

LAND GRABBING AND RURAL LIVELIHOOD SUSTAINABILITY: EXPERIENCES
FROM THE BUI DAM CONSTRUCTION IN GHANA

BY

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DECLARATION

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ABSTRACT

This study investigated the effects of the large scale agricultural land grabbed for the Bui Dam project on the livelihoods of the affected people. The methods used to carry out this study were the interviewer administered questionnaire and unstructured interview as well as observation. Both quantitative and qualitative data were collected through the use of interviewer questionnaire administration, interview guide, focus group discussions and observations. A total of 142 household heads were interviewed, while some key informants such as chiefs and community development officers of the district assemblies were also interviewed. The descriptive statistical tools and the t-test of the Statistical Package for the Social Scientist (SPSS) and excel software were employed to analyse the quantitative data whilst content analysis was applied to qualitative data with the result presented in the form of direct quotations. The study revealed that local food crop production and the quantity of fish catch have declined after the land grabs. Equally, it was found that income annual levels of the local people have fallen after the Bui Dam project. It was also found that the land grabbing incident in the study communities as a result of the Bui Dam construction has brought about improvements in the physical assets of the affected people. On the contrary, the local people's access to the natural capital, especially the land for agricultural activities has been worsened. In addition, it was found that the land grabbing situation resulted in conflict between some communities and the Bui Power Authority. Finally, it was revealed that the most popular coping strategy for women after the Bui dam project was petty trading whilst that of the men was casual work, popularly called '*by-day*' in the Ghanaian society. The study recommends the introduction of a comprehensive livelihood enhancement programme such as skill training for the youth and the landless group of people in the study communities by the Bui Power Authority and the district assemblies. This would enable them to promote their livelihood sustainability.

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ACRONYMS

FAO	Food and Agriculture Organisation
FIAN	Foodfirst International Action Network
FOE	Friends of the Earth
GRAIN	Genetic Resources Action International Network
HOLN	Hands off the Land Network
IFAD	International Fund for Agricultural Development
IIED	International Institute of Environment and Development
ILC	International Land Coalition
NAPE	National Association of Professional Environmentalist
PANAP	Pesticides Action Network: Asia and the Pacific
SADA	Savanna Accelerated Development Authority.

DEDICATION

This work is dedicated to my lovely wife, Evelyn Domfeh for her encouragement and financial support towards my education as well as my children; Edwina and Benedict for their moral support and prayers.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Over the years, there has been a rise in the grab for land for dam construction and other large scale projects throughout the world which has attracted much attention concerning their impacts on livelihoods of people (Scott and Pearse, 2012). The concept ‘land grabbing’ also called large-scale land acquisition refers to land acquisitions or purchases, often involving tens or even hundreds of thousands of hectares (Friends of the Earth, 2010). Simply put, the concept ‘land grabbing’ describes the large-scale purchases or leases of agricultural or forest land on terms that are detrimental to the interest of the people already living on the land (Cotula, 2012). The phenomenon of land grabbing is not new. Globally, there are many examples across centuries of human history because before the era of colonialism vast lands were taken through territorial wars (Cotula et al., 2009). The current trend of land grabs for example, is not essentially different from the previous struggles over land. What is different is the scale and speed at which they are occurring now (White et al., 2012).

The initially flagged culprits for land grabbing were food-importing nations like the Gulf States (South Korea, United Arab Emirate, Saudi Arabia, China) driven by their perception that it was no longer prudent to rely on market-sourcing of foods, as they had in the past (Hall, 2012). The core actors of land grabbing however, are the private sector such as banks, investment house and government (Ministries, state owned enterprises) (Cotula et al., 2009; cited in GRAIN, 2014). Recently, the European Union (EU) has also been heavily implicated in land grabbing. This is manifested directly through the involvement of European Union capital and corporations in the takeover of land, and indirectly through the

suite of European Union (EU) policies such as renewable energy directives which are transforming land into a global commodity (McMichael, 2012). For example, the European Union legislation in 2009 that 20 percent of all energy used in the European Union and 10 percent of each member state's transport fuel must come from renewable energy sources by the year 2020. This caused the influx of most European countries into Africa to secure land to meet their targets (Schaffnit, 2012). This desire to achieve energy and food sufficiency explains why rich individuals, international and multi-national corporations and governments are playing active roles in the recent business of land grabbing in Africa, especially in sub-Saharan Africa, Latin America and Eastern Europe (Cotula et al., 2009).

The growing debates on 'land grabs' have often tended to focus mostly on the international drivers of the current trend of land transactions in developing economies with very little attention to the motivations of domestic governments, that play an essential role in promoting land deals (GRAIN, 2008; Cotula et al., 2009). Domestic governments are of the belief that responsible large scale investments in agriculture on grabbed lands can play crucial developmental roles, including addressing food crisis, employment creation, foreign revenue generation and technological transfers. Hence, they have been playing significant roles in promoting land grabbing recently (McMichael, 2012; Cotula et al., 2009). In many instances, domestic governments instead of protecting the rights and interest of local communities and land right-holders, they rather align themselves with investors, welcoming them with low land prices and other incentives, and even helping to clear the local inhabitants from their own lands (Cotula et al., 2009).

Globally, the available statistics on land grabbing indicate 66.2 percent for Africa, Asia (21 percent), Americas (8.2 percent), Europe (2.3 percent) and Oceania also representing 2.3

percent. Also, there are 1,217 publicly reported cases of land grabs, of which 62 percent projects covering a total area of 56.2 million hectares are located in Africa, while some 17.7 million hectares are reported in Asia, and 7 million hectares in Latin America. The remaining 2.2 million hectares are in other regions, particularly Eastern Europe and Oceania (Anseeuw et al. 2012; cited in Malkamuu and Zakaaryas, 2012).

Not long ago, many rural African dwellers could boast of having land as one of the most tangible assets that they could utilise in perpetuity, but today many livelihoods are insecure because such assets such as land is becoming lucrative for investors (Cotula et al., 2009). As a result, several nations and wealthy individuals are currently purchasing poor countries' livelihood resources, including land and water bodies at very low rates as compared to the livelihoods that can be generated from the land for the local residents (Hall, 2012). Today, Africa has become the hub of land as many foreigners consider the continent as a place with available lands that are still not being used completely by local inhabitants (Dyer, 2009). Although land dispossession of the local occupants has been a continuous process over centuries, such dispossessions in countries like Mozambique, Ghana, Ethiopia and Tanzania are bigger now with dire consequences on livelihoods when compared with the situation in the early 1990's (Birega and Botto, 2008). In Zimbabwe for example, large scale land deals now concentrate on biofuel production. Gamela, a region in Ethiopia is also a home to one of the worse forms of land grabbing in the World (GRAIN, 2011).

In Ghana, the issue of large scale land acquisition is not new. In the Tongu District of the lower Volta in the Volta region for example, a total of 1,250 hectares of farmland used by the local communities for subsistence agriculture was grabbed by the Parairie Rice of Texas USA (Atafori and Aubyn, 2012).

The dramatic rise in land grabbing cases across Africa and elsewhere originated principally from three main drivers, popularly called the 'triple-F' 'crisis' (food, fuel and finance). The food spikes in the 2007/08, rising and fluctuating oil prices in the 2007/09 and the meltdown in international financial market in the late 2009 showed how insecure nations are to global commodities of food, fuel and finance, hence compelling many countries to engage in land transactions in developing nations, especially in sub-Saharan Africa (Lorenzo et al., 2009).

Following the acquisition of vast lands and its associated forced evictions, usually the local occupants are denied of their land, thereby depriving them of their means of survival as well as their human rights. Local food security is threatened in many countries, since the bulk of the production on the acquired land is often meant for export (Friends of the Earth, 2012). International large land grabs are marginalising the rights of poor local farming communities (land tenure rights, ownership rights, farming rights,). This implies that, the rural dwellers in affected areas are displaced, and or dispossessed, largely to their disadvantage. Since land grabbing in most cases leads to a complete shift in land-use and rights, it has huge repercussions for property acquisitions which then lead to conflict as the local residents seek to reclaim their land. This may trigger security and social challenges including, riots, coups d'états, hunger and poverty (Chizoba et al., 2012). A research in Kenya's Tana Delta for instance, shows that while community members have little monetary income, they gain decent livelihoods when they are still in possession of their land. With access to land, they can cultivate varieties of food crops and graze their animals, and can balance their meals with fish, fruits and honey while women sell the surplus and keep the proceeds. However, the current trend of large-scale land transactions has often undermined their efforts to seek for decent livelihoods as investors tend to employ young

men, while older people and women, particularly those with children, are left without income or resources (Makutsa, 2010).

Even though land grabbing has its attendant challenges on livelihoods, there are still those who hold the view that once investors and governments bring much needed capital for development, if investments in grabbed lands are properly designed and honestly carried out, it can enhance the socio-economic development of the economies of less developed nations (Shepard and Mittal, 2009). Specifically, ports, plantations and hydro power dam investments are capable of bringing about clear cut benefits such as job and income creation (through both direct employment and through out- grower programmes), training and skills development for local communities, the creation of economic facilities such as roads, the provision of water and electricity, and social infrastructure such as medical facilities, schools and housing as well as technology and knowledge transfer to the local inhabitants (Shepard and Mittal, 2009).

While there is increasing demand for land to undertake investment in agriculture by the powerful north on the weak and vulnerable global south, the quest on the part of many governments to accelerate development has also led to the acquisition of land and water resources from the poor rural folks to construct huge hydro dam projects. This increasing desire by domestic government, individuals and organisations for land, coupled with the foreign pressures on African lands have made the livelihood activities of the local people unsustainable, thereby crippling development (Chizoba et al., 2012). Therefore, following this unprecedented worldwide rush for land to undertake major investment in plantations, mining, dam constructions, ports and estate development, it is crucial that the influential actors, institutions and Non- governmental organisations put in place appropriate

mechanisms to ensure that the poor people are not losing out (Pablo, 2012). The World Bank, as the largest development organisation in the world which has a major influence on both governments and the private sector, must act now to put its own house in order and set an example to ensure that investments in grabbed lands benefit the poor whose obvious means of survival is the land (IBRD, 2011). The ensuing paragraph explains why the land taken for the Bui Dam construction can be considered a grab.

In rural environments, land is perceived as an essential resource for promoting livelihood sustainability. In the Banda and Bole districts, the desire by the government of Ghana to ensure sustainable energy supply for the purpose of promoting socio-economic development, led to the acquisition of 444 square kilometre of agricultural land belonging to the inhabitants of the Bui catchment area. Since land farming is the primary economic activity of the local people, the likelihood is that, this land acquisition potentially would undermine the survival strategies of the affected communities. Generally, the notion is that, a process of land acquisition becomes a grab if and only if the size of the land acquired tends to undermine the interest of the affected communities and people of the area. Cotula (2012) and Friends of the Earth (2010) for example share this view. Against this backdrop, the scenario under investigation can be considered as a land grab since the process will endanger the local people's access to land which invariably happens to be their core livelihood asset.

