schools.

Table 6.3: Panel ARDL Result

Method: ARDL
Sample: 2006-2016

Included observation: 110

Maximum dependent lags: 2 (Automatic selection)

Model Selection Method: Akaike Info Criterion

Dynamic Regressors (2 lags automatic): PREP, CHILD, SCH

Number of models evaluated: 4

Selected Model: ARDL (2,2,2,2)

Dependent Variable: D(LEXP)

Variable	Coefficient	Std. Error	t.Statistic	Prob.
	Long Run Equation			
Political representation	0.137388	0.020223	6.793505	.0000
Child	-3.38E-06	7.15E-07	-4.73394	.0000
Number of Schools	0.001681	4.30E-05	39.06088	.0000
	Short Run Equation			
COINTEQ(-1)	-0.647409	0.155497	-4.1635	.0002
D(Expenditure(-1))	-0.102444	0.113175	-0.90518	.3712
D(Political representation)	0.098902	0.094977	1.041327	.3045
D(Political representation(-1))	0.084976	0.091378	0.929942	.3584
D(Population)	2.23E-05	1.13E-05	1.979544	.0552
(Population(-1))	-8.13E-07	7.54E-06	-0.10772	.9148
D(Number of schools)	-0.003209	0.002659	-1.206964	.2351
D(Number of schools(-1))	-0.000179	0.001686	-0.105901	.9162
Constant	7.157167	2.089399	3.425466	.0015

Mean dependent var	0.227330
S.E. of regression	0.881860
Sum of squared resid	28.77405
Log likelihood	185.2902
S.D. of dependent var	2.094475
Akaike info. criterion	-1.419849

df = 2, level of significance = 0.05

Like in the table 6.2, the automatic selection was employed using the Akaike Information Criterion with a maximum of 2 lags of both dependent variable and the regressors. Four models were evaluated via the AIC and out of these models, the procedure selected ARDL (2,2,2,2). For the selection of a suitable ARDL model, the model with the lowest value was considered the best and per the results of the AIC, model (2,2,2,2) had the lowest value of -1.8, the df = 2 and the level of significance = 0.05. The dependent variable was Log of expenditure and the independent regressors are political representation, population of children of school age and number of schools.

In table 6.3, the dependent variable is log expenditure. Results from table 6.3 shows that in the short-run, all the regressors were found to be not significant. In other words, the regressors did not have any effect on expenditure in the short run. However, in the long-run they turned out to be significant, as evinced in the value of error correction term. The coefficient of COINTEQ was negative and significant ($\beta = -0.64$, $P < 0.0002$), thus satisfying the condition for the existence of long-run cointegration.

In the long run all the independent variables tended to be significant, with two of them having positive relationship with dependent variable (expenditure). In the long- run, political representation was both significantly and positively related to resource allocation (expenditure) ($\beta = 0.13$, $p < 0.05$). Number of schools was also significantly and positively related to resource allocation ($\beta = 0.0016$, $p < 0.05$) and population of school going children was sginicantly related to expenditure but its effect was negative. The negative sign contradicted our expectations. The SSE for the model was 28.77, this was a very good valued relative to the earlier model and it is also quite close to 0. This notwithstanding, the value could have been much lower and more fitting of the model if the time span under consideration had been much longer and if other relevant variables had been present.

6.4 Hypotheses Test Results for the Proposed ARDL Model

The two models estimated in this study presented us with two main hypotheses:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0 \quad (1)$$

$$H_0: \delta_1 = \delta_2 = \delta_3 = \delta_4 = 0 \quad (2)$$

These are two hypothesis for having a long run association for the variables for equation (4) and (5) respectively. The null hypothesis means there is no cointegration of a long run relationship among the variables. From the Wald test, the F-statistics were calculated and compared with the Pesaran table. If the F-statistic had been more than the upper bound, then we can reject the null hypothesis. Another way to test whether a hypothesis was supported or not supported is by using significance level (p-value) of the standard coefficients of the research parameters.

This study adopted the latter. Consequently the level of significance used in this study to determine whether a hypothesis was supported or not ($p \leq 0.05$). If p-value was less than the significance level ($p \leq 0.05$), then we could reject the null hypothesis. In other words, then we could accept the alternate hypothesis that there is long run cointegration among the variables in our models. However, if the p-value was greater than the significance level ($p \leq 0.05$), then we failed to reject the null hypothesis, thus, there was indeed no long run cointegration among our variables. Table 6.4 presents results of hypothesised relationships. The table also includes the coefficients, the critical ratios (t-values) and the corresponding significance level and whether a particular hypothesis was supported or not supported.

Table 6.4: Hypotheses Results for the Proposed ARDL Model

Hypothesis	**Hypothesis Relationship**	**Estimate**	**Prob.**	**Result**
H_1	Prep ⟶ Basic_net	0.544	0.0000	Supported
H_2	Pop ⟶ Basic_net	0.000009	0.0000	Supported
H_3	Sch ⟶ Basic_net	0.003	0.0000	Supported
H_4	Prep ⟶ lexp	0.020	0.0000	Supported
H_5	Child ⟶ lexp	-0.000003	0.0000	Supported
H_6	Sch ⟶ lexp	0.001	0.0000	Supported

6.5 Discussion of Results

This section discusses the results of the research findings which are organised according to the research questions of the study. The ARDL estimation aspect of the study is basically covered by the first two research question. Generally, the study sought to examine the relationship between political representation and development outcomes. It also sought to examine the relationship between political representation and resource allocation. Per the conceptual model of this study, political representation affects development outcomes through resource allocation. Thus, although representation influences development, it does so through resource allocation. Going further, this section is organised into two sub-sections. The first sub-section will discuss the findings in relation to the impact political representation has on both resource allocation and net enrolment, and the second sub-section will discuss the impact of the other factors (population, number of schools and population of school going children) on resource allocation and enrolment.

6.5.1 The relationship between Political Representation, Resource Allocation and Net Enrolment

The results as shown in section 6.2 and 6.3 in this chapter indicate that political representation has significant impact on basic school enrolment and resource allocation. The magnitude of influence that political representation has on resource allocation and net enrolment largely support the theoretical claims of the politics and power relations model which should not be glossed over. One may not be wrong to agree with the power relations literature that development disparities are the result of unbalanced distribution of national resources due to unequal representation in national politics.

The long-run positive relationship between political representation and net enrolment in basic schools in table 6.2 can be explained in two ways. The first explanation would be in relation to political investment towards support groups or regions. It is common in Ghana to see politicians (MPs and Ministers) deeply meshed in the provision of certain social services, particularly educational services. Politicians often engage in the construction and renovation of classroom blocks as a ‘payback’ or ‘down payment’ (Abdulai & Hickey, 2016) for electoral support. The provision of classroom blocks implies an expansion of number of schools in an area and thus increase in net enrolment in basic schools if the relationship between representation and number of schools in table 6.2 is anything to by.

The second explanation for the positive long-term relationship between representation and net enrolment in basic school is that powerful representatives in Ghana tend to have a strong hold on resources and they waste no time in using their influence to ensure that resources are allocated in favour of their electoral base. This argument is in line with (Abdulai & Hickey, 2016) who found that between 1993-2008 the three northern regions experienced the worst forms of marginalization with regards to the allocation of educational resources, mainly because these regions lacked influential representatives at the national level.

Moving to table 6.3; logically, if the results in table 6.3 is anything to go by, then we should expect skewed representation to lead to unbalanced resource allocation and if that is sustained over a prolonged period of time, jurisdictions with more power will emerge more developed, if the allocations are used efficiently. The

fact that this is in the education sector means that the findings should be treated with more seriousness and urgency. Education in general and specifically primary education (which takes up to six of the 11years of basic education) has been found to have a profound impact on poverty reduction and human development in general. There will therefore be serious repercussions for inclusive development if political representation becomes a major mechanism through which people acquire education.

The GES has an objective formula-base for disbursing grants. Four key factors are considered in the disbursement of resources per the GES resource allocation model:

- Access
- Life skill
- Quality
- Management efficiency

These four factors transcend both the normative issues of disadvantage criteria and proportionality, which shall be discussed in the next section. Clearly, these four criteria that supposedly influence resource allocation and subsequently development net enrolment in basic schools do not include political representation. However, findings of this study suggest otherwise. This influence of political representation on the allocation of educational resources and enrolment should be a subject of interest to both government and donors who are working tirelessly to close the development gap between the underdeveloped north and the developed south.

Taking into account the clientelist political setting in Ghana where the political elite is inclined to push resources to their constituents in return for votes, it means that less powerful groups will have a hard time getting a fair share of the national cake, even with the existence of objective allocation criteria. Thus, government will have to think of innovative ways of getting resources to the less powerful groups.

Empirically, many studies support the dominant role of political representation in the resource allocation and development circle. This finding is in line with Abdulai and Hickey (2016) who also found political representation to have influence on the allocation of resources in the education sector in Ghana. The finding

is also sharply aligned with findings of Salman (2007) who found a linkage between power and resource allocation and also between resource allocation and development outcomes. He argued that budgets are determined predominantly by the locus of power and that the political influences of various interest groups determine how the resources are ultimately allocated. He further suggested that budgets are also powerful instruments for shaping the future of nations in ways that advance or retard social and political progress.

Also, in Pakistan and Uganda, it was found that the rate at which grants reached beneficiaries was a function of the bargaining power of local communities. More powerful communities get juicier shares of entitlements than schools in poor communities (Reinika & Svensson, 2004; Shafiullah, 2011). Similarly, Abdulai and Hulme (2015) found that Highly Indebted Poor Country-HIPC resources which were meant to be disbursed with a more equalising formula were publicly ditched. Rather, better off regions ended up as the net beneficiaries of HIPC funds. And in an analysis of a comparative study of twelve countries, evidence was found in virtually all the twelve countries that disproportionate political representation gave rise to consistent intergovernmental transfers (Atlas et al., 1995; Boex & Martinez-vazquez, 2005; Porto & Sanguinetti, 2001; Su & Yang, 2016) all found linkages between representation and resource allocation.

6.5.2 The Relationship between Population, Number of Schools, Population of School Children Outcome Variables

This section discusses the effect the three control variables in the models, resource allocation and net enrolment. Although, political representation was significant and had long term cointegration, other variables, including population and number of schools had both a significant and positive long run relationship on net enrolment. Such a relationship is logical and expected. Logically, the more densely populated an area is, the more likely that children of school going age will be found there, thus leading to higher enrolment. In the same vein, more schools in an area is an indication of greater accessibility and hence higher enrolment.

Generally, the Ghana Education Service allocation model prioritises normative principles of proportionality and deprivation criteria. Thus in the allocation

of resources, the GES is practically telling us they pay premium attention to factors such as population, number of schools, population of school children, among others. The findings of this study support this claim that factors such as population, number of schools and population of school children are important determinants of resource allocation. The study expected all these control variable to have a significant and positive long term relationship with resource allocation and net enrolment.

However, one of the variables (population of school children) was significant but negative. This did not only defy the expectations of the study but also defied both the allocation model of GES and normative theory of resource allocation. Enrolment is boldly stated as one of the factors that influence allocation in the GES model, and it is naturally expected that more children of school going age should translate into higher enrolment and for that matter greater resource allocation. What could then be the possible explanation for the negative sign? In an interaction with the budget officer of the GES, he mentioned that the GES was able to increase access to education tremendously in the past years and that more emphasis was now placed on improving quality and not access. This could be the possible and logical explanation for the negative relationship population of school going children and resource allocation.

Empirically, the disadvantage and propotionality criteria generally have a positive impact on government transfers. It was found in Uganda that allocation of resources to health was based on many factors including population size. Similarly, researchers found the concentration of Aids cases (population density) in urban areas drove funding more than factors such as region, poverty and race (Pearson, 2002; Boex, 2003; Salman, 2007). The findings of this study is mixed regarding the above empirical literature. While the positive and significant long run relationship between number of schools and resource allocation is in line with existing literature, the negative relationship between population of school children and resource allocation contradicts the above empirical studies.

6.6 Chapter Summary

In this chapter, the ARDL model was estimated. Two models were estimated in an attempt to find out whether there is long term cointegration between political

representation and development outcomes through the mechanism of resource allocation. Result from the research hypotheses showed that political representation had a positive and significant long term relationship with net enrolment in basic schools in the first model. Political representation was also found to have a positive and significant long term relationship with resource allocation. In the first model, both population and number of schools were found to be significantly related to net enrolment in basic schools, while in the second model, number of schools and population of school going children were significantly related to resource allocation. However, population of school children tended to have a negative effect on resource allocation.

While the Ghana Education Service may have an objective allocation criteria which prioritises issues of proportionality and expenditure needs or deprivation, the findings from this study suggests that political factors also play a significant role in the resource allocation process. The implication of this finding is that jurisdictions with powerful political elites will most likely have a fair share of government resources. On the contrary, jurisdictions with less powerful elites will not have it easy in accessing government allocations, conscious effort must be made to get less powerful groups their share of the national cake.

Most often mainstream governmental allocations are unable to implement such corrective measures. Special social interventions are usually designed to target resources to under developed regions. Consequently, we may fail to see other drivers of resource allocation and development outcomes if we cling too much to mainstream governmental allocations. In line with this observation, the study presented a case study of a social intervention in the education sector in Ghana with the view to finding out whether government is making any effort to bridge disparities in education. The next chapter discusses the case mentioned above.

CHAPTER 7

A CASE STUDY ON THE GHANA PARTNERSHIP FOR EDUCATION GRANT

7.1 Introduction

This chapter is based on the conviction that a strict focus on the analysis of government expenditure to mainstream government budgetary allocation may not allow for a nuanced explanation of the patterns of regional inequalities in Ghana. The chapter is influenced by the conviction that development in developing countries is no longer the preserve of national governments, as international donors are increasingly involved in funding development with the hope to ensuring inclusive development. This chapter, therefore, travels beyond statutory government allocations to recognise the significant roles that social interventions outside the mainstream government allocations play in social service provisioning, in many parts of the developing world and also in Ghana.

As noted earlier in Chapter Two, donors can serve as key players in bridging the existing socio-economic inequalities in the various regions of Ghana. Donors have the ability to compel states and their institutions in the developing world to operate within certain conditionalities, since donor funds are needed for the implementation of government policies in these developing countries (Parks & Cole 2010; Hickey 2013; Briggs, 2014; Abdulai & Hume 2015). The Ghana Partnership for Education Grant Programme GPEG is one of the many social interventions initiated by the donors to improve access and quality of education in deprived regions in Ghana. The programme is funded by the Global Partnership for Education or the Education for All programme and administered by the Ghana Education Service.

Like many social interventions, the GPEG involves large sums of monies. Consequently, an unequal disbursement of such funds across spatial units, especially, with disregard of the special needs of beneficiaries could have serious dis-equalising effect on development outcomes. There has been a good documentation of how prior

implementation formula of pro-poor social interventions e.g. Highly Indebted Poor Country – HIPC funds were openly ditched and implemented differently in ways to benefit constituencies with powerful political elites in Ghana (Abdulai & Hulme, 2015). The GPEG grant is yet another pro-poor intervention and it will be interesting to find out how the programme was implemented. This chapter therefore seeks to (a) examine the extent to which the GPEG grant stuck to its pro-poor intent in the actual implementation of the programme. In other words, were GPEG funds targeted at deprived or the poorest regions? and (b) has GPEG contributed to enhancing equitable regional development in Ghana particularly in basic education delivery?

The chapter is organised into nine sections. The rest of the chapter is organised as follows. Section 7.2 presents the context of education service provisioning in Ghana, 7.3 discusses the need for social interventions and donor support; and 7.4 presents an overview GPEG. Section 7.5 turns to the implementation of GPEG with particular focus on whether the selection of beneficiaries followed pro-poor criteria, 7.6 presents a benefit incidence analysis of the project from 2013-2016. Section 7.7 discusses the absence of resource capture in the GPEG project by politicians and sections 7.8 and 7.9 present equalising gains made by GPEG, and the conclusion of the chapter.

7.2 The Context of Education Service Provisioning in Ghana

Education in Ghana was started by the missionaries to educate the mixed race children of European traders and was later provided by the colonialists to sustain the colonial government. However, the major effort to expand education was the work of the Christian missions who viewed education as a tool for successful missionary work, Kwame, Jerome, Oduro, Seidu, and Hunt (2007). As the demand for education increased, more schools were opened, but the expansion concentrated mainly on the colony[9] and spread slowly to Ashanti[10] and Transvolta[11]. It is reported that the

[9] Colony in colonial Ghana refers to present day Greater Accra, Eastern, Western and Central region.