There are many reasons for which lands are grabbed either by states, rich individuals or international and multinational corporations. Considering the fact that the land is the main livelihood asset of many rural folks, coupled with the large sizes of recent land acquisitions,

this study focuses on the land grabbed for the development of the Bui Dam project in Ghana and how it has affected the local people's livelihoods.

1.2 Problem Statement

In constructing dams, often greater emphasis is given to the technical design and socio-economic benefits of the project rather than how the vast lands taken away from the local people will impact on their livelihood activities. For example, the construction of the Bui Dam in recent times, like several others was also intended for electricity generation and the associated socio-economic benefits to the nation with very little emphasis on how the large scale land taken from the local people will affect their livelihoods. The construction of the Bui Dam alone covered a total of 444 square kilometres of agricultural land displacing 1,219 people comprising of eight communities with 219 households (Bui Power Authority, 2013). Prior to the development of the dam, majority of the inhabitants of the area were engaged in subsistence farming and fishing as their primary occupation. Aside farming and fishing, others were also involved in livelihood activities such as livestock rearing, hunting, charcoal production and gathering of forest products. This is an indication that the livelihoods of the people in the area were largely dependent on the natural assets (Environmental Resources Management, 2007). After the creation of the dam and its subsequent loss of farmlands, most of these livelihood activities have been cut off since the land was the core livelihood asset of the inhabitants. For instance, because of the occasional closure of the dam (turbines), fishing at the downstream portion of the Black Volta has been interrupted. Also, a greater portion of the surrounding vegetation is now being conserved to safeguard the River from drying up so as to protect the lifespan of the dam. This has adversely affected livelihood strategies like charcoal production, wood gathering and livestock rearing which are important livelihood activities of the inhabitants in the Bui

catchment area. Agriculture, for that matter food crop farming which is the major occupation of greater percentage of the inhabitants has also become less lucrative since farmlands have become fragmented and degraded.

The takeover of land for the creation of the dam has not only affected the core livelihood assets of the people such as agricultural land and water bodies, but also the people have been compelled to adapt new livelihood strategies as they are faced with challenges like landlessness and conflict over land. Yet, on the part of the local people not much has been done in the form of coping strategies. According to the FAO (2002), people with extensive land rights are often guaranteed of sustainable livelihoods compared to those with limited land rights, and those with limited land rights are also more likely to enjoy sustainable livelihoods than the landless. All the same, with some people having their farmland being significantly reduced, not much has been done on the part of the Bui Power Authority to promote the livelihood sustainability of the local people.

A number of studies such as (GRAIN 2014, NAPE 2012, Makutsa 2010 and Cotula et al., 2009) have looked at land grabbing and livelihoods; however the associated positive and negative effects of land grabbing have not been adequately examined. Even so, these studies mainly dwelt on the effects of land grabbing on food crop production without necessarily paying greater attention to other forms of livelihoods like fishing. In Ghana, some attempts have been made by Atafori and Aubyn (2012) to study the 1,250 hectares of the land grabbing case involving the Prairie Rice of Texas USA in the Tongu district in the Volta Region, but as far as the Bui catchment area is concerned, no such study has been conducted. Studies in the area have often focused on the effects of the dam on livelihoods other than the effects of the large scale land grabbed for the creation of the dam. This

research therefore, investigates how the large scale land acquired for the development of the Bui Dam has affected both positively and negatively the local people's livelihoods. In view of this, the study sought to answer the following questions:

1. How has land grabbing affected the livelihood assets of the local people?
2. What are the implications of land grabbing on local food production of the affected people?
3. What are the effects of land grabbing on annual income of the local people?
4. How did the local people react to the land grabbing incident?
5. What coping strategies and interventions are being implemented for ensuring sustainable livelihood?

1.3 Objectives of the Study

The main objective of this study was to investigate the effects of land grabbing on the livelihoods of the local people using the case of the Bui Dam construction in the Banda and Bole districts of Ghana. Specifically, the study sought to:

1. Assess the effects of land grabbing on the livelihood assets of the local people.
2. Analyse the implications of land grabbing on local food production.
3. Examine the effects of land grabbing on annual income of the local people.
4. Investigate the local people's reactions to land grabbing.
5. Ascertain the coping strategies and interventions being implemented for ensuring sustainable livelihoods.

1.4 Hypothesis

The study was guided by the hypothesis that:

H_0 = There is no significance difference between output levels for major crops before and after the land grabs.

H_1 = There is significance difference between output levels for major crops before and after the land grabs.

1.5 Ethical Consideration

This study adhered to the ethical standards and considerations suggested by Kvale and Brinkman (2009). These included informing the respondents about the purpose of the study, voluntary participation and confidentiality. In this regard, all participants were informed about the purpose and duration of interviews. The study was carried out after getting the approval of the respondents. In addition, prior to the survey an agreement was reached concerning confidentiality not to disclose personal information. Hence, personal name was made anonymous throughout the study. To tackle unforeseen ethical challenges, a recommendation letter from the Department of Geography and Rural Development spelling out the objectives and duration of the survey was taken along.

1.6 Significance of the Study

The study would assist policy makers to appreciate the implications of land grabbing on people's livelihoods and the need to design a policy framework that would regulate the activities of land grabbing. It would further guide policy makers to ensure that the potentially affected people in all land deals are fully involved in all negotiation processes from the beginning to the end, especially in future projects.

The study would also fill gaps in knowledge. For instance, most of the literature on land grabbing portrays the phenomenon as being a negative venture by highlighting more of its negative effects on people's livelihoods. However, the findings of this study have revealed that, land grabbing could also be a development strategy which is capable of providing opportunities such as the development of economic and social infrastructure for the people.

Also, this study through the review of relevant literature has helped to evaluate the validity and appropriateness of methods and techniques employed by previous researchers in the same or similar fields. Since a number of studies on land grabbing such as GRAIN (2014), Friends of the Earth (2010, 2012) employed only the qualitative approach, the use of the mixed method approaches, therefore helped to modify and strengthen existing methods as this approach helped to assess both the width and the depth of the effects of land grabbing on livelihoods.

1.7 Limitations of the Study

The main limitation to this study was language barrier since the study communities were inhabited by different ethnic groups such as Ewe, Gonja, Dagaaba, Mo and Akans. This adversely affected the quality and depth of the interviews and the research as a whole. This however, was overcome by the inclusion of two research assistants who were natives of the area and were capable of speaking some of the local languages of the different groups of respondents interviewed. This significantly minimised the effects of language barrier on the quality of the study.

Another challenge encountered was that some of the respondents initially refused to be interviewed because they thought the researcher was an official from the Bui Power

Authority (BPA). To them, BPA has conducted a number of surveys, but none has brought about improvement in their lives. To overcome this, the researcher had to produce a student identity card and the introductory letter from the Department of Geography and Rural Development before they agreed to be interviewed.

Finally, even though from the onset the study sought to focus mainly on the local inhabitants who lost to their land to the Bui Dam project, but at a point in time the views of BPA became necessary following the responses from the respondents. Hence, efforts were made to engage BPA to obtain information through interviews but this proved futile.

1.8 Scope of the Study

This study primarily focused on the large scale land acquired for the Bui dam project. This was because in rural environments land is a very critical livelihood asset that can guarantee sustainable rural livelihoods in perpetuity. Hence, there was the need to investigate how the acquisition of large tracts of agricultural lands previously used for subsistence farming by the inhabitants of the Bui catchment area for the construction of the Bui Dam had really affected the livelihoods of the affected communities and residents. Geographically, the study covered the resettlement communities in both the Banda and Bole districts of the Brong Ahafo and Northern regions respectively. This was as a result of the vast tracts of farmland that was taken away from the local people in these two districts to undertake the Bui Dam project.

1.9 Organisation of the Study

The study was organised into five chapters. Chapter One comprised the general background to the study, problem statement, research questions and objectives, hypothesis, significance

of the study, limitations, scope of the study and ethical considerations. Chapter Two also focused on the review of related literature. The literature was reviewed under five themes with emphasis on the definition of key terms (land grabbing and livelihoods), effects of land grabbing on rural livelihoods in Africa, land grabbing, social conflict and implications, land grabbing, agriculture and the environment, interventions or ways for ensuring sustainable rural livelihoods. Chapter Three looked at the research methodology and the study area. This covered the types and sources of data, study design and sampling, methods and tools for data collection and data analysis techniques. Equally, the same chapter highlighted on the profile information of the study area with emphasis on the establishment Act of the districts, physical, demographic, social and economic characteristics of the study area. Chapter Four focused on the analyses of data and discussion of results. Here, the outcome of the study is discussed in detail in line with the specific objects of the study. Finally, Chapter Five focused on the summary of findings, conclusions, recommendations and areas for further studies.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter placed the study in a scholarly context by exploring the major contributions made by researchers on the issue of land grabbing and livelihoods and the relationships that exist between them. The chapter unearths some of the global views that people and organisations have shared on the concept of land grabbing, as well as ideas expressed on the issue of livelihoods by some researchers across the country. This invariably put the research problem into its rightful perspective. That was made possible by the detailed exploration of literature which helped to cross-examine the ideas and views expressed by the various researchers to identify the gaps in knowledge. The literature review has five main sections. The First and Second Sections looked at the concepts of land grabbing and its effects on rural livelihoods in Africa. The Third Section also considered land grabbing and social conflict (highlighting the drivers and implications of the conflicts across the globe) and the last Two Sections considered land grabbing, agriculture and the environment (drawing experiences from the agricultural investment on grabbed lands across the globe) and the coping strategies and interventions for promoting sustainable rural livelihoods.

2.2 The Concept of ‘Land Grabbing’

The issue of land grabbing though not very new, has picked pace with increasing cases in the developing world, hence attracting attention in academia. Following this, several individuals and organisations have attempted a definition for the concept.

From the perspective of Friends of the Earth (2010), a Non-Governmental Organisation (NGO), the term “land grabbing” politely called ‘large-scale land acquisitions’ refers to land purchases often involving tens or even hundreds of thousands of hectares, and often

intended to produce commodities for foreign food and bio-fuel markets. Simply, the concept ‘land grabbing’ refers to the capturing of farmland belonging to poor rural farmers by governments, individuals and institutions either through outright sale or lease agreements to the extent that the interest of the original owners of the land is threatened. They (Friends of the Earth, 2010) further stressed that land grabbing is broadening and deepening the trend of privatisation that has deepened poverty and threatened the food sovereignty of billions of the world’s most vulnerable people. Cotula (2012) agrees with Friends of the Earth (2010) on the view that ‘Land grab’ is a term coined by the media to describe large-scale purchases or leases of agricultural or forest land on terms that are detrimental to those already living on the land. This is manifested in a huge increase in foreign and domestic investments in land, often concentrated in the world’s poorest and hungriest countries.

The African Biodiversity Network (2007) shares the views of Cotula (2012) but expressed their ideas in a different form and tone. To them, the concept ‘land grabbing’ is defined as taking control of a vast land for commercial and industrial agricultural production that is often larger in terms of its size when matched with the average land size in the region. The two definitions highlight the fact that usually, land deals are not in the interest of local landholders as the size of land often acquired is biased to the average land holding in that region. This is a striking feature of land grabbing as many cases around the globe have shown acquisitions of land often larger than the holdings of the local people. This has therefore, deprived many local farmers and pastoralists of their livelihood assets.

The International Land Coalition’s Tirana Declaration (ILC, 2011) on the other hand, defined ‘land grabbing’ as acquisitions or concessions that are one or more of the following:

1. in violation of human rights, particularly the equal rights of women;

2. not based on free, prior and informed consent of the affected land users,
3. not based on a thorough assessment, or are in disregard of social, economic and environmental impacts, including the way they are gendered.
4. not based on transparent contracts that specify clear and binding commitments about activities, employment and benefits sharing;
5. not based on effective democratic planning, independent oversight and meaningful participation.

This definition views the concept of ‘land grabbing’ from a much broader perspective by looking at a variety of factors. What is more significant about the definition is its recognition of the need to seek the consent of the affected people, respect for human rights and taking into account, environmental and social impacts assessment in all land deals. This is extremely necessary because many conflicts that have arisen from land grabbing cases have often revolved around key issues raised in this definition. It is essential that, the range of issues captured in the definition of the International Land Coalition (ILC) become the guiding principles of all land transactions in order to minimise land conflicts and also to ensure that none of the beneficiaries involved in such transactions is made worse off. In addition, this definition also seeks to provide a holistic framework or criteria that can be used to justify whether a land deal can be regarded as land grab or not.

The Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD) and International Institute for Environment and Development (IIED) (FAO, IFAD, IIED, 2009) defined land grabbing as land agreement that does not only include the purchase of the ownership of land but also the acquisition of user rights, leases or concessions whether short or long term. Shepard and Mittal (2009) equally defined land grabbing as a ‘purchase or lease of vast tracts of land by countries that are richer but have

huge deficits in food production and private individuals from mainly developing economies with the aim of producing for export. This definition narrows the concept of land grabbing to nations with food security problems and private investors, yet evidence from cases around the globe indicates that it is not only food insecure nations that are involved in land transactions in poor countries, but also the desire for clean energy following the European Union legislation that requested member nations to use 20 percent of clean energy, mostly from bio-fuel by 2020 (Schaffnit, 2012). This has attracted even food secured nations in Europe to purchase large scale lands to grow jatropha to meet their energy targets. 'Land grabbing' is also defined as a global situation whereby an agreement is reached between both foreign public and private investors and domestic states that allows the investors to take control of vast lands that are critical to recent and future food sovereignty of the host country (FIAN, 2010). This definition considers land grabbing as merely the acquisition of large tracts of land without acknowledging that it includes the acquisition and control of waterbodies and other resources of the environment that fall within the land area acquired.

From the point of view of VIVAT International (2014), land grabbing includes land acquisitions by transnational corporations, business enterprises, private investors, and foreign governments through sale or lease contracts which sometimes can last for as long as 99 years which are highly detrimental to the interests of the affected communities. Sometimes, some of these land transactions are carried out without the potentially affected people being involved in the negotiation processes. In many cases, host communities and even host governments are not compensated appropriately for the actual value of the land. Zoomers (2010) agree partly with VIVAT International (2014) when he also defined land grabbing as 'large scale or cross-broader deals that are carried out by international corporations or foreign governments. The two definitions factored in the fact that, land

grabbing is done by foreign governments and international corporation but ignored the view that, land deals can also be initiated by domestic governments. In places like Kenya and Cambodia, there are several examples of land deals fully initiated by local governments. Despite the common ideas contained in these two definitions, there appears to be a slight difference. For example, whereas VIVAT International (2014) recognises that land grabbing also includes water grabbing, Zoomers (2010) failed to acknowledge that.

The National Association of Professional Environmentalists (NAPE, 2012) mentions that, land grabbing occurs when farmlands used for food production by local small scale farmers is either leased or sold to outside investors. Typically, the land is used to grow crops to feed the foreign market, including agro-fuel and food crops. However, land grabbing also happens to clear land for tree plantations (grown for carbon offsets), protected reserves, mines and often as a result of speculative investments from funds predicting a high rate of return from land investments. This definition unlike others, acknowledges that, not all lands are grabbed for crop production for foreign consumptions, but hinted that some lands are also grabbed for tree plantations for the purposes of offsetting carbon concentration and to conserve reserves so as to check climate change and also prevent loss of cultural heritage and rare resources. The contemporary land grabbing happens when large scale land and other constituents of the environment are taken often made possible due to the huge capital involved. This allows resources to be exploited either for domestic use or to serve the needs of foreign nations (Borras and Franco, 2010).

However, from the perspective of the researcher, the concept 'land grabbing' is defined as an emerging phenomenon whereby nations, individuals and organisations or corporations use diverse tactics, especially where the domestic government is involved to take control of

large scale land belonging to local peasant and subsistence farmers, often with the view that investing in such lands will contribute significantly to improving the living conditions of the affected people. In Simple terms, for the purpose of this study, the term ‘land grabbing’ is defined as the acquisitions, purchases and leases of agricultural lands belonging to local farmers in such a way that it undermines the livelihood sustainability of the affected people.

2.2.1 Trends, Drivers and Forms of Land Grabbing

Africa appears to be the main target of the global land rush. Of the publicly reported cases of land grabs, 948 land acquisitions, totalling 134 million hectares are located in Africa, followed by 43 million hectares reported in Asia, 19 million hectares in Latin America and 5.4 million hectares in other regions particularly Eastern Europe and Oceania (Anseeuw et al., 2012). What perhaps might have accounted for these trends in land grabbing, especially in Africa, could probably be attributed to the belief that there are available lands that are untapped, coupled with the assumption that, land prices could be much cheaper due to poverty. Also, as a result of poverty, landowners sell or lease their lands probably to earn a living. This ease of acquiring land in Africa can also be attributable to the weak land administration systems of countries which provide fertile ground for foreigners, individuals and domestic governments to easily grab lands (Anseeuw et al., 2012).

According to (Anseeuw et al., 2012; Lorenzo et al., 2009) the principal or primary driver of the global land rush is traceable to the 2007 and 2008 food crisis which compelled food-importing nations such as Saudi Arabia, United Arab Emirates, China and India to engage in several forms of land deals since they no longer wanted their food security to be depended upon the unpredictable world food markets. However, the demand for food is not the only driver. The desire of nations to achieve reliable energy supply, culminating in the

acquisition of land for bio-fuel production is essentially one of the key drivers of the global land grabbing phenomenon. Others include; forestry for carbon sequestration, mineral extraction, conservation of reserves, industry and tourism.

The issue of land grabbing is categorised into two major forms namely; ‘Domestic Land Grabs’ and International or Transnational Land Grabs.’ Domestic land grab connotes all forms of land deals or acquisitions that are wholly perpetuated by local elites, companies and national governments (Levien, 2011). On the other hand, transnational or international land grab involves all land acquisitions that are fully carried out by foreign governments and corporations and the global commodity chains (Amanor, 2012).

2.3 The Concept of ‘Livelihood’

The concept ‘livelihood’ looks at all the factors that either make people more liable to external shocks or promote the individual or family’s survival strategies. These are thought to comprise, mainly, the assets possessed by people, the activities which they engage in to promote improved living conditions and to satisfy all the factors that enhance or deny people’s access to livelihood assets and activities (Ellis, 2000). The concept of livelihood is increasingly becoming central in the discourse of rural development, poverty alleviation and natural resource management (Ellis, 2000). Livelihood discourse has surpassed the narrow definition and approach to poverty reduction. It had been narrow because it dwelt on certain aspects or implications of poverty such as low income and did not consider other vital aspects like shock and social factors. It is well noted that, in defining ‘livelihood’ the factors and conditions ranging from social, economic, and environmental which constrain or enhance people’s ability to make a living are emphasised (Krantz, 2001). A livelihood, therefore, according to Ellis (2000) comprises assets (natural, physical, human, financial

and social capital), the activities and the access to these that together determine the living gained by individual or households. Livelihood has the characteristics of being adapted to fit for survival. Hence, it is not static but has dynamic nature. From the perspective of Chambers and Conway (1991), livelihood includes the capabilities, assets and activities needed to guarantee a means of living. They further stated that, livelihood is sustainable when it can absorb all shocks and stresses without seriously altering the natural resource base. A sustainable livelihood is one in which people are able to maintain improved lives, reduce their vulnerability to external pressures, and ensure that their livelihood strategies do not endanger the natural resource base. Livelihood sustainability is endangered by external pressures, called the vulnerability context, comprising stress and shocks that people cannot take control over them (Alison, 2004). Sustainability has many dimensions, all of which are important to the sustainable livelihood approach. Livelihoods are therefore, sustainable when they:

- are resilient in the face of external shocks and stresses;
- are not dependent upon external support or if they are, this support itself should be economically and institutionally sustainable;
- maintain the long-term productivity of natural resources; and
- do not undermine the livelihoods of, or compromise the livelihood options open to others.
- Institutional sustainability is achieved when prevailing structures and processes have the capacity to continue to perform their functions over the long term (Alison, 2004).

Operationally, the term ‘livelihood’ refers to all activities including both farm and off-farm and the access of people to assets that support these undertakings which people do to make a living.

2.4 Effects of ‘Land Grabbing’ on Rural Livelihoods in Africa

The effects of land grabbing have become one of the hottest debates in academic discourse in recent times because of the increasing cases coupled with the sizes of such land acquisitions. While proponents of land grabbing such as the (World Bank, 2010) portray it as a positive phenomenon, opponents such as (Anderson, 2010) are also strongly against the phenomenon called ‘land grabbing’ or large scale land acquisition.

Proponents of land grabbing list a number of opportunities such as the provision of farm and off-farm jobs, and the construction of rural infrastructure including schools and health posts for the poor rural dwellers. Other potential benefits arising from land deals also include resources for new agricultural technologies and practices as well as future global price stability and increased production of food crops that could supply local and national consumers in addition to foreign consumers (Braun and Ruth, 2009). Since land grabbing leads to increased investments in food and agro-fuel production flowing to rural areas of developing countries, it could present essential benefits and opportunities for promoting the livelihoods of poor rural communities. Such investments have the potential to boost the agricultural sector, promote its modernisation and stimulate rural economies by the development of processing industries, livelihood diversification and employment generation; increased agricultural productivity through the provision of improved seed varieties, know-how and new technologies; low cost of production and higher returns for

the farmers, provision of facilities such as roads, ports, schools, health centres and water services (Haralambous, Liversage and Roman, 2009).