[10] Ashanti in colonial refers to present day Ashanti and Brong Ahafo regions

[11] Trans-Volta in colonial Ghana refers to present day Volta region

Northern territories[12] (present day Northern Ghana) in the colonial days did not receive much benefit from the educational expansion (Akyeampong et al., 2007). Thus, the concentration of education in Southern[13] Ghana by the colonial administration created a gap between Northern Ghana and the rest of the country. It is therefore not surprising that UNESCO described the Northern Region of Ghana as the most educationally deprived where over 60 percent of the population lived in education poverty (having less than four years of education) (UNESCO, 2010).

As late as 1924, education had hardly begun to contribute to the development of the north. The number of schools increased to five and average attendance at all five government schools was 261 including seven girls. Northern Ghana remained far behind in terms of education and this is evinced by the low enrolment figures in both basic and secondary education from 1950 to 1971 (Ladouceur, 1979). In the post-colonial era, many governments made the attempt to expand education to every part of the country. Under the first post-colonial government, targeted education policies were designed to advance education in the North (Ladouceur, 1979).

A lot of progress has since been made towards the provision of Universal Basic Education-UBE in Ghana. The table below presents major educational policies undertaken at different periods in Ghana.

Table 7.1: Major Basic Educational Policies in Ghana (1951-2006)

Education Policy	Purpose
1951 Accelerated Development Plan for Education (ADPE)	Laid the grounds for decentralised educational management in Ghana giving local councils the responsibility for provision and maintenance of educational facilities while leaving the central government with the responsibility of teachers' salaries

[12] Northern Territory in colonial Ghana refers to present day Northern Ghana which comprise of the Northern, Upper East and Upper West regions.

[13] Southern Ghana comprise of Greater Accra, Eastern, Western, Central, Ashanti, Brong Ahafo and Volta regions

The Education Act of 1961	Reaffirmed control and management of education at the local level to local councils
The 1992 Constitution of Ghana	Mandates the provision of free and compulsory and universal basic education
Free Compulsory Universal Basic Education Launched in 1996	Supports constitutional mandate and frames basic education policy in Ghana
Education Strategic Plan (ESP) 2003-2015	Provides the strategic framework for Education: that the Ministry of Education will ensure that all citizens are functionally literate and self-reliant, Basic education for all, opportunities for open education for all, education and training for skill development with emphasis on science, technology and creativity; and higher education for the development of middle and top level manpower requirement
Draft 2006 Education Bill	Defines the decentralisation of education in Ghana and focusing the Ministry Education Service mandate away from the executive management of a schools, staff supplies and finances to the setting and enforcement of educational standards; the development of books and other educational materials and the promotion of quality teaching and materials
The Capitation Grant Scheme (Piloted in 2004/2005 and a country-wide implementation in 2005/2006)	Supports the FCUBE Policy and Ghana's decentralisation policy through the disbursements of funds per-pupil to all public basic schools in Ghana and mandating the completion accountability guidelines and forms

Source: Maikish and Gershberg, (2008) and Akyeampong et al., (2007)

As noted in table 7.1, basic education has not only been made universal but free and compulsory since 1996. It would however appear that governments have been more concerned about expanding basic education to the neglect of its quality. In the past years the basic educational sector has recorded increasing Gross Enrolment Ratio (GER). However, these increases in GER has not been met with equal increment in educational spending. Although public spending on education is at least 6 percent of GDP in Ghana indicating a high budget priority for the sector, very little of this amount is available for non-salary recurrent spending needs. This is similar to the situation in Uganda, where entire allocations has been used for payment of teachers' salaries.

In 2010, as high as 97 percent of the core Government of Ghana education budget went into the payment of salaries. As a result, other types of educational expenditures such as investment and goods and services have often been crowded out (Reinnika & Svensson, 2004; Akyeampong et al., 2007; GPEG Project Completion Report, 2016). The implication of such crowding out is that basic teaching and learning materials required for quality delivery of educational services are rendered inadequate. Similar negative effects of underfunding in education as a result of UPE have been recorded in other countries. In Malawi, for example, the abolishing of fees led to an increase in enrolment by 60 percent, while the quality of education eroded as measured by the increase in the number of untrained teachers, large class sizes and limited facilities. Also, in Uganda, UPE led to a shortage of teachers and textbooks (Grogan, 2008; Kadzamira & Rose, 2003).

It is important to point out that even though basic education is free and compulsory, the fee free component covered only tuition hitherto 2004. Schools have therefore been compelled to charge other forms of levies as means of raising funds to cover school related expenses such as sports, cultural activities and printing of exam papers. These levies albeit small kept some 40 percent of children aged 6-11years out of school. Therefore, in the year 2004, the government introduced the capitation grant, a complete school fees abolishing policy to spur the attainment of UBE (Ampratwum & Armah-attoh, 2010; Maikish & Gershberg, 2008). Under the capitation grant, government pays a per-capita amount to all basic schools based on school enrolment to replace the fees that were charged by schools. Although the capitation grant has

very good intentions and was lauded by almost all Ghanaians, funding for the programme has not only been irregular, but also inadequate. Consequently, the education sector has had to rely on additional funding usually from international donors to facilitate the delivery of educational services.

7.3 The Need for Social Interventions and Donor Support

Some scholars have explained spatial disparities in general as outcomes of policy in developing countries. It is argued that resources are concentrated in the strongholds of powerful elits to the detriment of weak or unrepresented groups (Abdulai & Hulme, 2015; Rigg et al., 2009). Consequently, there is the need for financial support from external sources to ensure that poor societies are not completely left out in the allocative process. It is asserted that the processes of state formation and development in developing countries have long been shaped by external actors (Hickey, 2013). Current literature on the ability of international donors to use aid to influence resource allocation in developing countries towards greater inclusiveness has been on the ascendancy (Parks & Cole 2010; Hickey 2013; Briggs, 2014). Moore and others have underscored the importance of international partners in promoting development and reducing inequality. They argue that the extermination of poverty among the poorest can only be achieved if a general commitment to 'global equality and justice is fostered and sustained among the worlds' powerful' (Moore et al., 2008).

The government of Ghana is no stranger to donor funding in education and basic education in particular. While government funding of education declined between 2004 and 2006, donor funding remained generally below 10 percent (Akyeampong et al, 2007). The inadequacy of educational funding means that emphasis should be placed on strategic choices. It is believed that without the significant injection of funds to basic education, sustainable gains in access and quality may deteriorate (Akyeampong et al., 2007).

The Ghana Partnership for Education Grant, GPEG, is one of the social interventions in basic education by donors. The grant came from a multi-donor partnership (Global Partnership for Education - GPE) allocated to the Republic of Ghana for a three year implementation period. Details of the programme is discussed

in the next section. GPEG is crucial for improving the quality of basic education delivery in Ghana since over 90 percent of Government of Ghana education budget goes into the payment of salaries. However, the ability of the grant to make any meaningful impact will largely depend on the local policy management environment in Ghana. The extent to which the programme is targeted at deprived regions largely depends on the commitment of the implementing institutions to eschew political factors in the resource allocation process and give priority to normative factors.

7.4 An Overview of Ghana Partnership for Education Grant – 2013-2016

The Global Partnership for Education grant is a grant from a multi-donor partnership (GPE) allocated to the Republic of Ghana for a three-year implementation period. The main implementing agencies are the Ghana Education Service and the Ministry of Education. The GPE recognises that Ghana as a country has recorded remarkable economic growth and progress in the last two decades. It further recognises that deep and wide regional disparities in poverty and human development indicators persist between the poorer Northern Savannah regions and the rest of the country despite the economic progress. It therefore does not come as a surprise that the programme specifically intended to catalyse funding for education service delivery in the deprived areas in Ghana (Ministry of Education, 2013). The programme had three major components including (1) Sub-Grants to Deprived Districts to support key education objectives (2) School Sub-Grants in Deprived Districts to supplement the capitation grant and (3) Programme Management and Institutional Strengthening.

A total grant of US$75.5 million was made available to the Ghana Partnership for Education Grant (GPEG) to be disbursed over three years with the aim of supporting basic education expenditure. The project was scheduled to run from 2013-2016 and to enhance the planning, implementation and monitoring capacity of ongoing government efforts to decentralise education resources to the district and school levels. The project had 5 main rationales including:

- Make available non-salary financial resources to schools and districts in deprived areas to support local action in order to improve service delivery

- Strengthen decentralised decision making and systems of school based management and accountability
- Fund the upgrading of untrained teachers currently teaching in schools in the deprived areas
- To complement the existing government capitation grant and to
- Integrate and further develop ongoing government and donor supported management instruments

The programme has been crucial for the improvement of quality in basic education delivery in Ghana, since over 90 percent of the Government of Ghana education budget goes into the payment of salaries. Moreover, salaries are often under budgeted resulting in the crowding out of other types of expenditure (expenditure on investment, goods and services) during budget execution.

The grant was extended to 75 deprived districts in 8 out of 10 regions in Ghana. The two regions that were excluded were the Central and Greater Accra regions. Approximately 6600 schools and 1.7 million students benefited from the project.

Table 7.2: GPEG Beneficiries by Level of Schooling

Break down of Beneficiary Students by School level	
School Level	**Number of Beneficiaries**
Kindergarten (KG)	400,000
Primary	1,000,000
Junior High School (JHS)	300,000
Total	**1,700,000**

The grant was supposed to be allocated to the beneficiary districts using a resource allocation procedure that promoted equity. The project used the following criteria for the disbursement of funds:

- 10% base grant (A school or district will always incur some fixed costs whether there are students or not)

- 35% per capita enrolment crirerion
- 10% according to the number of schools in a district
- 5% according to the number of teachers, and the remainder
- 40% based on disadvantage criteria

The disadvantage criteria considered seven factors in the determination of the level of deprivation in a districts:

- Percentage of pupils with core text books
- Percentage of untrained teachers
- Pass rate at the Basic Certificate Examination in Maths
- Pass rate at the Basic Certificate Examination in English
- Percentage of girls enrolment
- Pupil teacher ratio
- Gross enrolment ratio

Consequently, beneficiary districts that are seen to be performing poorly in the above deprived criteria would receive more funds from the 40% grant money.

Although the Ghana Education Service (GES) grouped beneficiaries on district basis, this study grouped beneficiaries on regional basis by putting the various districts into their respective regions. This was to facilitate the benefit incidence analysis and also to facilitate the understanding of which regions are the real beneficiaries or losers from the project. It is also important to mention that GPEG prioritised four key areas of the Government's Education Sector Plan, including: Access, Bridging Gender Gap, Quality and Education Management.

7.5 A Pro-Poor Allocation of GPEG Funds: A Farce or Reality

This section discusses two core issues: 1) whether the GPEG project stuck to its original intent of disbursing the funds in a pro poor fashion or 2) whether the pro poor approach was put aside by the implementers to serve the interests of their political masters. In other words, was there any form of resource capture by powerful groups? In order to deal with these two issues the study set off with the analysis of the poverty prevalence rate in Ghana for 2005/06 and 2012/13. The purpose for the analysis is to identify the poor and rich regions and to ascertain whether the poor

regions benefitted the most or otherwise. The figure below provides information on the poverty prevalence in the ten regions of Ghana for 05/06 and 12/13

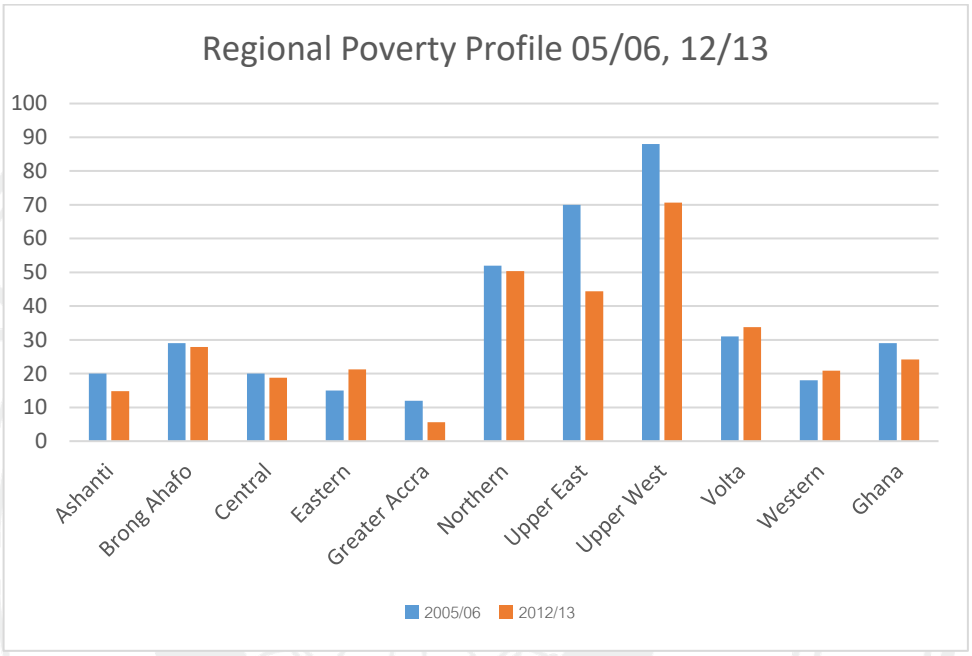


Figure 7.1: Regional poverty prevalence
Source: Compiled from GSS, 2007, p.11 and GLSS, 2014, p. 14

Figure 7.1 shows that the Northern, Upper East and Upper West regions (Northern regions) have consistently registered higher poverty values, while the remaining seven regions have consistently registered lower poverty values. Also, discussions in section 2 pointed to the existence of an educational gap between the northern regions and the rest of the country and only in 2010, the northern region in particular was described as educationally deprived (Akyeampong et al, 2007; UNESCO, 2010). Furthermore, poverty is negatively correlated with education, thus regions with high poverty incidence tend to record low levels of educational attainment (Songsore, 2003; Higgins, 2009). Consequently, we expect the impoverished regions to have lower performance in key educational indicators. Therefore, the combination of high poverty incidence and lower educational indicators should translate into more benefits from GPEG for the most impoverished

regions. Thus, GPEG, which was meant to support deprived districts in Ghana, can be said to have met it objectives if more beneficiaries were found in the three northern regions (Northern, Upper East, and Upper West) and in the Brong Ahafo and the Volta regions which also have high poverty rates.

Ghana has 216 districts, and according to the GPEG Implementation guide (2013) the bottom 75 deprived districts benefitted from the programme. As anticipated from the preceding paragraph, the three most deprived regions had a total of 46 districts out of the 75 beneficiary districts, representing 61.33 percent all beneficiary districts. Table 2 is a breakdown of the 75 beneficiary district by region.

Table 7.3: Breakdown of Beneficiary District by Region

Breakdown of Beneficiary Districts	
Region	No. of Districts
Ashanti	4
BronG Ahafo	10
Central	0
Eastern	2
Greater Accra	0
Northern	24
Upper East	12
Upper West	10
Volta	6
Western	7
Total	75

Source: GPEG Implementation Manual (2013)

From table 7.3, it can be observed that the Greater Accra and Central regions did not benefit from the grant. The exclusion of the two regions can be explained both historically and in terms of poverty prevalence. Historically, these two regions were the beneficiaries of both missionary and colonial education in the initial years education was introduced in Ghana. They had already taken advantage of education decades ahead of even their southern neighbours, and thus tend to have the best

schools in present day Ghana. Thus access and quality of education are less of a problem in these two regions. When we turn our attention to poverty prevalence in Ghana, the Greater Accra and Central regions have the lowest poverty prevalence in Ghana as shown in Figure 7.1. Indeed the averages in these two regions are lower than the national average for the two periods presented in figure 7.1. Consequently, their exclusion from the grant can be explained by the fact that they are more affluent both educationally and income wise than the rest of the country.

Going forward, the interest of this chapter goes beyond the fact that over 60 percent of beneficiary districts came from deprived regions. Beyond the numbers, the study would want to know the impact of the programme on these deprived districts both financially and on key educational indicators. The fact that the three poorest regions alone had 46 beneficiary districts from the total of 75 beneficiary districts may lead to the conclusion that the three northern regions benefitted the most from the GPEG project. However, it is important to proceed with caution, since absolute numbers can hide a lot of details, especially if we fail to look for the gray areas between the black and the white. The pessimism with regard of real benefits that may have accrued to the three northern regions is based on noticeable differences in the educational indicators used for the selection of beneficiary districts and the indicators used for the disbursement of 40 percent of the entire GPEG funds under the deprivation criteria. Table 7.4 highlights these differences.