Large scale land acquisitions can be a ‘win-win’ deal. Investing grabbed lands in agriculture can be a growth opportunity. This is because increasing the size of land under agricultural production and improving productivity through the application of modern farm techniques and economies of scale will benefit the country of the investors as well as the host country financially (Sheppard and Mittal, 2009). The World Bank (2010), in support of land grabbing is optimistic that through land deals, there would be significant improvement in productivity. The bank highlights that, in countries where there are large tracts of suitable farmland coupled with a greater percentage of smallholders with very low productivity, the inflow of foreign investment and technology could provide large benefits to local populations. From the perspective of the World Bank, local communities can learn new production methods from foreign investor’s expertise and capital in order to utilise their own resources more efficiently and become more productive. However, the World Bank (2010) was also quick to add that “the risks associated with such investments are immense” mainly because the demand for land is focused on countries with weak governance and insufficient legal frameworks, but acknowledged that, if governments implement the right policies, the risks can be turned into equally large opportunities.

In as much as the views expressed by the proponents cannot be completely disputed, it is also crucial to add that, because most of such investments are often carried by the private sector, their profit seeking motives usually could override their commitment to really ensure the provision of these opportunities for the local people. Even where these opportunities are created they may not often be sustainable and local elites also usually tend to take

advantage of them to cheat their own people. In terms of the promises often made by investors such as the provision of social amenities and economic infrastructure, it has been reported, notably by the World Bank, a proponent of land grabbing that, these benefits usually do not materialise in several instances or at least are very slow to come (Morges, 2010). It is also worthwhile to mention that in most cases even when the investors promise to offer employment to the local people whose lands have been grabbed; it is usually seasonal in nature, lowly paid and offer poor working conditions as the case of plantation workers in Mali (Oviedo, 2011).

As regard employment, however, when the projects are fully owned and controlled by investors, they may bring their own national workers. Furthermore, large scale projects are generally highly mechanised, thus, not generating much employment for the smallholder farmers or landless peasants. Often, host governments do not have the prerogative to compel foreign investors to adhere to their promises (Morges, 2010). In addition, for some local people, it would be very difficult for them to easily adapt new strategies in order to take advantage of the opportunities provided by investment in the grabbed lands. This could mean that, the livelihoods of such people will become very precarious. Arguing from the literature, it is therefore not feasible that all affected people will indeed access these benefits as prescribed. All the same, it does not necessarily imply that, investing in grabbed lands does not have any positive effect on the livelihoods of the members of the host communities. If the investments are responsibly and effectively carried out, their benefits on the local people's livelihoods and host country's development cannot be underestimated.

Opponents of land grabbing, however, hold the view that these benefits or opportunities as argued by the proponents are needless, considering the challenges that the land acquisitions

present to people's livelihoods. Andersen (2010) for example, believes that, if the risks associated with land acquisition are not properly handled, it would not bring the desired development opportunity to the host countries. These risks are natural resource degradation, loss of traditional farming techniques and increasing food insecurity. Andersen (2010) further stressed that, even though many of these land-lease agreements make provisions for investments in rural development; they are usually not made on equal terms between the investors and local communities, which in several instances have threatened rural livelihoods such as farming and livestock rearing. Theting (2010) opined that recent studies conducted in some Eastern African countries like Kenya, Tanzania and Mozambique revealed that, the large scale agricultural investments of grabbed lands failed to fulfil the promise of building infrastructure, and creation of jobs. Kachika (2010) adds that, even in situations where farmers were employed, the conditions contained in the contracts were not favourable and the number of workers was much reduced due to the mechanised nature of the farm. In terms of productivity, studies have shown that, the yield or output from large scale agricultural projects on grabbed lands is not greater than small holder farms which have received enough investment to improve their productivity. Family-operated farms can be economically more efficient than big farms or plantations operated by wage labour (Tran-Nguyen, 2010).

Similarly, the Pesticide Action Network, Asia and the Pacific (PANAP, 2010) argues that land grabbing undermines and ruins small-scale and backyard farming that is otherwise built on local, indigenous and gender-based knowledge, often times employing biodiversity-based techniques. Big investments in grabbed land may induce land-use changes to the disadvantage of food security because high quality land may be diverted from local food production, livestock grazing, and income generation activities previously undertaken by

rural communities. As a consequence, smallholders may have no other option but to seek a living on marginal lands (Action Aid International, 2008). It is succinct that, the global land grab will have the effect of encouraging the dominance of the state to the disadvantage of the original owners and occupants (Borras and Franco, 2010). Foreign large scale agricultural investments on grabbed lands could in theory contribute to global food security; but it could also create problems of food sovereignty in the host countries due to heavy exportation (Jägerskog, Harsmar and Kim, 2012). The National Association of Professional Environmentalist (NAPE, 2012) for instance, revealed that people living on Bugala Island in Uganda used to grow beans, yams, peas, maize, and bananas some of which were supplied to other communities; but today, the island has to import almost all its supplies of bananas, rice, beans and maize flour due to land grabbing activities in the area.

Makutsa (2010) addressing the effects of land grabbing on livelihoods indicates that there will be severe food deficit in the Tana delta in Kenya, a home to many land grabbing cases, if all the proposed agricultural investments on all grabbed lands take off in the region. Using a case study involving Uganda for example, the National Association of Professional Environmentalist (NAPE, 2012) reiterates that, the use of grabbed lands for oil palm plantation in Uganda has affected the local economy, which previously had fishing, timber harvesting and food crop farming as the major economic activities. Local food security is threatened since vast lands desirable for growing food crops are diverted mainly to grow oil palm. Due to the huge capital investment in grabbed lands, local subsistence farmers and pastoralists are now taking interest in casual paid jobs which are lowly paid. Evidence from plantation workers on grabbed lands in Mali and Sierra Leone, shows that seasonal workers in Sierra Leone, for example, are paid approximately USD 2.25 a day, while workers in Mali receive even lower wages of USD 0.60 to USD 1.20 a day (Oviedo, 2011). Against

this backdrop, it could be argued from the literature that, food security in developing economies will be a mirage since many subsistence farmers are converting into casual paid workers on foreign invested lands. So then, without appropriate policy framework to manage and regulate the activities of land grabbing and its subsequent eviction of local farmers, it would not be surprising to see severe forms of hunger and poverty in many developing nations, especially in sub-Saharan Africa where worse forms of land grabbing activities occur. Many development oriented organisations for example, have criticised that as large scale lands are acquired by both government and private individuals with the aim to invest money to enhance local food production and to stabilise local and regional markets, land grabbing rather increases competition for land which leads to higher land prices, and in turn, the price of food might also increase. Hence, local communities in developing nations will become less able to afford that food, even though it grows in their own country (Christiane, Timo, Knoblauch and Krista, 2011).

Following from the literature, it can be argued that, notwithstanding the fact that land grabbing could jeopardise the general food security and livelihood sustainability of developing economies, it is also worthy to note that, land grabbing cannot wholly be blamed for the inability of affected countries to achieve food sufficiency. This is because it is a common knowledge that agriculture in many African nations is largely carried out by the aged whilst the energetic youth continue to migrate to Europe for the so called white-collar jobs. Equally, food production in these nations is mainly nature determined and still being carried out with the use of traditional farming techniques such as the use of hoes and cutlasses. It is therefore crucial to note that the problem of food insufficiency in developing economies is as a result of multiplicity of factors. Land grabbing is just one of them.

A major effect linked to the acquisition of vast tracts of land is the potential loss of residential-based assets. Such effects may be, especially worsened when the land is acquired forcefully without any form of negotiation and also accompanied by forced evictions of affected population (Milimo et al, 2001; cited in Cotula, 2012). Land grabbing, instead of facilitating rural development, rather deprives the host country the natural resources that constitute the assets upon which rural livelihoods are drawn. This impoverishes farmers because the opportunities often promised the local people are not realised. Not only does land grabbing mean that farmers will lose their livelihood assets, but also these assets will be transformed from smallholding into large industrial farms, mainly meant to produce for the international markets (GRAIN, 2008). A land grabbing case involving Kilombero Plantation Limited, a venture between a public agency, Ruiji Basin Development and a Private Company, Agrica (UK) in Morogoro in Tanzania completely deprived the local farmers and pastoralist of their lands and forest thereby making them out-growers to the investors. Thus, this land deal directly was a means of divorcing subsistence farming that has been feeding villagers over the years (Chambi, 2010).

The most immediate impact linked with land grabs which exacerbates rural livelihoods is displacement. As a result of large scale land deals, sometimes, it is almost impossible for women to perform their primary functions such as the provision of food, water and fuel for their families. This is because areas initially used for farming, animal grazing, fishing, gathering wild foods are lost to local communities (Action Aid International, 2014). In Zambia, as a result of large scale land acquisitions women who were traders were displaced thereby compelling them to travel a long distance from their homes to the public market to carry out their businesses (Cotula, 2012). For nine years, FIAN, an International NGO has investigated and documented a land grabbing case in Uganda, as the government of Uganda

leased a land to a German coffee trader to establish a plantation under its local subsidiary, Kaweri Coffee Limited. The outcome of the investigation was that, 401 families, comprising roughly 2,041 individuals were evicted with their houses and crops such as cassava, demolished by the army without adequate consultation and alternative arrangements (Alison, Sylvain, Rolf and Sofia, 2011).

Behrman, Meinzen and Quisumbing (2011), Mutopo and Manase (2012) view the effects of land grabbing and livelihoods from the perspective of gender. Using the bio-fuel plantation land deal in Chimubanje in Zimbabwe as a case in point, they argued that women are always at a disadvantage in all land deals since displacement and land reallocation that emanate from such land transactions often put undue pressures on their already tenuous land rights. This is because the land upon which women rely for foraging, firewood and livelihoods were mostly given away for foreign investment leading them to directly bear the costs of exorbitant food prices that result from the commercialisation of staple foods. The land acquisition process of the bio-fuel plantation land deal in Zimbabwe was accompanied by water appropriation, which also affected women's access to water for domestic use following the pollution of water sources as well as the reduction of the water table (Mutopo and Manase, 2012).

Similarly, with the sugar contract in Mozambique in 2007, the women who were hired were excluded from old age benefits and childcare assistants (Andrade, Cristiano, Casmiro and Almeida, 2009). Daley and Englert (2010) support this gender argument that women are neglected in the distribution of benefits from large-scale transactions in land because benefits such as compensation, employment and income generation opportunities often go to the men, thereby increasingly marginalising women-headed households. Atafori and

Aubyn (2012) highlighted the gender implications of land grabbing using a case study of the 1,250 hectares of grabbed land involving the Prairie Rice of Texas USA in the Tongu District of the lower Volta in the Volta Region of Ghana. They (Atafori and Aubyn, 2012) revealed that, the loss of land brought a damaging effect on women because of their high dependence on it. Women in Tademe for example, were not able to find land replacement because they were hemmed in by land belonging to neighbouring villages and by Passion Fruit plantation. As a consequence, many residents left Tademe, and those remaining, especially women resorted to cooking and selling food to Prairie workers as a way of making ends meet.