Table 7.4: Differences in criteria for selecting beneficiary districts and disbursement of GPEG funds under Deprivation Criteria

Criteria for selection of districts	**Deprivation Criteria for Disbursement of 40% of GPEG Funds**
1. Retention in primary enrolment (P6 &P1)	1. Percentage of pupils in core text books
2. Retention in Basic Cycles (JHS 3 & P1)	2. Percentage of trained teachers
3. Share of girls enrolled in P6	3. Pass rate in BECE Maths
4. Share of girls enrolled in JHS 3	4. Pass rate in BECE English
5. Pass rate in BECE - English	5. Percentage of girls enrolment
6. Share of Trained Teachers in Public Primary Sch.	6. Pupil Teacher ratio
	7. Gross enrolment ratio

Source: Ministry of Education (2013)

It can be observed from the table above, that the criteria that were employed for the selection of beneficiary districts are very specific, whereas the deprivation criteria for the disbursement of 40 percent of GPEG funds are quite general. According to the project coordinator, the differences in educational indicators for the two processes are borne out of the need to ensure equity in the disbursement of GPEG funds. In his words:

> *"The cost drivers of education service delivery differ greatly across districts and it is important to consider the factors that push the cost of education delivery up when allocating resources. For instance, a district with high gross enrolment should receive more funds than a district with lower enrolment. In the same vein, more funds should be allocated to districts with lower rates of core text books. For these reasons, the criteria we used for the selection of beneficiary districts should not be the yard stick for the allocation of GPEG funds"* (Coordinator, GPEG: 08/02/2017)

Despite the justification given by the coordinator, such differences may have the tendency to bloat the funds that go to individual districts. In the meantime, one thing that is certain is that the grants were targeted at deprived districts in the poorest

regions in Ghana. This seems good since the goal of the programme was to improve quality of education in deprived districts. However, it is certainly premature to rush into any conclusion that these poor regions came off with the most gains from the programme. As a result of the uncertainty regarding which region(s) are the net gainers, the study proceeds to perform a Benefit Incidence Analysis (BIA) on the disbursement of GPEG funds in order to come out with subtle explanations and understanding regarding which regions are indeed the net gainers.

7.6 The Benefit Incidence Analysis – BIA

BIA is commonly used by both practitioners and academics for estimating the extent to which different groups benefit from allocations of social spending (Demery 2000; Buracom, 2011). Therefore, in the case of GPEG, BIA brought to light the regions which actually benefitted the most from the programme. Figure 7.2 is the distribution of benefits across the regions from 2013-2016. This figure does not however inform us of the decile share of benefits that accrue to the regions largely due to the unavailability of regional household expenditure data on basic education for 2014 and 2015/16.

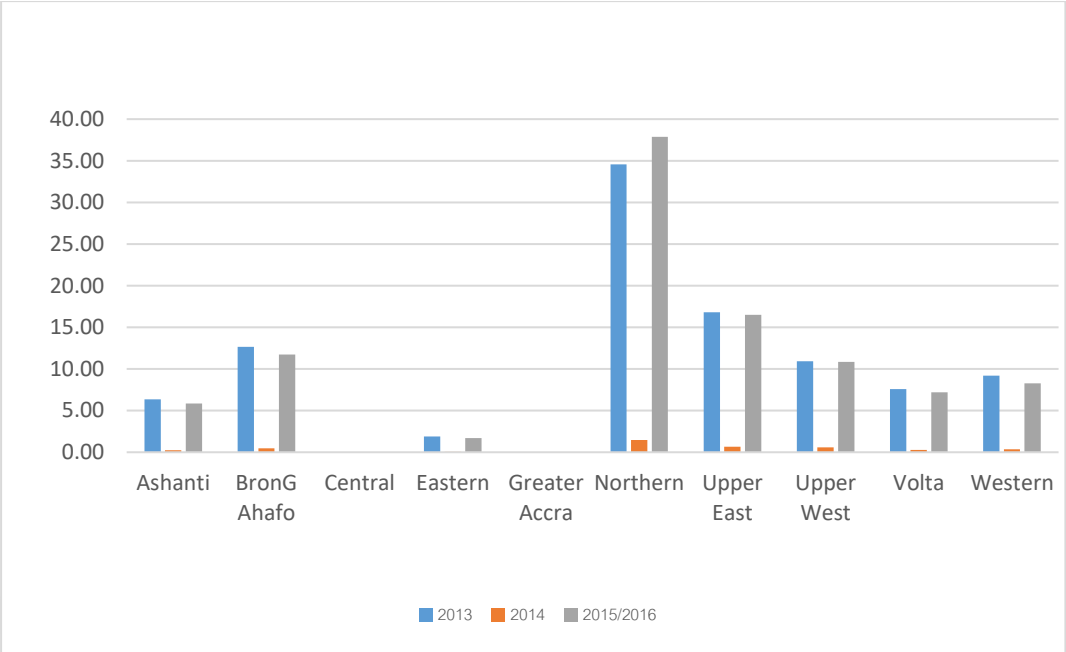


Figure 7.2: Distribution of Benefits

Source: Authors computation based on GPEG Completion Report (2016) (Ministry of Education, 2016) and the EMIS data.

Results from the BIA evinced that the Northern Region, which has the highest number of GPEG beneficiary population, enjoyed the most benefits with an average benefit of 25 percent over the course of three years followed by the Upper East with average benefit of 11 percent. The Upper East region is also the home to the second largest GPEG population (16%). The Brong Ahafo region is the third largest average beneficiary per the BIA followed closely by the Upper West region, although the Upper West has slightly larger GPEG beneficiary population than the Brong Ahafo region.

Generally, the GPEG funds appears to have been disbursed in more pro-poor manner as regions with high deprived populations benefitted the most. Moreover, if the entire country is divided into Southern and Northern zones, the Northern zone which is the poorest zone and also has the largest GPEG beneficiary population benefited the most with an average benefit of 43 percent over the years and the Southern part enjoyed an average benefit of 23 percent over the three years. The Northern regions, therefore, emerged as the overall beneficiary when the BIA is employed and particularly when the decile share of benefits are not computed.

As mentioned earlier the decile share has been omitted in the above computations because of the absence of regional basic expenditure data for 2014 and 2015/16. The good news, however, is that we were able to compute regional household expenditure on basic education for 2013 using raw data from the 2012/2013 GLSS. The computation made it possible to draw definite conclusions regarding which regions benefitted the most and to further conclude whether the programme stuck to its original pro-poor intent or not.

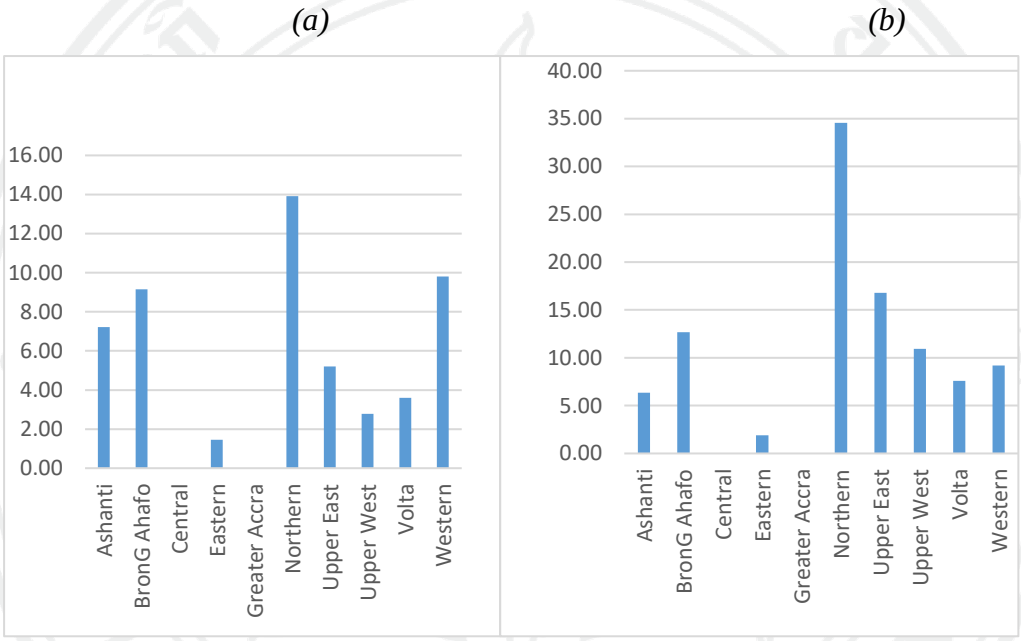


Figure 7.3: Benefit Distribution and Decile Share

Source: Authors computation based on GPEG Completion Report (2016) (Ministry of Education, 2016) and Data from GLSS (2012/13).

Note: (a) is decile shares and (b) is benefit distribution

The estimation of the decile share of the various regions for 2013 has brought to light subtle variations in the extent to which the various regions actually benefitted from GPEG when figures (a) and (b) are compared. A look at fig. (b) indicates that the Northern, Upper East and Upper West were among the top four beneficiaries, which was much anticipated because these regions have the highest number of beneficiary population. Put together, they have about 61 percent of beneficiary districts. However, the results from the figure (a) show that among the

three poorest regions, it is only the Northern Region that fell within the top three gainers. Indeed, the Northern Region is the highest net beneficiary with a decile share of 13.92 percent. The Upper East region which was the second highest beneficiary under fig. (b) has now moved to the fifth place with a decile share of 5.20 percent under figure (a) and Upper West which placed fourth under figure (b) now placed seventh under figure (a) Despite the large numbers of beneficiary populations from the three poorest regions, they enjoyed the least benefits from the GPEG funds except the Northern Region which emerged as the largest beneficiary.

What could possibly be the reasons for such low benefits? However, before I proceed, it is important to point out that the '*decile share'* looks at how much households spend on a particular service. And when government or donors provide subsidies for such services, those who spend more of their income on the said service will save more and for that matter benefit more. Consequently, the low benefits recorded by the Upper East and Upper West regions can be attributed to the low household expenditure on basic education in these regions. The three northern regions are the least spenders on basic education, the northern, Upper East and Upper West spend GH₵184.79, GH₵142.16 and GH₵116.52 on basic education respectively which is two times below the national average of GH₵458.90.

The low expenditures on basic education therefore explains why two of the bottom poorest regions reaped the least benefits from GPEG in 2013 despite having the largest beneficiary population. Therefore, one can logically argue that if the decile share had been calculated for all the years, the two poorest regions would record the least benefits. The disproportionate benefits that went to the affluent regions cannot be said to be the result of a lack of targeting by the implementers. Rather it is the effect of low household expenditure on basic education due to the high poverty prevalence in these poor regions. An interesting conclusion that can be drawn is that even in the presence of highly targeted social interventions, severe poverty has the potency to trivialise otherwise substantial gains of programmes. The table below provides information on household expenditure on basic education.

Table 7.5: Household Expenditure on Basic Education by Region

Regional Household Expenditure on Basic Education – 2012/2013	
Region	Average Expenditure (GH₵)
Ashanti	520.659
Brong Ahafo	331.3025
Central	463.4063
Eastern	351.7567
Greater Accra	736.6478
Northern	184.786
Upper East	142.1569
Upper West	116.5265
Volta	217.9112
Western	488.9923

Source: Author's computation based on GLSS 6 (2014) (Ministry of Education, 2014)

7.7 Some Explanations for the Absence of Resource Capture

The question this section seeks to answer is: how did the programme manage to keep its pro-poor intentions intact amidst the predatory environment of development management in SSA?

Extant literature points to the existence of resource capture in both donor and central government funded interventions in SSA. In Ghana, it has been reported that resources meant for the poor barely benefit them. For instance, resource allocation in Ghana's education sector were disproportionately distributed in favour of regions with significant political power. It was also reported in Uganda that resources flow to schools were endogenous to the socio-political endowment of schools. On average, 13 percent of total annual capitation grant from the central government reached the schools while 87 percent either disappeared for private gains or for purposes unrelated to education. Furthermore, in Kenya, projects were said to be skewed towards the president's political base from 1989 to 1995. Similarly, a study in Ghana revealed that

HIPC resources which were meant to be disbursed in a pro-poor manner rather benefited rich regions while the three northern regions which are regarded as the poorest regions received the least projects funded from HIPC resources (Abdulai & Hickey, 2016; Abdulai & Hulme, 2015; Briggs, 2014; Reinnika & Svensson, 2004). Furthermore, Public Expenditure Tracking Survey (PETS) studies in Ghana for 1998 revealed that non-salary expenditure to primary school indicated 49 percent capture for 126 schools (Ye & Canagarajah, 2002). Findings of this nature are the sources of the scepticism and pessimism surrounding the impact of foreign aid in Africa.

Turning our attention back to the GPEG programme, there was generally no resource capture by influential groups (politicians and bureaucrats). This observation is based on the fact that the poorest regions in Ghana were the net gainers of the entire project as demonstrated in the preceding sections. The major reason attributed to the success of the GPEG project lies in the good development management practices adopted by the implementers. One of the good practices of the programme had to do with effective management of resources, especially financial and material resources. Primarily, both beneficiary districts and schools had knowledge of the amount of monies that was supposed to be transferred to them from the GPEG headquarters. The districts were supposed to present a plan of work to the GES headquarters. The plan of work contained the district education directorate's activities for the year. The headquarters and the district then sat down to agree on what activities should be funded for the year. Thus, a decision on how much funds to be transferred to each district was normally reached between the headquarters and the districts. The headquarters played a purely supervisory role by ensuring that the districts spent their monies on programmes that were pre-approved by both the headquarters and the district. This gave real power and autonomy over the financial control to districts to spend monies in ways that would affect education service delivery meaningfully. GPEG allowed the districts to procure all items, including cars at the sub-national level. The only task the headquarters performed was to ensure that the districts followed their plan of work. Transparency and complete decentralisation was thus made a key components of the programme. As it were, beneficiaries were well informed of the support system making it difficult for any diversion of resources. Similar transparency mechanisms existed at the sub-national level, that is between the

district and school levels. Individual schools benefitted from a component of the programme called school grant. This school grant was provided to supplement the capitation grant from government. These grants were transferred by the headquarters to the districts for onward transfer to the schools. The implementation document clearly spelt out the criteria for the disbursement of school level grant.

Basic schools in Ghana run the trimester system, in the first term, GPEG gave a base grant to all basic schools and this base grant was a fixed amount for all regardless of the size of the school. The base grant was based on the notion that no matter the size of a school, certain fixed costs are always incurred. So instead of waiting for the enrolment figures to be out, which might take up two months or more, these fixed grants were transferred in the first term to support the government capitation. In the second and third terms school level grant was paid on a per-capita basis as by then enrolment figures would have been calculated by the Education MIS. The base grant was used in the first term because there are no exact enrolment figures as a result of ongoing admissions, but schools also need resources to run and cannot wait for enrolment to end. The base grant was therefore instituted to take care of this challenge.

Therefore schools know exactly how much to expect from the district as they are privy to a base grant amount and they also know how much to expect for the per-capita disbursement using their enrolment figures.The findings of Reinnika and Svensson (2004) give credence to the above arguments. They argue that in jurisdictions such as Tanzania, where mainstream budgetary allocations reach schools through district offices, resource capture persisted because the schools had little knowledge of how much they were actually supposed to receive.

Furthermore, the organisational and institutional arrangement of the programme was not only appropriate but effective. The beauty about GPEG was that it did not duplicate efforts by establishing parallel structures. The implementers believed it was very critical to let the system own the intervention. The programme was headquartered at the Ghana Education Service – GES headquarters and staff of GES were used for the implementation. There was therefore no additional costs incurred – there was no need to procure vehicles for the programme, procure office logistics and pay huge salaries to project staff. However, the implementers recognised

the need to have someone who understood the nitty-gritties of project management, as management skills within developing country are viewed as a pre-requisite for development (Rondinelli, 1986). Consequently, in the spirit of improving the management capacity of the GES which was the main implementing organisation, a project consultant who doubled as the project coordinator was hired. The coordinator was stationed at the GES headquarters. As a matter of fact, he shared an office with some of the staff of the service. He was a complete outsider who had a successful history of managing similar projects.

Another possible explanation for lack of resource capture could be attributed to the constant interaction between the GES and the World Bank representatives, namely the task team leader and other relevant specialists in procurement, financial management, M&E among others. The GPEG consultant revealed that there was a project supervision at least twice a year, the purpose of which was to review progress and strategize when there were issues. Such strong presence of the donor on the grounds corroborates the point that the ability of aid agencies to manage their own activities influences the performance of host country and the outcome of development effort (Rondinelli, 1986).