Generally, what is common from the literature regarding the effects of land grabbing on rural livelihoods in Africa is that, the proponents see it as a growth opportunity by providing on farm and off-farm jobs. It also provides social and economic infrastructure for Africa and for that matter the developing economies. On the other hand, opponents also view land grabbing as a threat to food security and the overall livelihood sustainability of the affected people due to the loss of livelihood assets such as land, forest and water (Borras and Franco, 2010). Since asset loss is a complete denial of rural livelihoods it concludes that, land grabbing generally ruins rural livelihood sustainability. Indigenous agricultural technology for example, is gradually waning as many local farmers and pastoralists are now converting into casual paid labour on large scale industrialised farms often managed and controlled by foreigners or local rich individuals. Hence, it can be argued that without strong institutional framework and a very vigorous crusade from civil society organisations to halt the extreme cases of land grabbing in Africa, it would not be surprising that, in the not too distant future, majority of people most, especially Africans would experience worse forms of poverty, hunger and general deprivation of well-being. Interestingly, notwithstanding the obvious

dangers of large scale land acquisitions on livelihoods, in many cases corrupt local elites and governments have fully supported foreigners to deprive the local subsistence farmers and pastoralists of their lands. Generally, it is evident that the adverse consequences of large scale land acquisitions on rural livelihoods over weigh the positives.

2.5 Land Grabbing, Social Tension and Implications

The speed with which lands are grabbed in recent times, and the associated displacement of the local land owners with or without adequate compensation, consultation and participation, has often generated conflicts among local farmers, investor companies and host governments. This phenomenon has fuelled a lot of studies in this direction.

Following the huge economic and emotional significance attached to land, it has the greatest potential to generate conflict that can last for decades across generations. Even though land deals can be formerly and legally transacted, nonetheless, conflicts are unavoidable when the ancestral inhabitants perceive it to be illegitimate. The concentration of land in a few hands in addition to the growing numbers of landless and jobless people is a fuel for violent confrontation (De Schutter, 2010). Some land deals have caused political conflicts. An example was Madagascar's 1.3 million hectares land transaction with a South Korean Company Daewoo Logistics that caused the government of his seat in 2009. This conflict was violent and involved the government of Madagascar and local subsistent farmers. This caused loss of human lives and ruined infrastructure thereby hampering the desired development benefits (BBC, 2008; Reuters, 2009). In Phnom Penh in Cambodia alone, 133,000 people were estimated to have been evicted from their lands between 1990 and 2009 due to land grabbing activities and associated conflicts, hence creating rural joblessness (Nadia, 2011). These conflicts and the associated forced evictions might have

disintegrated several homes, thereby weakening the structure of a typical family in Cambodia. Equally, many households would have lost their bread winners which potentially could jeopardise the general livelihood situation of such households. In such instances, women and children suffer the most since they are the most vulnerable in the society.

Mann (2010) has recorded cases of conflicts arising from land grabbing and its impacts in Kenya and Mozambique. He stresses that in Kenya, following the leasing of 40,000 hectares of coastal land to Qatar, local farming and pastoral communities in the delta of Kenya's Tana River strongly registered their displeasure of the deal through conflict with government. The conflict brought untold hardship to the local people as many livestock were killed and food crops destroyed. Bischolfliches (2010) using the land grabbing case of São Francisco in Brazil involving a flower industry indicates that, there have been cases of water conflicts because investors are often given advantage over the local population in access to water. Often, rivers are even diverted by plantation farms for irrigation at the expense of the local people. A case in point is the Sao Francisco River in Brazil that has generated conflicts over access to water due to cases of land grabbing in the area. Clearly, when governments who are expected to protect the interest of citizens rather tend to abuse their rights such as the case of São Francisco in Brazil, where foreign investors were allowed access to water to the disadvantage of the local residents, it is common knowledge that conflict is inevitable. Governments should learn to put the interest of their citizens above their personal desires since that is one of the surest ways of avoiding conflicts.

Further, the decision by the French government to construct the Grand Quest Airport leading to the acquisition of 2000 hectares of agricultural lands witnessed deadly struggles and conflict from the local famers and residents of the area. As part of the protest, the

affected residents occupied the land demarcated by the state for the construction of the airport. In October 2012, when the affected people were being forcefully evicted, the protest and demonstrations became intense resulting in violence between the police and the local residents (HOLN, 2013). Similarly, in Chile, under the military dictatorship of Pinochet, most of the lands in the Araucania region were grabbed for pine and eucalyptus plantation. Since then, the indigenous people of the Mapuche Region have been struggling hard to get their lands back. The struggle resulted in violence, forcing the Chilean government to apply anti-terrorist laws to the local people with many prosecuted and handed hefty prison sentences (Overbeek, Kroger and Gerber, 2012).

Saturinino and Jennifer (2011) note of a conflict and its consequences in Omlaing Commune, a village located in the province of Kampong Speu, Cambodia over a land deal involving Phnom Penh Sugar Company and the Kampong Speu Sugar Company. They highlighted that, as the company started clearing the land resulting in the destruction of irrigation creeks, the villagers resisted. The protestors threw stones, vandalised the company's equipment and blocked all the major routes thereby compelling the government to deploy the police to protect the company's workers and equipment. Following their continuous resistance, many of them were molested while others were arrested and jailed. It is obvious that the dire consequence would be family disintegration as majority of the people would migrate to escape arrest. This means that households whose bread winners were arrested and jailed have had their livelihoods endangered. Equally, in Fanaye, in Senegal, an attempt by an Italian Company called Senethanol to secure land for the cultivation of sunflower fuelled serious conflicts after the local communities discovered that they were about to lose their lands to a foreign company leading to the death of two peasants farmers following the shooting incidence from corrupt local elites (International

Peasant Movement, 2013). While investments made in grabbed lands could have the potential to improve the quality of lives of the local people, that should not serve as the basis for governments, institutions and individuals involved in land deals to violate the rights of the potentially affected people. Forced evictions that often characterise large scale land acquisitions usually are a complete violation of human rights which ought to be reviewed.

Usually, as plans for land deals emerge, the rights of the communities involved are infringed upon as they are often left with no other choice than to vacate their lands and take whatever compensation given to them or resist the takeover and be brutalised. Interestingly, these violations are often perpetuated by those who should be protecting vulnerable communities, including state police and military forces. In Cambodia, for example, the country's human rights situation had been taken for granted following government support for land grabs, including forced evictions and violence against communities that tried to resist (Action Aid International, 2014). What is central to the discussions on land grabbing and social tension from the literature is that, evidence from the literature points out that large scale land acquisitions are directly associated with conflicts because local communities view their land as a valuable asset that is paramount to their livelihood sustainability. As a result, any attempt by government, individuals and institutions to deprive them of their livelihood assets would always be met with massive resistance. In as much as governments, individual and corporations want to acquire vast lands for large scale projects, it is however worthwhile that, the potentially affected people of such deals are duly consulted to help limit the incidence of conflicts. Where such land deals potentially pose a threat to the local people's livelihood sustainability, it is pertinent that, alternative arrangements are made so that the affected people do not lose out completely. Many of

these conflicts associated with land grabbing indeed could have been avoided if the local people were fully respected, consulted and honestly compensated.

2.6 Land Grabbing, Agriculture and the Environment

The recent global land grabbing and its subsequent large scale agricultural investments have usually led to the clearing of vast areas of land. This usually causes permanent damage to the physical and biological environments, hence posing threats to agriculture and the general livelihoods situations of the affected communities.

Globally, many biodiversity conservation efforts have been thwarted due to the increasing desire for large scale lands by wealthier nations, individuals and governments, both domestic and international as well as organisations. Examples from Uganda, Indonesia, Brazil, Argentina, the Democratic Republic of Congo, Liberia, Cambodia and Laos all highlight areas of high biodiversity lost to commercial agriculture (Blomley, Flintan and Nelson, 2013). The cultivation of soya, maize, cotton and sugarcane in Brazil and Argentina over many years for example, has proven that the practice of monocultures ultimately leaves behind a desert wasteland (Bischoffliches, 2010). In Liberia, four large oil palm companies have concessions covering 622,000 hectares of forest lands and the operations of these companies have intensified forest use outside the concession areas, creating further problems to biodiversity (Small, 2013). In western Ethiopia, the allocation of land to external agribusiness investors by the government in and around Gambella National Park threatened the livelihoods of local pastoralist communities, and also the antelope migration between Ethiopia and South Sudan (ILC and IIED, 2013). Intensive agricultural production on grabbed lands can endanger biodiversity. This is because as the forest is converted into plantations, it reduces diversity of flora and fauna, and agro biodiversity (Braun and Ruth,

2009). In fragile African ecosystems, the practice of industrial agriculture on grabbed lands have the capacity to destroy the habitat of millions of persons who are already witnessing deteriorating conditions due to climate change; hence as traditional small-scale farms are gradually being substituted with large intensive agriculture, there is the likelihood that the enjoyment of rights by the future generations would be jeopardised (Alison, Sylvain, Rolf and Sofia, 2011).

Studies in Malaysia and Indonesia on the environmental impact of investing in large scale oil palm and rubber plantations on grabbed lands revealed that, there has been significant rise in green house gas (GHG) emissions, massive deforestation, soil nutrient depletion, drought, and desertification. In Indonesia and Malaysia, rubber and oil palm plantations are blamed for the devastating forest fires which have destroyed large tracts of forest lands (Colchester et al., 2011). Yet, governments of south-east Asian oil palm producing countries continue to use oil palm plantation as part of their measures to address climate change impacts, forgetting that the mere clearing of the rich forest alone to establish plantations causes carbon emissions, which have serious implications on the environment and for that matter agriculture. The clearing of the forest and grassland cover to make way for plantations has affected wildlife, to the extent that monkeys and antelopes are being hunted as alternative sources of food, hence affecting the microclimate of the area (FOE and NAPE, 2012).

In Cameroon, the American-owned Herakles Farms have purchased 73,086 hectares of land in the midst of a biodiversity hotspot to develop an oil palm plantation. The African Conservation Foundation admonished that such a bold decision will only be an environmental disaster for the rainforests of Cameroon (Oakland Institute, 2012). The most

severe instances of destruction of rainforests by Industrial Tree Plantation expansion can be found in south-east Asia where the two biggest pulp producers, Asian Pulp and Paper (APP) and Asia Pacific Resources International Holdings Limited have deforested about two million hectares of forests in Riau Province of Sumatra alone (Overbeek, Kroger and Gerber, 2012).

In terms of the effects of the conversion of grabbed lands into large scale commercial agriculture on water, available evidence suggests that such large scale investments could completely worsen communities' access to water, and in particular, regarding agro-fuel production, due to the high input requirement of energy crop plantations (FAO, 2008). For instance, the production of agro-ethanol (jathropa) for agro-diesel requires considerable amount of water. In Tanzania, a study of a tract of land which included the spring of Tove rented to a local industrial farm for the cultivation of crops and for animal grazing reveals that, the farming practices completely degraded the quality of water in the spring (Arduino, Columbus, Ocampo and Panzeri, 2012). The rush for land globally is indeed a water land grab due to the fact that, agricultural investment is meaningless without water. Therefore, in most cases, investors rather target lands that have copious amount of water (Small, 2013; Mann, 2010). Similarly, in Cambodia, a case study of the rubber plantation on the grabbed lands at Ka-Nat Thum reveals increasing trends in environmental degradation which has destroyed the water purification services of the primary forest ecosystems, hence resulting in poor water quality of the area. The destruction of the forest mainly due to the rubber plantations has reduced immensely the water holding capacity of soils, altered the microclimate of the area which has contributed to a decrease in water availability. A shift in land use from forest and small agriculture to large scale rubber plantation with its attendant

excessive application of chemical fertilizers and pesticides has also led to contamination of the ground and surface water (Andrea, 2011).

Since many grabbed lands are usually used for large scale agricultural investment, in many of the host countries, where laws on pesticides and herbicides are either lacking or ineffective, it creates risks to other water users. With the case of the SCOPALM OIL Palm Plantation project in Cameroon, there was increasing water pollution from agrochemicals. Tests on water effluents by Centre Pasteur for example, found high levels of chemical and biochemical substances which suggested that the sources of water for the villages near the SCOPALM OIL Palm Plantation project were of poor quality and suitable only for irrigation, cooling, and navigation (European Coalition and Corporate Justice for Sherpa, 2010; Mann, 2010). A study of the environmental impacts on oil palm plantation in Guatemala revealed that, at La Caobo and Esperancites Del Rio in the Municipality of Chisel in Guatemala, the plantations have altered the courses of rivers for irrigation, and the use of chemicals such as fertilizers, herbicides and pesticides has contaminated water bodies of many nearby communities (Guerena and Ricardo, 2013).

Although fertilizer use and irrigation can significantly contribute to addressing some of these challenges posed by the agricultural investments on grabbed lands, however, these activities can equally lead to long-run sustainability problems such as salinity, water logging and soil erosion if they are inappropriately designed (European Coalition and Corporate Justice for Sherpa, 2010). From the literature, it can be argued that, while it is true that large scale agricultural investment on grabbed lands could lead to problems of soil erosion, such problems can easily be handled since such investments are often well planned and properly regulated. Also, since such projects are usually done by foreign investors, or

rich individuals or government, it is believed that they will employ modern technologies that will minimise the problems. What is important is that, the investors must make due diligence to all the guidelines underlying such form of agricultural investments. Problems of erosion, salinisation and water logging cannot only be blamed on intensive agricultural investment of grabbed lands because the traditional farming methods employed by the local people, such as slash and burn are even more destructive to the soils in particular and the land or vegetation in general.

Generally, the central theme from the literature in relation to the sub theme ‘land grabbing, agriculture and the environment’ is that, the promotion of large scale plantation agriculture or investments on grabbed lands have dire consequences on both the physical and biological components of the environment due, especially to the nature of their operations which is mainly characterised by excessive application of synthetic fertilizers. The activities of such farms or investments for example, have often resulted in massive degradation of the soil, water quality and availability, reduction and destruction of plant and animal species as well as other supporting environmental resources upon which livelihoods are drawn. These have made the livelihoods of greater majority of the people in Africa where there are recorded cases of extreme forms of land grabbing very precarious. To this effect, it can be summarised that, the investments often carried out on grabbed lands tend to pose serious threat to environmental sustainability and for that matter the realisation of local people’s livelihood sustainability. Without an appropriate framework to handle and regulate the activity of land grabbing, great danger awaits Africa where a large proportion of the populace directly rely on the physical environment for survival. There is therefore a synergetic relation between land grabbing, agriculture and the environment.

2.7 Strategies and Interventions for Promoting Sustainable Rural Livelihoods

It is a common knowledge that the poverty levels among many rural dwellers especially those in Africa are high. The desire to alleviate poverty has generated the debate about the need to ensure that the resources or activities on which many livelihoods depend are protected and managed effectively to promote sustainable livelihoods. As a result, several scholars have outlined several interventions in this direction.

Carswell (1997) posits that among the surest ways of ensuring livelihood sustainability is by promoting intensive agriculture and discouraging agricultural extensification. He argued that, by encouraging agricultural intensification through the introduction of improved farming techniques such as the use of natural or artificial fertilizers, improved seedlings, multi-cropping and soil conservation, yield per hectare will increase without necessarily expanding the size of farms. Increasing yield per land area in turn increases livelihood sustainability by enhancing the quality and quantity of livelihoods. By agricultural intensification, degradation to livelihood assets (land and forest) reduces considerably which nevertheless, guarantees a more reliable means of livelihood across generations. Agricultural intensification itself though often regarded as a positive process; has negative effects regarding the quality and quantity of livelihoods. For most people, improvements in labour productivity through intensification offers an opportunity for improving the quality of livelihoods but this, however, may be at the expense of the quantity of livelihoods if there is no increase in output. While there is little doubt that Green Revolution ensured massive increases in crop yields, especially in India, which strengthened local people's livelihoods, such an agricultural intensification has some environmental challenges such as loss of micro-nutrients which equally has huge implications on livelihood sustainability (Magnus, 1996). Though agricultural intensification can be a successful vehicle to promote livelihood

sustainability through the use of modern farming methods such as fertilizer and other chemicals, excessive or wrongful application of such chemicals can make soils impoverished. This will in turn endanger farm yield and for that matter the general livelihoods of the rural dweller. Again, since intensive agriculture is capital intensive, it is not possible that poor rural households will be able to afford. Hence, it can be concluded that, it is a strategy that rather promotes the livelihoods of the rich other than the poor and the marginalised in the society.

Karim and Nelson (1998) advocate for livelihood diversification as one of the possible ways by which decent livelihoods can be achieved. They contend that efforts should be made by individuals and households to discover new avenues or ways of generating incomes to improve or maintain living standards. Livelihood diversification comprises both farm and off-farm activities usually undertaken by households to raise additional income to augment that from the farming activities, sale of waged labour and migration to urban areas to search for paid jobs. In Mali, during the off-farm season, young men and women migrate to cities for paid jobs; women also do cleaning alongside market gardening, while others combine petty trading with crop and livestock productions (Cekan, 1992). From the literature, it can be stated that in as much as livelihood diversification could possibly promote livelihood sustainability, it is also equally worthwhile to note that, when people and households merely vary their livelihood activities alone cannot guarantee them sustainable livelihoods. Livelihoods will be sustainable only when the livelihood activities are themselves sustainable. In addition, livelihood diversification cannot guarantee sustainable livelihoods for households whose members are old as they may not have the strength to engage in multiple income generating activities compared to a household whose members are younger, active and energetic.

In an attempt to promote the sustainability of rural livelihoods, considerable attention must also be directed towards the role culture plays in sustainable livelihood and community development. Individuals and communities have their own values, norms, customs and knowledge systems which determine and influence the kind of livelihood activities or strategies they use to exploit the natural environment for a living. Sometimes, in the name of culture in some communities, certain resources are over stressed whilst others are left untapped since such places are often believed to be the sacred grooves (Chandima, 2009). In such instances, policies enacted to regulate the usage of such resources perceived by individuals and communities as the appropriate means of achieving sustainable livelihoods would often not be welcomed. It could be argued that, without adequate knowledge about the general ways of life of the people, the decision to ensure livelihood sustainability will be a difficult one because the practice of culture can preserve rural livelihoods and at the same time impede livelihood sustainability. By ignoring the culture of a particular community in designing and implementing policies geared towards promoting livelihood sustainability, it can generate conflict.

In Lesotho, as part of the interventions to sustain rural livelihoods, a project dubbed Training for Environmental and Agricultural Management (TEAM) managed by CARE Lesotho-South Africa, was initiated which developed an extensive approach to provide adequate training to increase the knowledge and improve the practices of rural farmers. This provided rural farmers with enhanced decision making and problem solving skills that enabled them to adopt more environmentally friendly methods of farming and eschewed practices such as those of agricultural extensification (slash and burn) that are very detrimental to livelihoods (Franks et al., 2004). They further posit that, in Uganda, following government's determination to ensure livelihood sustainability, agricultural

modernisation was used as the vehicle for eradicating poverty to enable local people enjoy a more sustainable livelihood. Also, in Tanzania, there was an agricultural sector programme support for local farmers which included the provision of free extension services in addition to subsidised inputs supply as part of government's measure to promote livelihood sustainability. This intervention according to Franks et al., (2004) has contributed to a more secured livelihood for local farmers and provided income and better nutrition for the smallholder farmers and women in particular. In as much as the views expressed by Franks et al., (2004) are undeniable, it is crucial to add that, they fail to acknowledge that these sustainable livelihood intervention strategies as outlined are capital intensive programmes which can only be practiced by individuals and nations that are very resourceful. Even in rich countries, sustaining such capital intensive programmes as a way of enhancing rural livelihoods is very doubtful let alone to talk of countries in Africa where capital is woefully inadequate. For poor rural societies where access to land is unrestricted, perhaps the cheapest alternative strategies could be agricultural extensification.

Since societies are striving for sustainable livelihoods, it is imperative to ensure wise management of wetland ecosystems on which many rural livelihoods depend. In the Mekong Region in Cambodia for example, as a strategy to promote livelihood sustainability, a regulatory body was set up to supervise the efficient management of the local community fishery (Friend, 2007). In pursuance of sustainable livelihood, a clear framework was designed which outlined the category of people with rights of access to the community fishery, targeting the poorer households and women in the catchment area. This was basically to ensure that fishing in the area is properly regulated and managed in the best possible manner to limit the rate of degradation to aquatic life on which the livelihoods of many dwellers in the area depend (Friend, 2007). He further highlighted that, as part of the

management strategies employed in the Mekong Region to sustain livelihood, the poorer households and women were represented on the management committees to observe and monitor areas recognised locally as important for fishing. Accordingly, this promoted the sustainability of wetland resources (floodplains, river systems) that support livelihoods as capture fisheries. It is essential to note that, while this strategy potentially could promote rural livelihoods, it will only materialise if persons appointed to oversee the proper management of the wetland ecosystems act diligently and honestly. What is more significant here is to educate the local people adequately so that they do not degrade environmental resources upon which their livelihoods depend.