Finally, the programme earmarked some funds to enhance the organisational capacity and management skills of staff at the headquarters, regional offices and district education directorates. The objective of this component was to strengthen government systems for the implementation and supervision of decentralised education services. The capacity building efforts of the programme were also extended to teachers in the schools. The programme recognised that quality of teaching and learning depended largely on the quality of teachers. Consequently, funds were made available to support teachers' participation in upgrading their qualifications through Untrained Teachers Diploma in Basic Education (UTDBE). There were also regular and mandatory in-service training programmes for teachers to improve their skills.

7.8 Gains Recorded by GPEG towards Bridging Educational Disparities

In the preceding section, a lot of space has been devoted to the good management practices that led to the successful implementation of GPEG in Ghana.

According to Diallo and Thuillier (2004) a project manager often describes a project successful when the evaluation outcome is in line with the constraints of time, cost and quality. But beyond cost, time and quality, it is important to consider another dimension of evaluation, namely the real impact of the programme on the beneficiaries. Consequently, this section discusses the impact made by the programme by basically comparing GPEG districts against Non-GPEG districts in some of the key educational indicators that were prioritised by the programme. In doing this, between January, 2017 and February, 2017, interviews were conducted in one of the beneficiary districts namely Savelugu.

According to the project completion report, it was noted that in all the indicators, except in the transition from primary 6 to JHS, the change in GPEG districts between 2012/13 and 2015/16 was much higher than change in Non-GPEG districts. For instance, GER increased by 12.6 percent points for primary and 7.6 percent for JHS in GPEG districts. Compared with averages for the Non-GPEG districts for the same period primary and JHS recorded increases of 8.8 percent and 2.2 percent respectively. Clearly, the rates of increase for GPEG districts are much higher than the increases in the Non-GPEG districts.

On the quality indicators, it is shown that GPEG districts outperformed non-GPEG districts in five indicators and were at par with non-GPEG districts in another five indicators. Beginning with Gender Parity Index GPI, UNESCO Institute of Statistics states that any range between 0.97 and 1.03 a unit has met the gender parity. Based on this, both GPEG and non-GPEG districts have all met the GPI although there are no remarkable differences in GPEG and non-GPEG districts for K.G and primary. The improvement in girls' enrolment was reported by a respondent as follows:

- *"... The exodus of girls to Accra has gone down. Even the number of girls who proceed to Senior High School has also increased. Even, the number of children proceeding to the tertiary institutions has improved"* (Former Head Teacher, Savelugu M.A JHS, January 24, 2017).

This improvement may be partly attributed to GPEG. The programme made provision for certain girls' friendly infrastructure and materials in the beneficiary

districts. The construction of gender specific urinary and the provision of first aid kits which made sanitary pads available to girls who unexpectedly had their period during class hours. With such facilities in place, girls who hitherto would stain their uniforms and run home now found it convenient to stay at school. Also, with the availability of a gender specific urinary, girls no longer had to run to nearby homes each time they were pressed to use the urinary. One respondent captured the gender friendly nature of the GPEG programme as follows:

- *"First aid – Sanitary pads are provided. This makes the school environment girls friendly"* (Head Teacher, Savelugu Experimental Primary 'B', January 24, 2017).
-

It is however important to mention that although the numbers of girl enrolment increased, the rate of completion remained low as reported by a respondent below.

- *"Girl child enrolment is high but completion is still a problem. This is particularly when they are going to JHS"* (Head Teacher, Savelugu Experimental Primary 'A', January 24, 2017).

Further gains were made on pupil-teacher ratio. The GES requirement for Pupil-Teacher Ratio - PTR is 35 pupils to a teacher. On this indicator, there has not been much improvement for either the GPEG or Non-GPEG district at all levels of basic school. Despite, the minimal improvement in PTR, the proportion of trained teachers has increased at all levels with increases in GPEG districts outpacing those of Non-GPEG districts. These recorded increases in numbers of trained teachers in the GPEG districts can be explained by the Untrained Teachers Diploma in Basic Education (UTDBE) Programme.

The UTDBE was a human capital development aspect of the programme intended to upgrade and provide training to untrained teachers in the GPEG districts. This was an opportunity for untrained teachers to upgrade their skills and teaching ability at no cost. A total of 6,480 untrained teachers were trained leading to the acquisition of a certificate 'Diploma in Basic Education'. Without the UTDBE most teachers in the deprived GPEG district may have remained untrained, considering the

capital intensive nature of tertiary education coupled with the fact the salaries of these untrained teachers are low. In the words of one beneficiary:

- *"There was no fee for getting enrolled into the programme. It would have been difficult for me to get enrolled in a training college without the support of GPEG"* (UTDBE Beneficiary, Savelugu Experimental Primary 'A', January 24, 2017).

A number of benefits were derived from the UTDBE including the upgrading of teaching skills of hitherto untrained teachers and improvement of learning outcomes of students. Prior to the UTDBE, untrained teachers were unable to plan and prepare acceptable lesson notes. Subject content knowledge was also said to be low and it was also difficult for untrained teachers to distinguish between core points and teacher/learner activities. By the end of the training programme it was observed that trainees had their skills and knowledge improved. Their performance was satisfactory in many respects including but not limited to the preparation of teaching and learning materials, sensitivity to diverse learner needs and the use of teaching and learning materials. According to a UTDBE beneficiary, the programmes was very helpful.

- *"It has helped improved our teaching including Lesson planning and Different delivery methods"* (UTDBE Beneficiary, Savelugu Experimental Primary 'A', January 24, 2017).

7.9 Chapter Summary

The Chapter examined the extent to which pro-poor donor and government interventions get to the poor and whether the interventions have any equalising effects. The GPEG programme was found to be largely targeted at poor districts. Over 60 percent of the beneficiary districts were found in the three poorest regions in Ghana. But the concentration of beneficiaries in the three poorest regions did not necessarily translate into large benefits for these regions per the BIA conducted. The BIA analysis when limited to just benefit distribution to the various regions, the three poorest regions emerged as the net gainers with average benefit of 36 percent over the three year period whilst their southern counterparts obtained a net benefit of 25

percent. However, an extension of the BIA analysis to include the decile share of regions reveals that the bottom two poorest regions did not gain much benefits from GPEG for the year 2013 except the Northern region which emerged as the largest beneficiary for the year 2013 with a decile share 13.92. However, the low benefits recorded by the bottom two poorest regions cannot be attributed to a lack targeting by the programme. Rather it is the effect of low household expenditure on basic education due to the high poverty levels in these regions. This leads to the conclusion that even in the presence of highly targeted social interventions, severe poverty has the potent to trivialise otherwise substantial gains of programmes.

More interesting is the revelation that there was no resource capture by politicians with regard to the GPEG programme, if there was any at all, then it was minimal. The programme, although short, recorded major improvements in key educational indicators, as observed in the gains made in GPEG districts against non-GPEG districts in section 7.8. Ghana can be on the path to equalising north-south development disparities if more social interventions like GPEG are put in place. Furthermore, the success of the programme was largely due to the adoption of good development practices by the implementers. Transparency, accountability, attention to capacity building of both implementing organisations and personnel, as well as the complete decentralisation and a greater participation were hallmarks of the programme. The Ghanaian case is one of many pockets of effectiveness in development management which is worth reporting. Perhaps, it may serve as an example for other SSA countries to follow. The next chapter is the concluding chapter of this thesis.

CHAPTER 8

SUMMARY, CONCLUSION AND RECOMMENDATION

8.1 Introduction

This chapter is the concluding chapter of the study. It is organised into five sections. Section 2 presents the summary of major findings of this thesis; section 3 presents the conclusion; section 4 discusses the limitations of the study and section 5 makes some recommendations regarding the directions for future research.

8.2 Summary of Major Research Findings

The issue of spatial inequality or regional development disparities has been around for a long time and has been a hotly contested subject regarding both its causes and the approach to which it should be handled. While the divergence theorists argue that regional inequalities are inevitable and will continue to widen once some regions establish dominance, the convergence theorists argue that indeed inequalities at the initial stages of growth are inevitable, but in the long run growth at one point builds up pressures, tensions, and compulsion toward growth at subsequent points thereby leading to convergence of the development and the growth process between developed and under developed regions (Myrdal, 1957; Hirschman, 1988).

Besides these divergence/convergence hypotheses is the politics and power relations school which argues that development disparities are principally political, that regional inequalities arise due to the unbalanced distribution of national resources as a result of unequal representation in national politics (Mosse, 2007; Hickey & du Toit, 2007). This study was carried out within the scope of the politics and power relations theory and sought to examine whether there is a relationship between political representation and development disparity via the processes of resource allocation. It also sought to examine whether and if the government of Ghana is making any conscious effort to bridge the current development disparities in Ghana via pro-poor resource allocation. Political representation, resource allocation and

enrolment data were collected in Ghana covering the period 2004-2016 and analysed with the ARDL technique. Furthermore, a social intervention by the Ghana Education Service was examined to determine the extent to which pro-poor allocations were done in order to bridge inequalities in education.

The findings of the study showed that:

1 Political representation had a positive and significant impact on net enrolment in basic schools in the long run.

2 Political representation was also found to have a positive and significant long run relationship with resource allocation.

3 Population and the number of schools were both found to have positive and a significant long run relationship with resource allocation.

4 Number of schools was found to have a positive and significant relationship with resource allocation.

5 Population of children of school going age was found to have a significant and a negative relationship with resource allocation. The negative relationship was not anticipated by the study and this generally contradicts most existing studies. However, such a finding in the case of Ghana is quite logical since the GES has recorded massive improvements in access to basic education. Consequently, factors such as population of children of school going which is an access factor were no longer given any greater priority by the GES, thus, less resources are now devoted to access.

6 Moving to the findings of the case study, the GPEG programme was found to be largely pro-poor. Over 60 percent of beneficiary districts were found in the three poorest regions of Ghana.

7 Results from the BIA showed that the poorest regions recorded the most benefits from the programme when the analysis was limited to just distribution of benefits. The poorest regions were the beneficiaries with an average benefit of 36 percent across three years. However, when BIA was extended to include the decile share of regions, it was found that the bottom two poorest regions recorded the least benefits. Only one of the poorest regions emerged as the largest beneficiary. Thus, per the BIA for 2013, which included decile share, the two poorest regions were the bottom four beneficiaries of the programme.

8 Although, the two most poorest regions were among the least beneficiaries of the programme, the study still considers the programme as pro-poor since the least benefits that went to the two poorest regions was not the result of under allocation by the implementers of the programme. It was found that the low benefits recorded by the two poorest regions was the result of low household expenditure on basic education due to the high poverty levels in these regions. This led us to conclude that even in the presence of highly targeted social interventions, severe poverty has the potential to reduce the impact of gains made by pro-poor programmes.

9 It was also found that powerful political elites could not influence the transfer of funds to their jurisdictions in this programme. A number of reasons have been advanced for the absence of resource capture in the case of the GPEG programme. These include a combination of good development management practices such as transparency, accountability, attention to capacity building, complete decentralization and greater participation.

10 Finally, the GPEG programme recorded major equalizing gains in key educational indicators. For instance, some of the deprived districts moved up the district ranking table for education. In other words, if such a programme is to be implemented today, such districts would not be counted among deprived districts.

8.3 Conclusion of the Study

This section attempts to make deductions and suppositions based on the findings of the study. The practical implications of the study are drawn from these deductions with the hope that they will be useful to policy practitioners. The contributions of the study to literature is also discussed in this section.

Political representation indeed shapes development outcomes through the mechanism of resource allocation, a conclusion that should be treated with utmost seriousness. As it is, regions that are under developed most often double as the less powerful regions. Consequently, if development is shaped by representation (power), then the development of under developed regions may never materialise. The practical

implication of this is that governments in developing countries cannot afford to adopt a laissez-faire attitude of allowing market forces to establish the equilibrium between developed and lagging regions. Neither will the tokenistic distributive public service provisioning to lagging regions be a facile panacea. Governments would have to play a substantial and decisive role to ensure that politically under represented jurisdictions get a fair share of the national cake.

One of the ways to accomplish this is by spatially targeting resources at lagging regions, definitely not through mainstream budgetary allocations, but through special socio-economic interventions. However, experience from the findings of the GPEG case study shows that pro-poor social interventions may appear to have less effect in areas where the levels of deprivation is severe. Impliedly, social interventions and poverty reduction programmes should work hand in hand if any meaningful impact is hoped to be achieved. Furthermore, mainstream budgetary allocations should strengthen the use of both the principles of proportionality and deprivation criteria as they are found to have both a positive and a significant impact on development outcomes. Perhaps a stringent application of these principles may have a reducing effect on the influence that political representation has on both development outcomes and allocations.

The findings also have major implications for the international donor community, both in terms of their role to foster inclusive development and the manner in which local partners utilise donor funds. The international donor community would have to focus their attention on lagging regions since their under development is primarily linked to their inadequate representation in politics. Thus, donors should aim at targeting resources disadvantaged regions and groups.

Besides the practical implications, the study has also made twofold contribution to literature. First is the use of ARDL technique which has the ability to establish both long run relationships and short run dynamics in analysing data. Most power relations studies employ the qualitative approach. Therefore, the effort to establish a long term cointegration between political representation and development outcomes and resource allocation is huge methodological contribution to power relations literature.

Secondly, the study makes some theoretical contribution through findings that population, number of schools and population of children of school going age are significantly related to development outcomes and resource allocation. This points to the fact that other factors matter in shaping development outcomes besides political representation. Thus, with conscious effort, the use of normative principles in resource allocation, if strengthened, can reduce the impact that political factors have on development outcomes.

8.4 Limitations of the Study

"There are no perfect research designs. There are always trade-offs …" (Patton 2002 cited in Marshall & Rossman, 2011). Consequently, one couldn't agree more with the assertion that a discussion of a study's limitations demonstrates the researcher's comprehension of the complexities of research designs (Marshall and Rossman, 2011). Therefore, the study proceeds by discussing some anticipated limitation and challenges of the study.

The fact that the study used time series data and particularly the ARDL technique with the ability to establish long term relationships means that conclusions regarding causality can be made. Nevertheless, there are still limitations in this study that are worth pointing out. First, the major limitation regarding this study is that the period under observation was not long enough. Though there is no rule regarding what number of years that should be considered long enough, it is generally agreed that the longer the number of observations the better the parameters. Also, a short time frame means that the study could not use more independent variables since that reduces the lag length one can use in the study. Similarly, a short time period meant the study did not go far back into history which holds interesting observations. Therefore, the study could have boasted of more robust parameters if the time under consideration had been extended a little longer into the past.

Second, the ARDL model employed in the estimation of the models allows for the inclusion of dummy variables. However, we could not incorporate dummy variables into the study because the period under observation was not long enouth. For example, a representation index was created to measure power differentials between regions that had an effect on development outcomes and resource allocation.

Sadly, it had to be dropped because some of the regions had the same notations (0 or 1) for the entire twelve years. With such a data there cannot be basis for comparison. The director dummy variable which was created to determine the effect of bureaucratic factors on development outcome also had to be dropped.

The third limitation of the study has to do with the unavailability of certain data which are considered pertinent for the study. For example, annual poverty data was unavailable. Data on annual poverty were available for only two years, 2005/2006 and 2012/2013. The reason for this is that GSS collects living standards surveys on seven year intervals and it is this report that contains the poverty index. And since the study was only from 2004-2016, only data for two periods were available. Unlike population, the poverty index cannot be projected because so many factors come into play. Consequently, poverty index had to be dropped model as one of the control variable. Finally, the main reason for the consideration of period 2004-2016 was precisely because of difficulties in obtaining regionally disaggregated data for the years before 2004.

Another limitation of this study is in reference to the selection of the government sector in the allocations for analyses. The study limited its scope to only the social service sector and even within this sector, the scope was narrowed down to only the education service. Health, electrification, agriculture and road construction which are important services the government delivers and equally have far reaching consequences for poverty reduction and inequality have not been captured in the study. The role of agriculture, in particular, to development in Ghana cannot be overemphasized. Generally, during the early stages of development, the role of agriculture is very important not just because agriculture accounts for the largest share of economic activities, but also because of the linkages effects from agricultural growth to non-agricultural growth and from rural to urban are much stronger (Haggblade et al., 1989 cited in Alhassan & Diao 2007).

Indeed, the incorporation of the agricultural sector and the other sectors to this thesis would have expanded the scope of the study by highlighting the impacts allocations to these sectors have on the north-south disparities. However, the difficulties in obtaining secondary data in Africa, especially data on actual expenditure by government institutions, as well as time constraints compelled me to

limit the enquiry to only the education service, for which statistics was also not easy to come by. I spent a good seven months in the field before I was able to obtain expenditure data for only 13 years.

In the original proposal I proposed to collect expenditure data spanning 23 years (1993-2016). Upon getting to the field I was practically asked by Ghanaian civil servants whether I was truly a Ghanaian. According to them every Ghanaian is aware that kind of data is unavailable. I was forced to revise the timeline to 17 years (2000-2016) upon consultations with my advisor. The truth is that data for 17 years was still a challenge, I could only manage to obtain data for 13 years (2004-2016). Even that data were not all obtained at the Ghana Education Service – GES. The service could only generate data for seven years (2010-2016). Data for 2004-2009 were obtained from a Lecturer in the University of Ghana who had used expenditure data from the GES for his PhD. Dissertation. I believe the data were reliable because it was similar to the data used by ISODEC, a Think Tank in Ghana.

In addition to the difficulties in obtaining secondary data was financial constraints. Funding posed a critical challenge to the study in general and to expanding the scope of the study in particular. I was supposed to have received the first part of my research grant after my proposal defence to help with my field trip. However, seven months into my stay in the field, I had not received even a cent. Thus, throughout the seven month data collection period I did not have access to my research grant. The reason for the delay was that I was not officially assigned an advisor, since my preferred advisor had reached the limit of student he could supervise per period. Also, from January to April, 2017 my stipend was not paid by the University, partly because I did not formally have an advisor and partly because I had not put my proposal through ‘turnitin’, a plagiarism software. It was not officially communicated to us that we were supposed to have done that. I thought it was only the final report that was supposed to be checked. Meanwhile, I bore the cost of printing services, internet services (internet in Ghana is very expensive) and transportation to the various research sites both in the north and south of the country.

8.5 Recommendations of the Study

Most studies tend to make policy recommendation in the recommendation section. On the contrary, this study will be making recommendations on directions for future research based on the limitations of the study. Recommendations for policy and practice and practical implications of the study have been well discussed in the concluding section of this chapter. Consequently, we proceed to make recommendations for future research in the following paragraphs.

Firstly, the scope of this study is quite narrow which of course was done on purpose due to cost and time constraints. The study is limited to only GES, whose mandate covers only basic and secondary education. Therefore, future studies can focus on tertiary education and other social and economic sectors, including health, agriculture, electricity, roads etc. Secondly, variables such as the representation index dummy, director dummy, poverty and others can be modelled into future studies. Finally, longitudinal studies of this nature can be replicated in other SSA countries to see how political representation plays out in the development discourse in other local contexts.

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APPENDICES

APPENDIX 1

LIST OF INTERVIEW RESPONDENTS

Position of Respondent	Affiliation of Respondent	Date of Interview
1. Girl Child Education Officer	Savelugu District Directorate of Education	23/01/2017
2. Budget Officer	Savelugu District Directorate of Education	23/01/2017
3. Director of Education	Savelugu District Directorate of Education	27/01/2017
4. Head Teacher	Savelugu Experimental Primary 'A'	24/01/2017
5. UTDE Beneficiary - Teacher	Savelugu Experimental Primary 'A'	24/01/2017
6. Head Teacher	Savelugu Experimental Primary 'B'	24/01/2017
7. Former Head Teacher	Savelugu MA JHS 'A'	27/01/2017
8. Head Teacher	Savelugu MA JHS 'B'	26/01/2017
9. GPEG Coordinator	GES Headquarters	08/02/2017
10. Director of Budget	GES Headquarters	07/02/2017
11. Financial Controller	GES Headquarters	10/01/2017
12. Focus Group Discussion	Pupils of Savelugu MA JHS 'A'	26/01/2017

APPENDIX 2

LIST OF MINISTERS

Jan. 2001-April 2003

Region	Name	Portfolio	Total
Ashanti	J. A. Kufuor Dr. K. Addo-Kufuor* Dr. K. K. Aprakuu* Dr. Richard Anane* Kwado Baah-Wiredu* A. Kan Dapaa* Edward Osei-Kwaku	President Defence Trade & Industry Road Transport Local Government & Rural Development Energy Youth & Sports	8
Brong Ahafo	Joseph H. Mensah* Prof. Ameyaw Akumfi* K. Adjei-Darko *	Snr. Minister, Chairman of Economic Mgt. Team Education Mines	3
Central	Prof Dominic Fobih* Yaw Barimah Kwamena Bartels Christine Churcher Paa Kwesi Nduom Charles O. Nyanor	Environment & Science Works and Housing Private Sector Dev't & PSIs Prim, Sec. & girl child educ. Econ Planning & Reg. Cooperation Office of the President	6
Eastern	Nana Akufo-Addo* Hackgman O. Agyeman* Mr. Yaw Osafo Marfo* Felix K. O. Adjapong*	Attorney-General &Justice Foreign Affairs Finance & Econ. Planning Communications & Tech.	4
Greater Accra	Jake Obetsebi Lamptey* Cecelia Bannerman* Ishmael Ashitey	Info. and Presidential Affairs Manpower Dev't & Emp't Min of state for Fisheries	3

Northern	Aliu Mahama Malik Al-Hassan Yakubu* Ben Salifu	Vice President Interior NDPC	3
Upper East	Kassim Kasanga	Lands & Forestry	1
Upper West	Hawa Yakubu	Minister for Tourism	1
Volta	Mjr Courage Quashigah* Ms. Elizabeth A. Ohene	Food & Agriculture Office of the President	2
Western	Kwaku Afriyie* Gladys Asmah* Papa Owusu Ankomah	Health Women & Children Affairs Parliamentary Affairs	3

April. 2003-Jan. 2005 Reshuffle

Region	Name	Portfolio	Total
Ashanti	**J. A. Kufuor** Dr. K. Addo-Kufuor* Kwado Baah-Wiredu* Alan Kyeremanteng* Albert Kan-Dapaah Dr. Richard Anane Kofi Konadu Apraku	**President** Defence Educations & Sports Trade & Industry Communications Road Transport Regional Cooperation & NEPAD	7
Brong Ahafo	Joseph H. Mensah* K. Adjei-Darko* Prof. C. Ameyaw-Akumfi	Snr. Minister (responsible for Public Sector Reforms) Local Gov't & Rural Development Harbour & Railways	3

Central	Prof Dominic Fobih* Paa Kwesi Nduom* Yaw Barimah Kwamena Bartels Christine Churcher	Lands &Forestry Energy Manpower, Youth & Employment Private Sector Dev't & PSIs Primary, seco., & girl child education	5
Eastern	Nana Akufo-Addo* Hackgman O. Agyemang* Mr. Yaw Osafo Marfo* Felix K. O. Adjapong*	Foreign Affairs Interior Finance & Economic Planning Parliamentary Affairs	4
Greater Accra	Nana Akomea Jake Obetsebi Lamptey* Cecilia Bannerman* Samuel Nii Noi Ashong Ishmael Ashitey Edward Martey Akita	Information Tourism & Mod. of Capital City Mines Finance & Economic Planning Trade, Inustry & PSI Food & Agriculture (Fisheries)	6
Northern	**Aliu Mahama*** Mustapha Iddris* Ben Salifu	**Vice President** Works & Housing Office of the Senior Minister	3
Upper East			
Upper West	Kasim Kasanga*	Environment & Science (from Oct. 2001-)	1
Volta	Mjr Courage Quashigah* Rashid Bawah	Food & Agriculture Youth & Sports	3

	Ms. Elizabeth A. Ohene	In charge of Tertiary Education (MoES)	
Western	Papa Owsu-Ankomah* Kwaku Afriyie* Gladys Asmah*	Attorney-General &Justice Health Women & Children Affairs	3

February 2005 cabinet

Region	Name	Portfolio	Total
Ashanti	**J. A. Kufuor***	**President**	8
	Dr. K. Addo-Kufuor*	Defence	
	Kwado Baah-Wiredu*	Finance & Economic Planning	
	Alan Kyeremanteng*	Trade & Industry	
	Mr. Kwadwo Mpiani*	Presidential Affairs	
	Albert Kan-Dapaah	Communications	
	Dr. Richard Anane	Road Transport	
	Kofi Konadu Apraku	Regional Cooperation & NEPAD	
Brong Ahafo	Joseph H. Mensah*	Snr. Minister (responsible for Public Sector Reforms)	3
	Ernest K. Debrah*	Food & Agriculture	
	Chritopher A. Akumfi	Harbour & Railways	
Central	Prof Dominic Fobih*	Lands, Forestry & Mines	4
	Christine Churcher*	Environment & Science	
	Kwamena Bartels	Private Sector Dev't & PSIs	
	Paa Kwesi Nduom	Public Sector Reforms	
Eastern	Nana Akufo-Addo*	Foreign Affairs	5
	Hackgman O. Agyeman*	Works & Housing	
	Mr. Yaw Osafo Marfo*	Educations & Sports	
	Felix K. O. Adjapong*	Parliamentary Affairs Dan	

	Dan Botwe	Botwe Information	
Greater Accra	Mr. Ayiko Otoo* Jake Obetsebi Lamptey* Prof Mike Oquare*	Attorney General & Justice Tourism & Modernisation of Capital City Energy	3
Northern	Aliu Mahama* Hajia Alima Mahama* Charels B. Bintim*	Vice President Women & Children Affairs Local Gov't & Rural Development	3
Upper East	Joseph Kofi Adda	Manpower, Youth & Employment	1
Upper West			0
Volta	Maj. C.Quashigah* Ms. Elizabeth Akua Ohene	Health In charge of Tertiary Education (MoES)	2
Western	Papa Owsu-Ankomah* Gladys Asmah	Interior Fisheries	2

April 2006 cabinet Reshuffle

Region	**Name**	**Portfolio**	**Total**
Ashanti	**J. A. Kufuor***	**President**	9
	Dr. K. Addo-Kufuor*	Defence	
	Kwado Baah-Wiredu	Trade, Industry & PSIs	
	Alan Kyeremanteng*	Interior	
	Albert K. Dapaah *	National Security	
	Francis Poku*	Chief of Staff &Presid.	
	Mr. Kwadwo Mpiani*	Affairs	
	*Dr. Richard Anane	Road Transport	
	Sampson K. Boafo	Culture & Chieftaincy	

Brong Ahafo	Ernest K. Debrah* C. Ameyaw-Akumfi K. Adjei Darko	Food & Agriculture Ports & Railways Office of President	3
Central	Prof Dominic Fobih* Stephen A. Boateng* Kwamena Bartels Paa Kwesi Nduom	Lands, Forestry & Mines Local Government & Rural Dev't Information & National Orientation Public Sec. Reforms	4
Eastern	Nana Akufo-Addo* Hackgman O. Agyeman* Papa Owusu Ankomah* Felix K. O. Adjapong*	Foreign Affairs, Reg. Int. & NEPAD Works & Housing Educations, Science & Sports Parliamentary Affairs	4
Greater Accra	Mike Ocquaye* Jake Obetsebi Lamptey* Gloria Akuffo	Communication Tourism & Diasporan Relations Aviation	3
Northern	Hajia Alima Mahama* Boniface Saddique Aliu Mahama* Charles Bintim	Women & Children Affairs Manpower Dev't & Employment Vice President Office of President	4
Upper East	Joseph Adda*	Energy	1
Upper West			
Volta	Maj. Courage Quashigah*	Health	2

	Ms. Elizabeth A. Ohene	Office of President	
Western	Joe Ghartey * Gladys Asmah	A-G & Justice Fisheries	2

2007-Jan. 2009 Reshuffle

Region	Name	Portfolio	Total
Ashanti	John A. Kufuor Albert Kan Dapaah* Akwasi Osei-Adjei* Anthony Akoto Osei* Abraham Osei Aidooh* Francis Poku* Mr. Kwadwo Mpiani* Addo Kufuor* Sampson K. Boafo	President Defence Foreign Affairs, Reg. Int. & NEPAD Finance & Economic Planning Parliamentary Affairs National Security Chief of Staff &Presidential Affairs Interior (2008-Jan 2009) Culture & Chieftaincy	9
Brong Ahafo	K. Adgei Darko* Ernest K. Debrah* C. Ameyaw-Akumfi K. Adjei Darko	Local Government & RD Food & Agriculture Ports & Railways Office of President	4

Central	Kwamena Bartels* Dominic Fobih* S. Asamoah-Boateng* Samuel Owusu Agyei	Interior (2007-2008) Educ., Science & Sports Tourism & Diasporan Relations Public Sector Reforms	4
Eastern	Ben Aggrey Ntim* Esther Obeng Dapaah* Felix K. O. Adjapong*	Communication Lands, Forestry & Mines Energy (2008-January 2009)	3
Greater Accra	Oboshie Sai-Cofie Nana Akomea Gloria Akuffo	Information & National Orientation Manpower Dev't & Employment Aviation	3
Northern	Aliu Mahama* Hajia Alima Mahama* Boniface Saddique* Charles Bintim	Vice President Women & Children Affairs Water Resources, Works & Housing Office of President	4
Upper East	Joseph Adda*	Energy (2006-2008)	1
Upper West	Ambrose Derry* Godfred T. Bonyon	Attorney General & Justice Road Transport	2
Volta	Courage Quashigah*	Health Office of President	2

	Ms. Elizabeth A. Ohene		
Western	Gladys Asmah Joe Baidoo Ansah* and later P. Owusu Ankoma (both Western, so counted once)	Fisheries Trade, Industry & PSIs	2

List of Ministers February 2009

Region	Name	Portfolio	Total
Ashanti	1. Dr. Kwabena Duffuor* 2. Dr. Oteng Adjei* 3. Alhaji Mohamed-Mubarak Muntaka 2009-Oct2009 4. Mrs. Betty Mould Iddrisu*	1. Finance and Economic Planning 2. Energy 3. Youth and Sports 4. Attorney-General and Justice	**Total – 4**
Brong Ahafo	1. Alhaji Collins Dauda* 2. Mr. Alexander Asum-Ahensah	1. Lands and Natural Resources 2. Chieftaincy & Culture	**Total – 2**
Central	1. J.E.A Mills 2. Ms. Hannah Tetteh* 3. Mr. Mike Allen Hammah*	1. President 2. Trade and Industry 3. Transport	**Total - 3**
Eastern	1. Mr. Alex Narh Tettey-Enyo* 2. Mr. Stephen Amoanor	1. Education 2. Employment and Social	**Total – 4**

	Kwao*	Welfare	
Greater Accra	1. Ms. Hanny-Sherry Ayittey* 2009-2012 2. Mrs. Sabah Zita Okaikoi 2009-2010	1. Env and Science and Tech. 2. Information	**Total – 2**
Western	1. Lt. Gen. J. H. Smith (retd)* 2. Mr. Kwesi Ahwoi* 3. Dr. George Sipa-Adjah Yankey*2009-Oct 2009	1. Defence 2. Food and Agriculture 3. Health	**Total – 3**
Volta	1. Mr. J. K. Giddisu* 2. Ms. Akua Sena Dansuah* 3. Mrs. Julian Azumah-Mensah	1. Roads and Highways 2. Women and Children's Affairs 3. Tourism	**Total – 3**
Northern Region	1. J.D Mahamah 2. Alhajji Muhammed Mumuni* 3. Mr. Haruna Iddrisu* 4. Mr. Kwajo Tawiah Likpalimor 5. Alhaji Seidu Amadu 2009-Oct. 2009	1. Vice President 2. Foreign Affairs and Regional Integration 3. Communications 4. Minister without portfolio May 2009 5. Minister without portfolio May 2009	2009 – 3 2009 – 2 **Total – 5**
Upper East	1. Mr. C. A. Avoka* 2. Mr. Albert Abongo* 3. Mr. Azong Alhassan	1. Interior 2. Water Res, Works and Housing 3. Min. of state	**Total – 3**

Upper West	1. Mr. Joseph Yieleh Chireh* 2009-2011 2. Benjamin Kumbour 3. Rashid Pelpuo	1. Local Gov. and Rural Dev. 2. Health 3. Youth and sports October 2009	**Total – 3**

List of Ministers January 2010

Region	Name	Portfolio	Total
Ashanti	Dr. Kwabena Duffuor* Dr. Oteng Adjei* Mrs. Betty Mould Iddrisu*	Finance and Economic Planning Energy Attorney-General and Justice	**Total – 3**
Brong Ahafo	1. Alhaji Collins Dauda* 2. Mr. Alexander Asum-Ahensah	1. Lands and Natural Resources 2. Chieftaincy & Culture	**Total – 2**
Central	1. J.E.A Mills 2. Ms. Hannah Tetteh* 3. Mr. Mike Allen Hammah*	1. President 2. Trade and Industry May 2009 3. Transport May 2009	**Total - 3**
Eastern	Mr. Alex Narh Tettey-Enyo* Enoch T Mensah Stephen Amoanor Kwao	Education Employment and social welfare Min. without Portfolio	**Total – 3**
Greater Accra	Ms. Hanny-Sherry Ayittey* Mrs. Sabah Zita Okaikoi	Env and Science and Tech. Tourism May 2010	**Total – 2**
Western	4. Lt. Gen. J. H. Smith (retd)* 5. Mr. Kwesi Ahwoi*	4. Defence 5. Food and Agriculture	**Total – 2**