Novib (2008) also identified three key strategies for ensuring sustainable livelihoods. In the first instance, conscious efforts should be made by both the private and government sectors to build and protect livelihood assets. These will ensure that financial services such as credits, savings and insurance are provided for the rural poor whose livelihoods depend on natural resources such as land, water and forest. In their quest to exploit these resources, they will be well positioned to use their credits to employ the best possible and less destructive strategy. Equally, livelihoods would be strengthened through access to credit coupled with access to the natural resources. There is also the need to reduce disaster risks and vulnerabilities such as credit risks and hazards and build people's capacity to be able to adapt to environmental degradation and climate change since these are detrimental to livelihood sustainability. One area overlooked in the arguments of Novib (2008) has been the failure to recognise that, there is the urgent need for both the government and the private sector to act responsibly by ensuring changes in the global trade rules in order not to kick the poor out of the public markets. Trade terms in developing nations are so liberal that they create huge opportunity for competition which tends to displace local producers and traders

thereby weakening their livelihoods. While these strategies are important, it is also worthy to stress that, livelihood sustainability can be achieved when opportunities are created by preventing land seizures to improve the position of smallholder farmers in the supply chains.

In conclusion, a critical look at the discussions on land grabbing and livelihoods shows that the activity of land grabbing as a result of the Bui dam project has both positive and negative impacts on rural livelihoods. These positive effects include employment creation, technological and knowledge transfer, skill training and development of social and economic infrastructure. In contrast, displacement of people, human right violations, loss of livelihood assets, loss of indigenous farming practices, gender inequality, food security problems, social conflicts and its associated social tension and environmental concerns are among some of the negative effects. Notwithstanding, the benefits that local people and domestic states derive from land grabbing, the negative effects on people's livelihoods are far reaching. Therefore, to promote sustainable livelihoods for the local people, there should be a comprehensive framework developed to regulate the activity of land grabbing in Africa. Equally, there is the need for a vigorous crusade from civil society organisations in this direction. Failure to do this will potentially lead to a form of neo-colonisation of many countries in Africa which will rather exacerbate further the local people's livelihoods. The theoretical framework for this study is discussed in the ensuing paragraphs.

2.8 Theoretical Framework

The study is guided by two main theories which are the transformation/ transition theory and the resilience theory. These theories helped to provide a comprehensive and appropriate scientific basis for the study.

The transformation/transition theory draws attention to the role of technology in enabling change and development. The theory basically argues that society's transformation is often driven by technology, and the application of technology enhances development of states and communities, which also tend to influence socio-economic activities. The theory uses a multi-level framework to analyse the interaction between technological and social change (Van and Van, 2007). This helps to explain how technical innovation influences socio-ecological processes. It analyses transitions of communities through three hierarchical structures: niches, regimes and landscapes (Foxon, Reed and Stringer, 2009). A regime is the institutional and infrastructural arrangement within which a particular technological system functions. The landscape encompasses the broader political, social and cultural structures that form part of the bedrock of society. These structures prevent any form of developments that endanger established interests. Niches represent the diverse spaces within regimes that have some protection from prevailing institutional practices, market forces, social norms and or regulatory standards (Foxon, Reed and Stringer, 2009).

The Transition theory recognises that technological change may occur across multiple locations through organised and spontaneous flows of information and expanding communication networks (Smith and Stirling, 2010). The diffusion of technology across and between systems can be an important part of transformation (Coyle, 2011). Summing up, the transition theory extends resilience thinking by incorporating technological change more directly into the analysis of socio-ecological systems. This also implies paying greater attention to the connectivity between cities and other systems, including the flow of information, knowledge and finance. These flows can perform a positive and progressive function, or they can expose cities to greater risks and instability. As states and societies

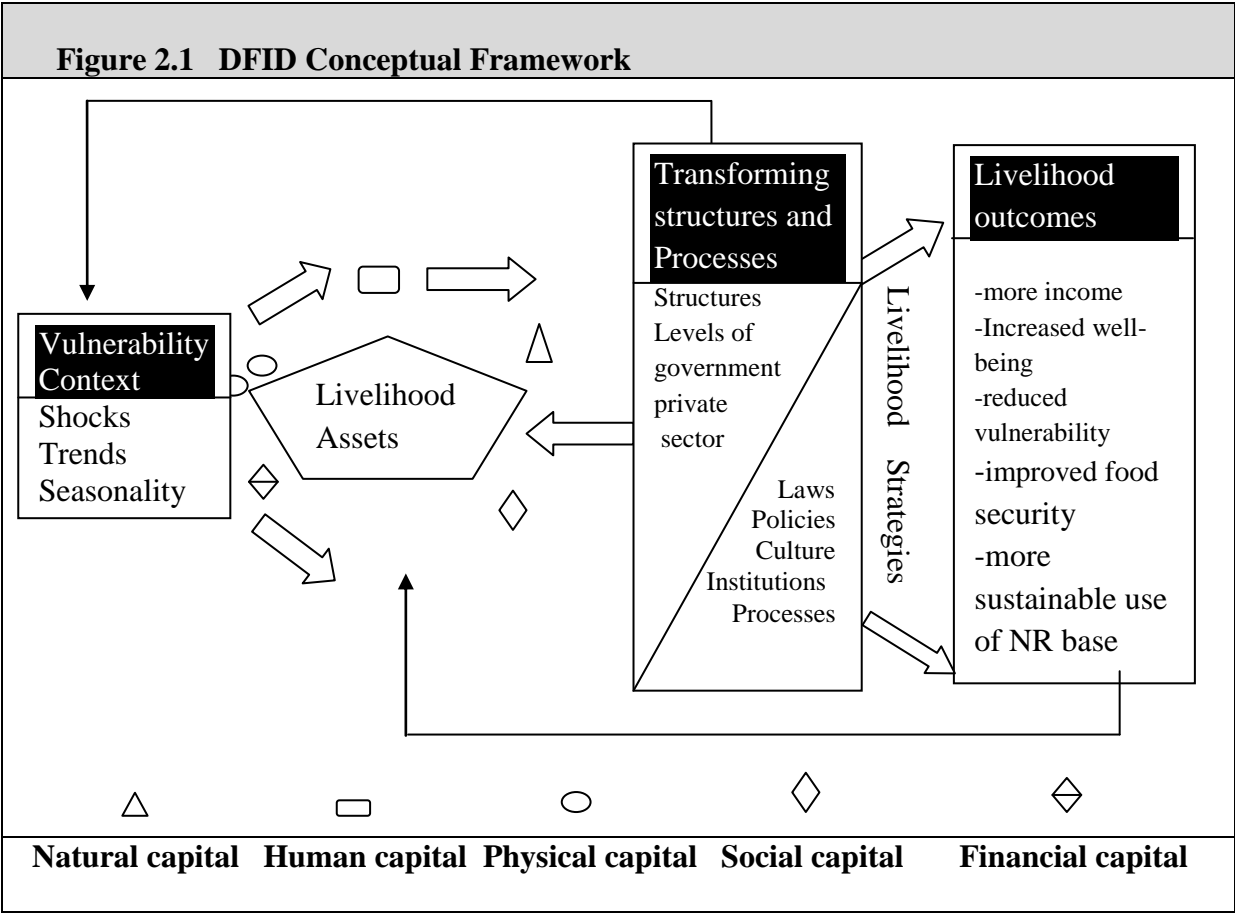
transit or transform through technological innovation, various vulnerability scenarios are created, hence the need for communities to develop resilient characteristics.

The Resilience theory emerged in the 1970s from the research of Holling (1973) to help understand the capacity of ecosystems with alternative attractors to persist in the state or community subject to perturbations (Folke et al, 2002). Holling (1973; pp 1-23) defined resilience as “a measure of the resistance of systems and of their capability to absorb change and disturbance and still maintain the same relationships between populations or state variables” (Holling, 1973). In short, the resilience theory best describes the ability of a system (community or state) to absorb disturbances and still retain its basic function and structure together with the capacity of a community or state to change in order to maintain the same identity (Walker and Salt, 2006; cited in Leanne et al., 2013). The theory indicates that since humanity depends on ecosystem services for wealth and prosperity, there is a significant relationship between ecosystems and humanity (Carpenter, Walker, Anderies and Abel, 2001). As a result, it is essential that humanity strives for resilient socio-ecological systems in the light of sustainable development systems. Humanity, therefore, has the imperative of striving for resilient socio-ecological systems in light of sustainable development (Folke et al., 2002). As society undergoes transformation, such changes come with their own shocks and stress. To achieve sustainable development as states or communities, human beings have to develop the capacity to resist external shocks and stress in the environment since a resilient social-ecological system in a state has a greater capacity to continue providing us with the goods and services that support our quality of life while at the same time being subjected to a variety of shocks (Walker and Salt, 2006; cited in Leanne and Ivan, 2013). This theory thrives on three fundamental concepts; ‘adaptability’ (the capacity to adjust responses to changing external drivers and internal processes, and

thereby allow for development along the current trajectory), ‘transformability’ (capacity to cross thresholds into new development trajectories) and ‘resilience’ transformational change at smaller scales enables resilience at larger scales. It is also very interesting to note that resilience is not only about being persistent or robust to disturbance. It is about the opportunities that disturbance opens up in terms of recombination of evolved structures and processes, renewal of the system and emergence of new trajectories (Folke, 2006).

2.9 Conceptual Framework

Since the study basically centres on livelihoods, the sustainable livelihood framework of the UK Department for International Development (DFID) was adapted as the conceptual framework for the study. Figure 2.1 depicts details of the framework.



(DFID, 1999)

The sustainable livelihood framework, developed by the United Kingdom Department for International Development (DFID) is one of the livelihood frameworks that has been mostly used in development practice. This livelihood framework depicts how, in different situations, sustainable livelihoods are achieved through access to a range of livelihood resources (natural, financial, human, physical and social capitals) which are combined in the pursuit of different livelihood strategies such as agricultural intensification or extensification, livelihood diversification and migration. At the heart of this livelihood framework is the analysis of the range of formal and informal organisational and institutional factors that influence sustainable livelihood outcomes. This livelihood framework comprises five key components namely; vulnerability context, livelihood assets, processes, institution and policies (PIP), livelihood strategies and livelihood outcomes. The vulnerability context highlights the external environment within which people live. This includes critical trends such as economic and resource trends, shocks such as drought, earthquake, flooding, conflicts, economic, health and seasonality such as seasonal fluctuations in prices, production and employment opportunities.

The foundation of this framework is the belief that people require assets to arrive at meaningful livelihood outcomes. Human capital, one of such assets is the skills, good health, and ability to labour to be able to achieve a desirable livelihood. Social capital refers to the social resources through which a person can get help. This includes social relations, affiliations, and associations. Natural capital comprises both tangible factors such as land, water, forest, wildlife, soil and intangible factors such as atmospheric services (e.g., air) and biodiversity. Physical capital includes the basic infrastructure (roads, buildings) and producer goods that are required to support the livelihoods people seek. Financial capital comprises the financial resources such as income and access to credit which can be used by

people to achieve the livelihoods they are striving for. Transforming Structures and Processes involve the institutions, organisations and policies that frame the livelihoods of people which exist at local and international levels. These determine the access which people have to different assets. Examples include the private and government sectors representing the structures; while the laws, rules and regulations from these structures represent the processes. Livelihood Strategies describe the activities that people do for a living including both farming and non- farm activities. It also looks at how the assets are combined to achieve the desired outcome. Finally, livelihood outcomes are the gains or achievement made from a person's livelihood strategies which include improved incomes and reduced vulnerability (DFID, 1999; 2000).