Volta	4. Mr. J. K. Giddisu* 5. Mrs. Juliana Azumah-Mensah 6. Ms Akua Sena Dansua*	4. Roads and Highways 5. Women and Children's Affairs 6. Youth and Sports	**Total – 3**
Northern Region	6. J.D Mahamah 2009-2012 7. Alhajji Muhammed Mumuni* 2009-2012 8. Mr. Haruna Iddrisu* 2009-2012 9. Mr. Kwajo Tawiah Likpalimor 2009-2012	6. Vice President 7. Foreign Affairs and Regional Integration 8. Communications May 2009 9. Minister without portfolio May 2009	**Total – 4**
Upper East	4. Mr. Albert Abongo* 2009-2012 5. Martin Amidu* 2010-2011 6. Mr. John T. Kolgo 2010-2011 7. Mr. Azong Alhassan 2009-2012	4. Water Res, Works and Housing 5. Interior 6. Information May 2010 7. Min. without portfolio	**Total – 4**
Upper West	4. Mr. Joseph Yieleh Chireh* 5. Mr. Alban S k Bagbin * 6. Benjamin Kumbour* 7. Rashid Pelpuo	4. Local Gov and Rural Development 5. Water Res, Works and Housing 6. Health 7. Youth and sports	**Total – 4**

List of Ministers January 2011

Region	Name	Portfolio	Total
Ashanti	Dr. Kwabena Duffuor* Dr. Oteng Adjei* Betty Mould Iddrissu*	1. Finance and Economic Planning 2. Energy 5. Education	**Total – 3**
Brong Ahafo	Mr. Alexander Asum-Ahensah Collins Dauda*	Chieftaincy & Culture Transport	**Total – 2**
Central	1. J.E.A Mills 2. Ms. Hannah Tetteh* 4. Mike Allen Hammah*	President Trade and Industry Lands and NR	**Total - 3**
Eastern	3. Enoch T Mensah 4. Samuel Kwame ofosu Ampofo * 7. Stephen Amoanor Kwao	3. Employment and social welfare 4. Local Government 7. Min. without Portfolio	**Total – 3**
Greater Accra	3. Ms. Hanny-Sherry Ayittey* 2009-2012	3. Env and Science and Tech.	**Total – 1**
Western	6. Lt. Gen. J. H. Smith (retd)* 2009-2012 7. Mr. Kwesi Ahwoi* 2009-2012	6. Defence May 2009 7. Food and Agriculture May 2009	**Total – 2**
Volta	7. Mr. J. K. Giddisu* 8. Mrs. Juliana Azumah-Mensah 9. Ms Akua Sena Dansua* 10. Mr. Clement Kofi	7. Roads and Highways 8. Women and Children's Affairs 9. Tourism 10. Youth and Sports	**Total – 4**

	Humado		
Northern Region	10. J.D Mahamah 11. Alhajji Muhammed Mumuni* 12. Mr. Haruna Iddrisu* 13. Mr. Kwajo Tawiah Likpalimor	10. Vice President 11. Foreign Aff. and Regional Integration 12. Communications 13. Minister without portfolio	**Total – 4**
Upper East	8. Mr. Albert Abongo* 9. Martin Amidu * 10. Mr. John T. Kolgo 11. Mr. Azong Alhassan	Water Res, Works and Housing Attorney-General Information Minister without portfolio	**Total – 4**
Upper West	8. Benjamin Kumbour *2011-2012 9. Joseph Yieleh Chireh* 2011-2012 10. Mr. Alban S k Bagbin *2010-2012	8. Interior 9. Health January 2010 10. Water Res, Works and Housing	**Total – 3**

List of Ministers February 2012

Region	Name	Portfolio	Total
Ashanti	11. Dr. Kwabena Duffuor* 2. Dr. Oteng Adjei*	1. Finance and Economic Planning 2. Energy	**Total – 2**
Brong Ahafo	Mr. Alexander Asum-Ahensah Collins Dauda*	Chieftaincy & Culture Transport	**Total – 2**

Central	J.E.A Mills Ms. Hannah Tetteh* Mike Allen Hammah*	President Trade and Industry Lands and NR	**Total - 3**
Eastern	3. Enoch T Mensah 4. Samuel Kwame ofosu Ampofo* 5. Mr William Kwasi Aboah* 7. Stephen Amoanor Kwao	3. Employment and social welfare 4. Local Government 5. Interior 7. Min. without Portfolio	**Total – 4**
Greater Accra	4. Ms. Hanny-Sherry Ayittey* 2009-2012 5. Mr. Fritz F. Baffour 2012	4. Env and Science and Tech. 5. Information May 2012	**Total – 2**
Western	Lt. Gen. J. H. Smith (retd)* 2009-2012 Mr. Kwesi Ahwoi* 2009-2012 Mr. Lee Ocran *2012	Defence May 2009 Food and Agriculture May 2009 Education	**Total – 3**
Volta	Mr. J. K. Giddisu* Mrs. Juliana Azumah-Mensah Ms Akua Sena Dansua* Mr. Clement Kofi Humado	Roads and Highways Women and Children's Affairs Tourism Youth and Sports	**Total – 4**
Northern Region	14. J.D Mahamah 15. Alhajji Muhammed Mumuni* 16. Mr. Haruna Iddrisu* 17. Mr. Kwajo Tawiah Likpalimor	14. Vice President 15. Foreign Affairs and Regional Integration 16. Communications 17. Minister without portfolio	**Total – 4**

Upper East	12. Mr. Albert Abongo* 2009-2012 13. Martin Amidu *2011-2012 14. Mr. Moses Aduko Asaga 2012 15. Mr. Azong Alhassan 2009-2012 16. Mr. Dominic Azimbe Azumah2012	Water Resources, Works and Housing Attorney-General Employment and S. Welfare Min of state Min.of state	**Total – 5**
Upper West	11. Benjamin Kunbour* 2012 12. Joseph Yieleh Chireh* 2011-2012 13. Mr. Alban S k Bagbin 2010-2012	12. Attoney General 13. Health January 2010 14. Water Res, Works and Housing	**Total – 3**

List of Ministers 2013-2016

January 2013 Ministers

Region	Name	Portfolio	Total
Ashanti	1. Joe Oteng-Adjei* 2. Elvis Afriyie Ankrah	1. Mini. for Environment, Sci. and Tech. 2013-2014 2. Minister for Youth and Sports 2013-2014	**Total – 2**
Brong/A	1. Elizabeth Ofosu-Agyare 2. Collins Dauda* (MP)	1. Min. for Tour. Cult. and Creative Arts 2013-2016 2. Min. for Water Res., Works and Hous. 2013-2015	**Total – 2**
Central	1. Hanna Tetteh (MP)* 2. Marietta Brew Appiah-Oppong* 3. Jane Naana Opoku Agyemang* 4. Nana Oye Lithur* 5. Kwesi Ahwoi * 6. Paa Kwesi Amisah Arthur	1. Minister for Foreign Affairs 2013- 2016 2. Attorney Gen. and Minister for Justice 2013-2016 3. Minister for Education 2013-2016 4. Min. for Gender, Child. and Social Prot. 2013-2016 5. Minister for Interior 2013-	**Total – 6**

		2014	
Eastern	1. Edward Omane Boamah* 2. Seth Terkpeh*	1. Minister for Communications 2013-2016 2. Min. for Finance and Econ. Planning 2013-2016	**Total – 2**
G/Accra	1. Hanny-Sherry Ayitey* 2. Nii Armah Ashitey (MP) 3. Dr. Mustapha Ahmed	1. Minister for Health 2013-2014 2. Min. for Employment and Labour Rel. 2013-2014 3. Minister of State 2013-2014	**Total – 3**
Western	1. Emmanuel A. Kofi Buah (MP)* 2. Akwasi Oppong Fosu (MP)*	1. Minister for Energy and Petroleum 2013-2016 2. Min. for Local Gov. and Rural Dev. 2013-2014	**Total – 2**
Volta	1. Clement Kofi Humado (MP) 2. Fiifi Fiavi Kwetey* (MP 3. Dzifa Aku Ativor*	1. Minister for Food and Agriculture 2013-2014 2. Minister of State 2013-2014 3. Minister for Transport 2013-2015	**Total – 3**
Northern	1. John Dramani Mahama 2. Haruna Iddrisu (MP)* 3. Inusah Fuseini (MP)* 4. Nayon Bilijo 5. Henry Seidu Daanaa	1. President 2. Minister for Trade and Industry 2013-2014 3. Min. for Lands and Natural Resources 2013-2014 4. Min. for Fisheries and Aquaculture Dev. 2013-2014 5. Min. for Chieftaincy and Trad. Affairs 2013-2016	**Total – 5**
Upper East	1. Mahama Ayariga (MP) 2. Alhassan Azong 3. Mark Owen Woyongo (MP)*	1. Minister for Info. and Media Relations 2013-2014(Merged with 2. Minister of State 2013-2016 3. Minister for the defence 2013-2014	**Total – 3**
Upper West	1. Amin Amidu Sulemana (MP) 2. Benjamin Kunbuor * (MP) 3. Alhaji Abdul-Rashid	1. Minister for Roads and Highways 2013-2014 2. Min. for Gov. Business in Parliament 2013-2014 3. Minister of State 2013-	**Total – 3**

	Pelpuo (MP)	2016	

July 2014 Ministers

Region	Name	Portfolio	Total
Ashanti	3. Kwaku Agyemang-Mensah* 4. Joe Oteng-Adjei*	3. Minister of Health 2014-2015 4. Mini. for Environment, Sci. and Tech. 2013-2014	**Total – 2**
Brong/A	3. Elizabeth Ofosu-Agyare 4. Collins Dauda* (MP) 5. Dr. Kwabena Donkor (MP)	3. Min. for Tour. Cult. and Creative Arts 2013-2016 4. Min. for Water Res., Works and Hous. 2013-2015 5. Minister for Power 2014-2015	**Total – 3**
Central	7. Hanna Tetteh (MP)* 8. Marietta Brew Appiah-Oppong* 9. Jane Naana Opoku Agyemang* 10. Ekwow Spio-Garbrah* 11. Nana Oye Lithur* 12. Kwesi Ahwoi* 13. Papa Kwesi Emissah Arthur	6. Minister for Foreign Affairs 2013- 2016 7. Attorney Gen. and Minister for Justice 2013-2016 8. Minister for Education 2013-2016 9. Minister of Trade and Industry 2014-2016 10. Min. for Gender, Child. and Social Prot. 2013-2016 11. Minister for Interior 2013-2014 12. Vice President	**Total – 7**
Eastern	3. Edward Omane Boamah* 4. Seth Terkpeh* 5. Julius Debrah *	3. Minister for Communications 2013-2016 4. Min. for Finance and Econ. Planning 2013-2016 5. Min. for Local Gov. and Rural Dev. 2014-2015	**Total – 3**
G/Accra	4. Nii Osah Mills* 5. Hanny-Sherry	4. Min. for Lands and Natural Resources 2014-	

	Ayitey 6. Dr. Mustapha Ahmed	2016 5. Min. for Fisheries and Aquaculture Dev. 2014-2016 6. Minister of State 2013-2014	**Total – 3**
Western	3. Emmanuel A. Kofi Buah (MP)* 4. Akwasi Oppong Fosu	3. Minister for Energy and Petroleum 2013-2016 4. Mini. for Environment, Sci. and Tech. 2014-2015	**Total – 2**
Volta	Fiifi Fiavi Kwetey (MP)* 4. Dzifa Aku Ativor*	4. Minister for Food and Agriculture 2014 5. Minister for Transport 2013-2015	**Total – 2**
Northern	6. John Dramani Mahama 7. Inusah Fuseini* (MP) 8. Haruna Iddrisu* (MP) 9. Henry Seidu Daanaa	6. President 7. Min. for Roads and Highways 2014-2016 8. Min. for Employment and Labour Rel. 2014-2016 9. Min. for Chieftaincy and Trad. Affairs 2013-2016	The president – not included **Total – 3**
Upper East	4. Mahama Ayariga (MP) 5. Alhassan Azong	4. Minister for Youth and Sports 2014-2015 5. Minister of State 2013-2016	**Total – 2**
Upper West	Benjamin Kunbuor* (MP) Alhaji Abdul-Rashid Pelpuo (MP) Alban Bagbin (MP)	4. Minister for Defence 2014-2016 5. Minister of State 2013-2016 6. Min. for Gov. Business in Parliament 2014-2016	**Total – 3**

October 2015 Ministers

Region	Name	Portfolio	Total
Ashanti	5. Kwaku Agyemang-	5. Min. for Water Res., Works and Hous. 2015-2016	

	Mensah*		**Total – 1**
Brong/A	6. Collins Dauda (MP)* 7. Elizabeth Ofosu-Agyare	6. Min. for Local Gov. and Rural Dev. 2015-2016 7. Min. for Tour. Cult. and Creative Arts 2013-2016	**Total – 2**
Central	14. Hanna Tetteh (MP)* 15. Marietta Brew Appiah-Oppong* 16. Jane Naana Opoku Agyemang* 17. Ekwow Spio-Garbrah* 18. Nana Oye Lithur* 19. Paa Kwesi Emissah Arthur	13. Minister for Foreign Affairs 2013- 2016 14. Attorney Gen. and Minister for Justice 2013-2016 15. Minister for Education 2013-2016 16. Minister of Trade and Industry 2014-2016 17. Min. for Gender, Child. and Social Prot. 2013-2016	**Total – 6**
Eastern	6. Edward Omane Boamah* 7. Seth Terkpeh*	6. Minister for Communications 2013-2016 7. Min. for Finance and Econ. Planning 2013-2016	**Total – 2**
G/Accra	7. Nii Osah Mills* 8. Hanny-Sherry Ayitey 9. Dr. Mustapha Ahmed	7. Min. for Lands and Natural Resources 2014-2016 8. Min. for Fisheries and Aquaculture Dev. 2014-2016 9. Minister for Youth and Sports 2015-2016	**Total – 3**
Western	5. Emmanuel A. Kofi Buah (MP)*	5. Minister for Energy and Petroleum 2013-2016	**Total – 1**
Volta	5. Prosper Bani* 6. Alex Segbefia 7. Fifi Fiavi F. Quartey* (MP)	6. Minister for the Interior 2016 7. Minister of Health 2015-2016 8. Minister for Transport 2015-2016	**Total – 3**

Northern	10. John Dramani Mahama 11. Inusah Fuseini *(MP) 12. Haruna Iddrisu* (MP) 13. Henry Seidu Daanaa	10. President 11. Min. for Roads and Highways 2014-2016 12. Min. for Employment and Labour Rel. 2014-2016 13. Min. for Chieftaincy and Trad. Affairs 2013-2016	2013 – 2 2013 – 2 2014 – 2 2014 – 2 2015 – 2 2015 – 1 The president – not included **Total – 4**
Upper East	6. Mahama Ayariga * (MP) 7. Alhassan Azong	6. Min. for Environment, Sci. and Tech. 2015-2016 7. Minister of State 2013-2016	**Total – 2**
Upper West	4. Benjamin Kunbuor* (MP) 5. Alhaji Abdul-Rashid Pelpuo (MP) 6. Alban Bagbin (MP)	7. Minister for Defence 2014-2016 8. Minister of State 2013-2016 9. Min. for Gov. Business in Parliament 2014-2016	**Total – 3**

List of Deputy Ministers Starts from Here

Jan 2001-March 2003 Deputies

Region	**Name**	**Portfolio**	**Total**
Ashanti	Dr. Mathew K. Antwi Grace Coleman Joe Aggrey Edward Osei Kwaku Akwasi Osei Adjei	Food and Agriculture Finance & Economic Planning Youth & Sports Presidential Affairs Trade and Industry	5
Brong Ahafo	Anna Nyamekye Alhaji Moctar M. Bamba Nkrabea Effah Dartey Kwaku Agyeman Manu	Environment & Science Presidential Affairs Local Govt't & Rural Development Communications & Technology	4
Central	Joe Donkor K. T Hammond	Manpower Dev't & Employment Energy	2
Eastern	Yaw Barimah	Interior	1
Greater Accra	Edward Martey Akita Theresa A. Tagoe Nana Akomea Gloria Akfuo	Defence Works & Housing Tourism Attorney-General & Justice	4
Northern	Alima Mahama John Bennam Jabaah Abdel Majeed Haroun Mustapha Ali Iddris Boniface Saddique John S. Achuliwor	Local Govt't & Rural Development Manpower Dev't & Employment Food and Agriculture Foreign Affairs Trade & Industry	7

	Alex Seidu Sofo	Communications & Technology Roads & Transport	
Upper East	Dr. G. Adombila Agambila	Finance & Economic Planning	1
Upper West	Moses Dani Baah Clement N. L Eledi	Health Mines	2
Volta	Rashid Bawah	Education	1
Western			0

April 2003-2005 Deputies

Region	Name	Portfolio	Total
Ashanti	Akoto Osei Joe Aggrey Akwasi Osei Adjei Mathew Kwaku Antwi Joe Donkor I. Kofi Poku Adusei	Finance & Econ. Planning Youth & Sports Foreign Affairs Environment & Science Education Women & Children Affairs	6
Brong Ahafo	Moctar M. Bamba *Nkrabea Effah Dartey *Ann Nyamekye Kwaku Agyeman Manu	Office of the President Local Govt't & Rural Dev't Food and Agriculture Finance & Econ. Planning	4
Central	K. T Hammond Asamoah Boateng	Energy Information	2
Eastern	Dr. Angela Ofori Attah Mercy Bempo Addo Kwadwo Afram Aseidu * Charles Brempong Yeboah Thomas Broni	Manpower Dev't & Employment Office of the President Trade & Industry Works & Housing Interior	5

Greater Accra	Gloria Akfuo Emmanuel Adjei Boye Theresa A. Tagoe	Attorney-General & Justice Roads & Transport Lands & Forestry	3
Northern	Issah Ketekewu Local John Bennam Jabaah Clement N. L Eledi Alima Mahama Abubakar S. Boniface Abdel-Majeed Alex Seidu Sofo	Govt't & Rural Dev't Manpower Dev't & Employment Food and Agriculture Trade & Industry & PSIs Tourism and Mod. Of Capital City Haroun Mines Roads & Transport	7
Upper East	Andrew Awuni *Joe Akudibilla Dr. G. Adombila Agambila	Information Defence Ports, Habours & Railways	3
Upper West	Moses Dani Baah Ambrose Derry	Health Attorney-General & Justice	2
Volta			0
Western			0

February 2005 Deputy

Region	Name	Portfolio	Total
Ashanti	I. K. Opoku Adjei *Akoto Osei * Akwasi Osei Adjei Dr. G. A. Agambila Osei Bonso Amoah *Cecelia Abena Dapaah *E. Asamoah Owusu-Ansah	Local Govt't & Rural Dev't Finance & Economic Planning Foreign Affairs Environment & Science Education & Sports Works & Housing Attorney-General & Justice	11

	*Magnus E. Opare-Asmoah *K. T Hammond *Gifty Ohene-Konadu *J.B. Danquah Adu	Roads & Transport Energy Trade & Industry Women & Children Affairs	
Brong Ahafo	Ann Nyamekye Kwaku Agyeman Manu Prof. G.Y. Gyan-Baffour Nkrabea Effah Dartey K. Ampofo Twumasi	Food and Agriculture Finance & Economic Planning Finance & Economic Planning Interior Education & Sports	5
Central	Abraham Odoom S Asamoah-Boateng Andrew Adjei-Yeboah Samuel Owusu-Agyei	Local Govt't & Rural Dev't Tourism and Mod. of Capital City Lands & Forestry Health	4
Eastern	Charles Brempong Yeboah Kofi Osei Ameyaw Kwadwo Afram Aseidu William Ofori Boafo Dr. B Aggrey Ntim Mercy Bempo Addo	Manpower Dev't & Employment Trade & Industry Trade & Industry Defence Communications Office of the President	6
Greater Accra	Dannie Dugan A. Frema Osei-Opare Dr. W. Nii Okai Hammond Shirley A.Botchway Theresa A. Tagoe Dr. Gladys N. Ashitey	Fisheries Manpower Dev't & Employment Food and Agriculture Information Lands & Forestry Health	6
Northern	Clement N. L Eledi Issah Ketekewu Rita Tani Iddi x	Food and Agriculture Works & Housing Works & Housing	3

Upper East			0
Upper West	Moses Dani Baah	Private sector dev't & PSIs	1
Volta			0
Western	Angela Baiden-Amisah Joe Ghatey Christopher Addae	Education & Sports Attorney-General & Justice Ports, Habours & Railways	3

May 2006 Reshuffle Deputies

Region	Name	Portfolio	Total
Ashanti	I. K. Opoku Adjei Akwasi Osei Adjei Cecelia Abena Dapaah K. Osei Prempeh Magnus E. Opare-Asamoah K. T Hammond Dr. Akoto Osei Gifty Ohene-Konadu	Local Gov't & Rural Dev't Foreign Affs. Reg. Int. & NEPAD Water Res. Works & Housing Attorney-General & Justice Roads & Transport Energy Finance & Economic Planning Trade & Industry	8
Brong Ahafo	Anna Nyamekye Prof. G.Y. Gyan-Baffour Agyeman Manu K. Ampofo Twumasi	Food and Agriculture Finance & Economic Planning Interior Education & Sports	4
Central	Abraham Odoom Andrew Adjei-Yeboah Samuel Owusu-Agyei	Local Govt't & Rural Dev't Lands & Forestry Health	3
Eastern	Osei Bonso Amoah Charles Brempong Yeboah Kwadwo Afram Aseidu William Ofori Boafo Dr. B Aggrey Ntim	Education & Sports Manpower Dev't & Employment Trade & Industry Defence	6

	Mercy Bempo Addo	Communications Office of the President	
Greater Accra	Shirley A.Botchway Dannie Dugan A. Frema Osei-Opare Oboshie Sai-Cofie Dr. Gladys N. Ashitey	Foreign Affs. Reg. Int. & NEPAD Fisheries Manpower Dev't & Employment Info. & National Orientation Health	5
Northern	Rita Tani Iddi	Lands and Forestry	1
Upper East			0
Upper West	Clement N. L Eledi	Food and Agriculture	1
Volta			0
Western	Joe Baidoo Ansah Christopher Addae Angela Baiden-Amisah Sophia Horner-Sam	Tourism and Mod. of Capital City Water Res, Works & Housing Education & Sports Ports & Railways	4

2007-Jan 2009 Deputies

Region	Name	Portfolio	Total
Ashanti	Maxwell Kofi Jumah Gifty Ohene-Konadu K. Osei Prempeh Magnus E. Opare-Asamoah I. K. Opoku Adjei Frank Agyekum K. T. Hammond	Local Gov't & Rural Dev't Trade, Industry & PSIs Attorney-General & Justice Road Transport Fisheries Info & national Orientation Interior	7
Brong Ahafo	Anna Nyamekye G.Y. Gyan-Baffour K. Agyeman Manu K. Amporfo Twumasi	Food and Agriculture Finance & Economic Planning Trade, Industry & PSIs Energy	4
Central	A. Dwuma-Odoom *Andrews Adjei-Yeboah	Health Lands, Forestry and Mines	2
Eastern	C. Y. Brempong Yeboah William Ofori Boafo F. Opare-Ansah Kofi Osei-Ameyaw Mercy Bampo Addo Osei Bonsu Amoah	Foreign Affairs Defence Communications Tourism & Diasporan Relations Office of President Education, Sci. & Sports	6
Greater Accra	Dr. Gladys N. Ashitey Shirley A. Botchway A. Frema Osei-Opare Daniel Dungan	Health Trade, Industry & PSIs Manpower, Youth & Employment Women & Children Affairs	4
Northern	Rita Tani Iddi	Lands, Forestry and Mines	1
Upper East	A. Awudu Yeremia	Local Gov't & Rural Dev't	1
Upper West	Clement N. L. Eledi	Food and Agriculture	1
Volta			0

Western	Christopher Addae Sophia Horner-Sam Angelina Baiden-Amisah	Works & Housing Ports, Habours & Railways Education & Sports	3

Deputy Ministers February 2009

Region	Name	Portfolio	Total
Ashanti	1. Mr. Elvis Afriyie-Ankrah 2. Mr. James Agyenim-Boateng 3. Kwabena Owusu Acheampong	Local Government and Rural Development Information Tourism	**Total – 3**
Brong Ahafo	1. Mr. Yaw Effah-Baafi 2. Dr. Kwabena Donkor 3. Dr. Hanna Loisa Bisiw	1. Food and Agriculture 2. Energy 3. Water Resources, Works and Housing	**Total – 3**
Central	1. *Mr. Ebo Barton-Odro 2. *Mrs. Elizabeth Amoah-Tetteh 3. *Dr. Joseph Samuel Annan	1. Attorney-General and Justice 2. Education 3. Education	**Total – 4**
Eastern	1. Mr. Seth Tekpeh 2. Dr. Kwesi Akyem Apea-Kubi 3. Mr. Antwi-Boasiako Sekyere 4. Dr. Edward Omane Boamah	1. Finance and Economic Planning 2. Interior 3. Employment and Social Welfare 4. Environment and Science and Technology	**Total – 4**
Greater Accra	1. Mr. Rojo Mettle-Nunoo 2. *Nii Amasah Namoale 3. Mr. Gideon Quarcoo 4. Dr. Nartey Siaw-Sappore 5. *Mr. Reuben Nii Nortey Duah	1. Roads and Highways (May 2009) 2. Food and Agriculture (May 2009) 3. Communications (May	**Total – 5**

		2009) 4. Communications (May 2009) 5. Youth and Sports (May 2009)	
Western	1. *Mr. John Gyentuah 2. *Mr. Emmanuel Armah Buah	1. Trade and Industry (May 2009) 2. Energy (May 2009)	**Total – 2**
Volta	1. Mr. Fiifi Kwetey 2. Mr. Chris Kodo 3. *Mr. Henry Ford Kamel 4. Dr. Samuel Okudzeto-Ablakwa 5. Ms. Dzifa Peace Aku Attivor	1. Finance and Economic Planning (May 2009) 2. Foreign Affairs and Regional Integration (May 2009) 3. Lands and Natural Resources (May 2009) 4. Information (May 2009) 5. Transport (May 2009)	**Total – 5**
Northern	1. *Dr. Alfred Sugri Tia 2. *Alhaji Saani Iddi 3. Ms. Hawawu Boya Gariba	1. Food and Agriculture (May 2009) 2. Water Resources, Works and Housing (May 2009) 3. Women and Children's Affairs (May 2009)	**Total – 3**
Upper East	1. Mahama Ayariga	1. Trade and Industry May 2010	**Total – 1**
Upper West			0

Deputy Ministers January/May 2010

Region	Name	Portfolio	Total
Ashanti	4. Mr. Elvis Afriyie-Ankrah 5. Mr. James Agyenim-Boateng 6. Kwabena Owusu Acheampong	1. Local Gov't and Rural Development (May 2009) 2. Information (May 2009) 3. Tourism	**Total – 3**
Brong Ahafo	4. Mr. Yaw Effah-Baafi 5. Dr. Hanna Loisa Bisiw	4. Food and Agriculture (May 2009) 5. Water Resources, Works and Housing (May 2009)	**Total – 2**
Central	4. *Mr. Ebo Barton-Odro 5. *Mrs. Elizabeth Amoah-Tetteh 6. *Dr. Joseph Samuel Annan	4. Attorney-General and Justice 5. Education 6. Education	**Total – 3**
Eastern	5. Mr. Seth Tekpeh 6. Dr. Kwesi Akyem Apea-Kubi 7. Mr. Antwi-Boasiako Sekyere 8. Dr. Edward Omane Boamah	5. Finance and Economic Planning 6. Interior 7. Employment and Social Welfare 8. Environment and Science and Technology	**Total – 4**
Greater Accra	*Nii Amasah Namoale Mr. Gideon Quarcoo Dr. Nartey Siaw-Sappore Nii Oakley Quaye-Kumah (Dr.) Nii Oakley Quaye-Kumah (Dr.) Mr. Rojo Mettle-Nunoo *Major Dr Alhaji	Food and Agriculture (May 2009) Communications (May 2009) Communications (May 2009) Health Jan.2010 Roads and Highways May 2010	**Total – 7**

	Mustapha Ahmed (retd) *Nii Nortey Dua	Health May 2010 8. water resources May 2010 11. Youth and Sports	
Western	1. *Mr. John Gyentuah 2. *Mr. Emmanuel Armah Buah	1. Trade and Industry (May 2009) 2. Energy (May 2009)	**Total – 2**
Volta	1. Mr. Fiifi Kwetey 2. Mr. Chris Kodo 3. *Mr. Henry Ford Kamel 4. Dr. Samuel Okudzeto-Ablakwa 5. Ms. Dzifa Peace Aku Attivor	1. Finance and Economic Planning (May 2009) 2. Foreign Affairs and Regional Integration (May 2009) 3. Lands and Natural Resources (May 2009) 4. Information (May 2009) 5. Transport (May 2009)	**Total – 5**
Northern	1. *Dr. Alfred Sugri Tia 3. Ms. Hawawu Boya Gariba 4. *Inusah Fuseini	1. Food and Agriculture (May 2009) 3. Women and Children's Affairs (May 2009) 4. Energy May 2010	**Total – 3**
Upper East	1. Mahama Ayariga	1. Trade and Industry May 2010	**Total – 1**
Upper West			0

Deputy Ministers January 2011

Region	Name	Portfolio	Total
Ashanti	7. Mr. Elvis Afriyie-Ankrah 8. James Agyenim Boateng 9. Kwamena Owusu	4. Local Govt and Rural Dev't 5. Tourism 6. Interior	**Total – 3**

	Acheampong		
Brong Ahafo	6. Mr. Yaw Effah-Baafi 7. Dr. Kwabena Donkor 8. Dr. Hanna Loisa Bisiw	6. Food and Agriculture (May 2009) 7. Energy (May 2009) 8. Water Resources, Works and Housing (May 2009)	**Total – 3**
Central	7. *Mr. Ebo Barton-Odro 8. *Mrs. Elizabeth Amoah-Tetteh 9. *Dr. Joseph Samuel Annan 10. Mr. Aquinas Quansah	7. Attorney-General and Justice (May 2009) 8. Education (May 2009) 9. Education (May 2009) 10. Local Government May 2011	**Total – 4**
Eastern	9. Mr. Seth Tekpeh 10. Dr. Kwesi Akyem Apea-Kubi 11. Mr. Antwi-Boasiako Sekyere 12. Dr. Edward Omane Boamah 13. Mr. Baba Jamal Mohammed Ahmed	9. Finance and Economic Planning (May 2009) 10. Interior (May 2009) 11. Employment and Social Welfare (May 2009) 12. Environment and Science and Technology (May 2009) 13. Information May 2011	5 **Total – 5**
Greater Accra	6. Mr. Rojo Mettle-Nunoo 7. *Nii Amasah Namoale 8. Mr. Gideon Quarcoo 9. Mr. Rojo Mettle-Nunoo 10. *Major Dr Alhaji Mustapha Ahmed (retd) 11. Nii Oakley Quaye-Kumah (Dr.) 12. Mr. Ernest	1. Roads and Highways (May 2009) 2. Food and Agriculture (May 2009) 3. Communications (May 2009) 7. Health May 2010 8. water resources May 2010	**Total – 8**

	Attuquaye Armah 13. *Nii Nortey Dua	9. Roads and Highway May 2010 10. Communications May 2011 11. Youth and Sports	
Western	1. *Mr. John Gyentuah 2. *Mr. Emmanuel Armah Buah	1. Trade and Industry (May 2009) 2. Energy (May 2009)	**Total – 2**
Volta	1. Mr. Fiifi Kwetey 2. Mr. Chris Kodo 3. *Mr. Henry Ford Kamel 4. Dr. Samuel Okudzeto-Ablakwa 5. Ms. Dzifa Peace Aku Attivor	1. Finance and Economic Planning (May 2009) 2. Foreign Affairs and Regional Integration (May 2009) 3. Lands and Natural Resources (May 2009) 4. Information (May 2009) 5. Transport (May 2009)	**Total – 5**
Northern	1. *Dr. Alfred Sugri Tia 3. Ms. Hawawu Boya Gariba 4. *Inusah Fuseini	1. Food and Agriculture (May 2009) 3. Women and Children's Affairs (May 2009) 4. Energy May 2010	**Total – 3**
Upper East	1. Mahama Ayariga	1. Trade and Industry May 2010	**Total – 1**
Upper West			0

Deputy Ministers January 2012

Region	Name	Portfolio	Total
Ashanti	10. Mr. Elvis Afriyie-Ankrah 11. James Agyenim Boateng 12. Kwabena Owusu Acheampong	7. Local Gov't and Rural Dev't (May 2009) 8. Tourism May 2011 9. Interior	**Total – 3**
Brong Ahafo	9. Mr. Yaw Effah-Baafi 10. Dr. Kwabena Donkor 11. Dr. Hanna Loisa Bisiw	9. Food and Agriculture (May 2009) 10. Energy (May 2009) 11. Water Resources, Works and Housing (May 2009)	**Total – 3**
Central	11. *Mr. Ebo Barton-Odro 12. *Mrs. Elizabeth Amoah-Tetteh 13. Mr. Aquinas Quansah	11. Attorney-General and Justice (May 2009) 12. Education (May 2009) 13. Local Government May 2011	**Total – 3**
Eastern	14. Mr. Seth Tekpeh 15. Dr. Kwesi Akyem Apea-Kubi 16. Mr. Antwi-Boasiako Sekyere 17. Dr. Edward Omane Boamah 18. Mr. Baba Jamal Mohammed Ahmed	14. Finance and Economic Planning (May 2009) 15. Interior (May 2009) 16. Employment and Social Welfare (May 2009) 17. Environment and Science and Technology (May 2009) 18. Information May 2011	**Total – 5**
Greater Accra	14. *Nii Amasah Namoale 15. Mr. Gideon Quarcoo 16. Nii Oakley Quaye-Kumah (Dr.) 17. Mr. Rojo Mettle-Nunoo 18. *Major Dr Alhaji	2. Food and Agriculture (May 2009) 3. Communications (May 2009) 6. Health January 2010	**Total – 8**

	Mustapha Ahmed (retd) 19. Nii Oakley Quaye-Kumah (Dr.) 20. Mr. Ernest Attuquaye Armah 21. *Nii Nortey Dua	7. Health May 2010 8. water resources May 2010 9. Roads and Highway May 2010 10. Communications May 2011 11. Water Resources	
Western	1. *Mr. John Gyentuah 2. *Mr. Emmanuel Armah Buah 3. *Mr. Stephen Ackah	1. Trade and Industry (May 2009) 2. Energy (May 2009) 3. Local Government May 2012	**Total – 3**
Volta	1. Mr. Fiifi Kwetey 2. Mr. Chris Kodo 3. *Mr. Henry Ford Kamel 4. Dr. Samuel Okudzeto-Ablakwa 5. Ms. Dzifa Peace Aku Attivor	1. Finance and Economic Planning (May 2009) 2. Foreign Affairs and Regional Integration (May 2009) 3. Lands and Natural Resources (May 2009) 4. Information (May 2009) 5. Transport (May 2009)	**Total – 5**
Northern	1. *Dr. Alfred Sugri Tia 3. Ms. Hawawu Boya Gariba 4. *Inusah Fuseini	1. Food and Agriculture (May 2009) 3. Women and Children's Affairs (May 2009) 4. Energy May 2010	**Total – 3**
Upper East	2. Mahama Ayariga	2. Education January 2012	2 **Total – 1**
Upper West			0

Deputy Ministers 2013-2016

March 2013

Region	Name	portfolio	Total
Ashanti	Mr Joseph Yamin Mrs Barbara Serwaa Asamoah Mr Alexandra Ackon	1. Youth and Sports 2013-2014 2. Lands and Natural Resource 2013-2016 3. Chieftaincy and Traditional Affairs 2013-2014	**Total – 3**
Brong Ahafo	Dr. Hanna Louisa Bisiw Mr. Emmanuel Kwadwo Agyekum Mr Alex Kyeremeh Ms Victoria Lakshmi Hamah Mr. Vincent Opong-Asamoah	Food and Agriculture 2013-2016 Local gov. and Rural Development 2013-2016 Education 2013-2015 Communications 2013-2014 Water Resource, Works and Housing 2013-2014	**Total – 5**
Central	Mr Cassiel Ato Baah Forson Mr. George Kwaku Ricketts-Hagan Mr. Ato Sarpong Mr Felix Kwakye Ofosu Mrs Racheal Nana Adwoa Appoh Mr Aquinas Tawiah Quansah	Finance 2013-2016 Finance 2013-2014 Communication 2013-2014 Information and Media Relation 2013-2014 Gender, Children and Social Protection 2013- Fisheries and Aquaculture Development 2013-2014	**Total - 6**
Eastern	Dr Victor Asare	Health 2013-2014	

	Bampoe Mr Jamal Baba Mohammed Ahmed Mr Antwi-Boasiako Sekyere Mr Ebenezer O. Terlabi	Local Gov. and Rural Development 2013-2014 Employment and Labours Relations 2013-2014 Defence 2013-2014	**Total – 4**
G/Accra	Mr. Thomas Kwasi Quartey Edwin Nii Lantey Vanderpuye Mrs Benita Sena Okity-Duah Mrs Benita Sena Okity-Duah	Foreign Affairs and Regional Integration 2013-2016 Trade and Industry 2013-2014 Gender, Children and Social Protection 2013-2014 Fisheries and Aquaculture Development 2015-2016	**Total – 4**
Western	Mr Isaac Adjei Mensah	Roads and Highway 2013-2016	**Total – 3**
Volta	Mr Benjamin Dagadu Ms Abla Dzifa Gomashie Dr Bernice Adiku Heloo	Energy and Petroleum 2013-2014 Tourism, Culture and Creative Art 2013-2016 Env., Science, Technology and Innovation 2013-2016	**Total – 3**
Northern	Dr Afred Sugri Tia Dr Ahmed Yakubu Alhassan Mr John Abdulai Jinapor Mr Murtala	Health 2013-2014 Food and Agriculture 2013-2016 Energy and Petroleum 2013-2014 Information and Media Relations 2013-2014 Transport 2013-2016	**Total – 5**

	Muhammed Ibrahim Mrs. Joyce A. Bawa-Mogtari		
Upper/E	Dr Dominic Akuritinga Ayine James Agalga	Attorney-General and Justice 2013-2014 Interior May 2013	**Total – 2**
Upper/W	Dr Musheibu Mohammed-Alfa	Env., Science, Technology and Innovation 2013-2014	Total – 1

Jan. 2014

Region	Name	portfolio	Total
Ashanti	Joseph Yamin Mrs Barbara Serwaa Asamoah Mr Alexandra Ackon	1. Youth and Sports 2013-2014 2. Lands and Natural Resource 2013-2016 3. Chieftaincy and Traditional Affairs 2013-2014	**Total – 3**
Brong Ahafo	Dr. Hanna Louisa Bisiw Mr. Emmanuel Kwadwo Agyekum Mr Alex Kyeremeh Ms Victoria Lakshmi Hamah Mr. Vincent Opong-Asamoah	Food and Agriculture 2013-2016 Local gov. and Rural Development 2013-2016 Education 2013-2015 Communications 2013-2014 Water Resource, Works and Housing 2013-2014	**Total – 5**

Central	Mr Cassiel Ato Baah Forson Mr. George Kwaku Ricketts-Hagan Mr. Ato Sarpong Mr Felix Kwakye Ofosu Mrs Racheal Nana Adwoa Appoh Mr Aquinas Tawiah Quansah	Finance 2013-2016 Finance 2013-2014 Communication 2013-2014 Information and Media Relation 2013-2014 Gender, Children and Social Protection 2013- Fisheries and Aquaculture Development 2013-2014	**Total - 6**
Eastern	Dr Victor Asare Bampoe Mr Jamal Baba Mohammed Ahmed Mr Antwi-Boasiako Sekyere Mr Ebenezer O. Terlabi	Health 2013-2014 Local Gov. and Rural Development 2013-2014 Employment and Labours Relations 2013-2014 Defence 2013-2014	**Total – 4**
G/Accra	Mr. Thomas Kwasi Quartey Edwin Nii Lantey Vanderpuye Mrs Benita Sena Okity-Duah Mrs Benita Sena Okity-Duah	Foreign Affairs and Regional Integration 2013-2016 Trade and Industry 2013-2014 Gender, Children and Social Protection 2013-2014 Fisheries and Aquaculture Development 2015-2016	**Total – 4**
Western	Mr Isaac Adjei Mensah	Roads and Highway 2013-2016	**Total – 3**

Volta	Mr Benjamin Dagadu Ms Abla Dzifa Gomashie Dr Bernice Adiku Heloo	Energy and Petroleum 2013-2014 Tourism, Culture and Creative Art 2013-2016 Env., Science, Technology and Innovation 2013-2016	**Total – 3**
Northern	Dr Afred Sugri Tia Dr Ahmed Yakubu Alhassan Mr John Abdulai Jinapor Mr Murtala Muhammed Ibrahim Mrs. Joyce A. Bawa-Mogtari	Health 2013-2014 Food and Agriculture 2013-2016 Energy and Petroleum 2013-2014 Information and Media Relations 2013-2014 Transport 2013-2016	**Total – 5**
Upper/E	Dr Dominic Akuritinga Ayine James Agalga	Attorney-General and Justice 2013-2014 Interior May 2013	**Total – 2**
Upper/W	Dr Musheibu Mohammed-Alfa	Env., Science, Technology and Innovation 2013-2014	Total – 1

Oct. 2015

Region	Name	portfolio	Total
Ashanti	Mr John Alenxandra Ackon Mrs Barbara Serwaa Asamoah	1. Gender, Children and Social Protection 2015-2016 2. Lands and Natural Resource 2013-2016	**Total – 2**
Brong Ahafo	Dr. Hanna Louisa Bisiw	Food and Agriculture 2013-2016	

	Mr. Emmanuel Kwadwo Agyekum Mr Alex Kyeremeh Ms Victoria Lakshmi Hamah Mr Vincent Opong Asamoah Mr Yaw Efah Baafi	Local gov. and Rural Development 2013-2016 Education 2013-2015 Communications 2013-2014 Youth and Sport 2015-2016 Chieftaincy and traditional Affairs 2015-2016	**Total – 6**
Central	Mr Cassiel Ato Baah Forson Mr. George Kwaku Ricketts-Hagan Mr Felix Kwakye Ofosu Mr. Ato Sarpong	Finance 2013-2016 Trade and Industry 2014-2016 Communication 2014-2016 Communication 2013-2014	**Total - 4**
Eastern	Mr Baba Jamal	Employment and labour relations 2015-2016	**Total – 1**
G/Accra	Mrs Mona Quartey Mr. Thomas Kwasi Quartey Edwin Nii Lantey Vandepuye Mrs Benita Sena Okity-Duah	Finance 2015-2016 Foreign Affairs and Regional Integration 2013-2016 Local Gov. And Rural Development 2015-2016 Fisheries and Aquaculture Development 2015-2016	**Total – 4**
Western	Mr. Sampson Ahin Mr Isaac Adjei Mensah Mr Kwabena Minta Akandoh	Water resource Works and Housing 2015-2016 Roads and Highway 2013-2016 Lands and Natural Resource 2015-2016	**Total – 3**

Volta	Mr Benjamin Dagadu Mr. Samuel Okudzeto Ablakwa Ms Abla Dzifa Gomashie Dr Bernice Adiku Heloo Mrs Della Sowah Mr Kenneth Gilbert Adjei	Energy 2015-2016 Education 2015-2016 Tourism, Culture and Creative Art 2013-2016 Env., Science, Technology and Innovation 2013-2016 Gender, Children and Social Protection 2015-2016 Defence 2015-2016	**Total – 6**
Northern	Dr Ahmed Yakubu Alhassan Mr John Abdulai Jinapor Mr Murtala Muhammed Ibrahim Mrs. Joyce A. Bawa-Mogtari Dr Alfred Sugri Tia	Food and Agriculture 2013-2016 Power 2015-2016 Trade and Industry Transport 2013-2016 Env. Science, Technology and Innovation 2015-2016	**Total – 5**
Upper/E	James Agalga	Interior May 2013	**Total – 2**
Upper/W			0

APPENDIX 3

ABSOLUTE REPRESENTATION BY REGION

Jan 2001-April 2003					April 2003 Reshuffle			
	Cabinet	Ministers	Deputy	Total	Cabinet	Minister	Deputy	Total
Ashanti	33	8	19	21	19	21	19	19
Brong Ahafo	14	0	15	11	10	7	13	10
Central	5	38	7	13	10	21	6	10
Eastern	19	0	4	8	19	0	16	13
Greater Accra	10	8	15	11	10	29	9	13
Northern	5	15	26	16	10	7	22	15
Upper East	0	8	4	3	0	0	9	4
Upper West	0	8	7	5	5	0	6	4
Volta	5	8	4	5	5	14	0	4
Western	10	8	0	5	14	0	0	4
Total	100.0	100.0	100.0	100.0	100	100	100	100
South	95.2	69.2	63.0	75	86	93	63	76
North	4.8	30.8	37.0	25	14	7	38	24

	February 2005 Appointments				April 2006 Reshuffle			
Region	Cabinet	Minister	Deputy	Total	Cabinet	Minister	Deputy	Total
Ashanti	24	30	28	27	30	25	25	27
Brong Ahafo	10	10	13	11	5	17	13	11
Central	10	20	10	11	10	17	9	11

Eastern	19	10	15	16	20	0	19	16
Greater Accra	14	0	15	13	10	8	16	13
Northern	14	0	8	9	10	17	3	8
Upper East	0	10	0	1	5	0	0	2
Upper West	0	0	3	1	0	0	3	2
Volta	5	10	0	3	5	8	0	3
Western	5	10	8	7	5	8	13	9
Total	100	100	100	100	100	100	100	100
South	86	90	90	89	85	83	94	89
North	14	10	10	11	15	17	6	11

2007 Reshuffle				
	Cabinet	Minister	Deputy	Total
Region	35	9	24	25
Ashanti	9	18	14	13
Brong Ahafo	13	9	7	10
Central	13	0	21	14
Eastern	0	27	14	11
Greater Accra	13	9	3	8
Northern	4	0	3	3
Upper East	4	9	3	5
Upper West	4	9	0	3
Volta	4	9	10	8
Western	100	100	100	100
Total	78	82	90	84
South	22	18	10	16
North				

February 2009 Appointments	January 2010 Reshuffle

	Cabinet	Minister	Deputy	Total	Cabinet	Minister	Deputy	Total
Ashanti	3	1	3	7	3	0	3	6
Brong Ahafo	1	1	3	5	1	1	2	4
Central	3	0	4	7	3	0	3	6
Eastern	2	0	4	6	1	2	4	7
Greater Accra	1	1	5	7	1	1	7	9
Northern	3	2	3	8	3	1	3	7
Upper East	2	1	1	4	2	2	1	5
Upper West	1	2	0	3	3	1	0	4
Volta	2	1	5	8	2	1	5	8
Western	3	0	2	5	2	0	2	4
South	15	4	26	45	13	5	26	44
North	6	5	4	15	8	4	4	16
Total	21	9	30	60	21	9	30	60

	January 2011 Reshuffle				February 2012 Appointment			
Region	Cabinet	Minister	Deputy	Total	Cabinet	Minister	Deputy	Total
Ashanti	3	0	3	6	2	0	3	5
Brong Ahafo	1	1	3	5	1	1	3	5
Central	3	0	4	7	3	0	3	6
Eastern	1	2	5	8	2	1	5	8
Greater Accra	1	0	8	9	1	1	8	10
Northern	3	1	3	7	3	1	3	7
Upper East	2	2	1	5	2	3	1	6
Upper	3	0	0	3	2	1	0	3

West								
Volta	2	2	5	9	2	2	5	9
Western	2	0	2	4	3	0	3	6
South	13	5	30	48	14	5	30	49
North	8	3	4	15	7	5	4	16
Total	21	8	34	63	21	10	34	65

	January 2013 Appointments				July 2014 Reshuffle			
	Cabinet	Minister	Deputy	Total	Cabinet	Minister	Deputy	Total
Region	1	1	3	5	2	0	3	5
Ashanti	1	1	5	7	1	2	5	8
Brong Ahafo	6	0	6	12	7	0	6	13
Central	2	0	4	6	3	0	4	7
Eastern	1	2	4	7	1	2	4	7
Greater Accra	3	2	5	10	3	1	5	9
Northern	1	2	2	5	0	2	2	4
Upper East	1	2	1	4	1	2	1	4
Upper West	2	1	3	6	2	0	3	5
Volta	2	0	3	5	1	1	3	5
Western	15	5	28	48	17	5	28	50
South	5	6	8	19	4	5	8	17
North	20	11	36	67	21	10	36	67
Total								

BIOGRAPHY

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