A look at the livelihood framework depicts some linkages that exist among the various components. For instance, the kind of livelihood assets and policies or cultural system available to a particular community determines what vulnerability scenarios that can be created. The two therefore influence each other. Similarly, the institutional policies and processes determine the access which people have to the assets. This implies that people's access and use of assets is regulated by these policies and processes. Hence, assets degradation depends on the kind of institutional policies available. Also, weak or bad institutional policies can create various risks or vulnerabilities for existing livelihood assets. Finally, the type of livelihood assets, institutional policies and vulnerability scenarios available influence what livelihood strategies that can be adopted by a given household or community in their pursuit of sustainable livelihood outcomes such as improved income and standard of living. Where institutional policies do not favour the existing livelihood strategies, the desire to achieve sustainable livelihood becomes a mirage. It can therefore be

argued that there is a synergistic relationship among the various components of the livelihood framework.

The strengths of the sustainable livelihood framework are that; it offers a more formal and detailed way of describing the core factors that hinder the livelihoods of people. It also shows that other areas such as social status, natural resources, health, skills and knowledge are extremely important as they all have influence on how assets can be combined, how people are able to annex opportunities and together with the livelihood activities people can engage in. Also, looking at the myriad of factors described by the framework, it indicates that there should be participation of the vulnerable people in policy making since they are the ones these factors directly affect.

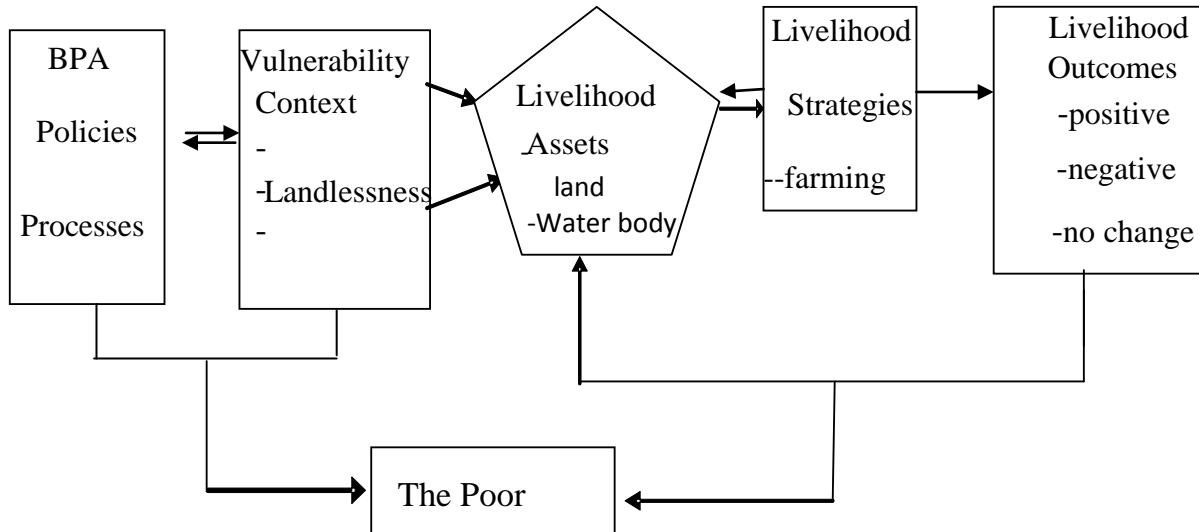
Besides, the sustainable livelihood framework has some shortcomings. For example, it is highly impossible to perform an analysis of livelihood throughout the entire country or region to support national policy-making. This would be a very tedious task where there is greater heterogeneity. Again, while the sustainable livelihood framework points the way to a more detailed household level analysis, using the assets pentagon and highlighting links between components, it provides no similar direction for micro and macro issues. These do not come to light in the sustainable livelihood framework. They remain in a 'grey box' and that, it is perceived as being too broad and vague. It may be difficult to overcome challenges to change policies, structures and processes since the framework did not fully provide a clear cut approaches to deal with these obstacles. The challenges of addressing inequality remain enormous with or without sustainable livelihood framework (Elsewhere and Michelle, 2010). Similarly, the sustainable livelihood framework portrays that in the event of vulnerabilities when livelihood strategies are varied, the livelihood outcomes would only

show positive results. This however is not always the case because no matter the livelihood strategies employed, in the event of vulnerabilities, the livelihood outcomes may either be positive, negative or show no evidence of change. In addition, the framework failed to explicitly show who really is at the centre or at the receiving end of the vulnerabilities created through institutional policies to transform societies through the application of technology. Finally, the framework only made mention of livelihood strategies but no particular mention was made to any livelihood strategy like farming, fishing etc. This however makes the framework too vague and problematic.

Owing to the weaknesses of the sustainable livelihood framework, the framework was adapted as shown in Figure 2.2. Unlike the original sustainable livelihood framework, the adapted version rather begins with the policies, institutions and processes, vulnerability context, livelihood assets, livelihood strategies, livelihood outcomes and ends with the 'poor' who usually receives the vulnerabilities. This adapted framework makes it explicit as to who really is at the centre of the framework unlike the original DFID framework which does not indicate explicitly who is at the centre of it. The adapted livelihood framework starts with the transformation structures and processes because in this particular study, it is the policy to acquire the land for the Bui Dam project that has created vulnerabilities for the local people thereby threatening sustainable livelihoods of the affected people and communities. Since land is the core livelihood asset of most rural dwellers, the takeover of the large tracts of land in the Bui catchment area to develop the Bui Dam would have dire consequences on local people's livelihood strategies and outcomes, which would mean that they would be compelled to develop coping mechanisms in order to sustain their livelihoods. In all these, it is the poor that suffer most because they

depend mainly on the land for a living. Figure 2.2 shows details of the adapted conceptual framework.

Figure 2.2: Adapted Version of the DFID Conceptual Framework



Source: Adapted from DFID (1999)

2.10 Applicability and Usefulness of the Adapted Livelihood Framework to the Study

This framework provides a comprehensive and a more systematic process for performing livelihood analysis, and fully recognises that, as vulnerabilities are created, especially in the case of the Bui Dam construction where vast land is acquired, the rural ‘poor’ whose main source of livelihood is the land, become the hardest hit. In the face of the vulnerabilities, no matter the livelihood strategies employed, there are only three key outcomes available to the affected people. The livelihood outcomes resulting from the applied livelihood strategies can either be positive, negative or remain unchanged. What makes this framework more useful to this study is that, it helps to assess whether the decision to acquire the land for the creation of the Bui Dam has in any way created some vulnerabilities that have affected the livelihood assets, livelihood strategies and livelihood outcomes of the affected people as well as discover who really in the local communities are the most affected. Among these

vulnerability scenarios that have resulted from the creation of the Bui Dam which affect livelihoods include; land degradation arising from constructional works, rising food prices following the influx of people into the area and the high degree of rural landlessness among the inhabitants of the study area. Situating this study within the framework helped to provide a sound platform to ascertain how the policies of an institution like the Bui Power Authority are influencing household's access to assets, nature and types of livelihood strategies as well as the livelihood outcomes in the study communities. This framework (adapted version) is indeed very applicable and useful to this study because every aspect of it directly plays a critical role in the study

CHAPTER THREE

RESEARCH METHODOLOGY AND PROFILE OF THE STUDY AREA

3.1 Introduction

This chapter presents the systematic procedures that were followed to carry out the entire research. The chapter specifically looked at the types and sources of data, study design and sampling techniques, methods and tools for data collection and as well as the data analysis techniques employed for analysing the data.

3.2 Types and Sources of Data

Qualitative and quantitative data were collected. The study also relied on both primary and secondary sources of data. Data from the primary sources were obtained from field observation, interviewer questionnaire and unstructured interviews with household heads, opinion leaders of the communities selected and community development officer of the Banda district Assembly. These data sources helped to have access to reliable and accurate first-hand information relevant to the study. The secondary information was obtained from published materials such as journal articles (print and electronic sources), selected reports such as the Bui resettlement community's livelihood assessment by Bui Power Authority. These sources provided secondary information which facilitated the attainment of the study objectives. The ensuing paragraph clarifies why the Bui Power Authority and the Lands Commission were not interviewed.

For the purpose of this study, informant information was not sourced from the Bui Power Authority and the Lands Commission even though the study relates to their operations. The ensuing are the reasons. Often, researchers focus their energy and attention on institutions, departments and agencies to undertake their research work to make their conclusions.

Usually, the information or responses from the institutional actors may not necessarily paint the true picture of the grass root population. Stories are often concocted to favour themselves, especially when they have not really lived up to expectation. As a result, this particular study rather did not use the convention research approach. Instead, from the onset the study targeted mainly the local inhabitants in the Bui catchment area whose lands were acquired to construct the Bui Dam. This was done to ensure that the voices of the local residents who are the recipients of the effects of the loss of land to the Bui Dam project are duly echoed and amplified. This was very necessary because the grass root population is generally voiceless, weak and vulnerable. This approach therefore, provided the local people themselves the opportunity to tell their own stories regarding how the acquisition of their farmland has affected their livelihood situations both positively and negatively.

3.3 Study Design and Sampling

The study employed the mixed methods of research approach with a cross-sectional case study design. A cross-sectional design allows the description of trends, attitudes and opinions of a population by studying a sample of that population with the intention of generalising from a sample to a population (Babbie, 1990: cited in Creswell, 2009). This design is intended to gain immediate knowledge and information on the effects of land grabbing on the livelihoods of the local people using the Bui Dam construction as a case in point. A case study research design on the other hand, involves detailed observation, description and analysis of everything that is in history or the development of a single group, person, institution or community for the purpose of understanding the dynamics of a particular system (Alonge, 2010). This design was applied because the phenomenon under investigation is a contemporary one and the study is based on a real life situation. The technique also helped to bring the investigator and the case under investigation in contact.

However, the method also has its own challenges such as, linguistic barriers, investigator shortcomings like biases and poor judgment of issues.

In order to gather data from both the primary and secondary sources, particularly from the study communities and institutions such as the district assemblies, both the probability and non- probability sampling techniques were applied. Specifically, the simple random and purposive sampling procedures were adopted. The simple random sampling procedure offered each unit of the target population equal chance of being selected. The purposive sampling procedure also helped to choose the key informants relevant to this study.

The simple random sampling procedure was applied to select the household heads in the communities selected while the key informants such as the community development officer of the Banda district assembly and community leaders were selected purposively. These key informants were selected because of their level of knowledge about the area under investigation. Upon arriving in each community, the first point of contact was the assembly man who then led the research team to the chief. After asking of the team's mission, permission was granted to carry out the process of data collection. In the first place, houses were selected in each of the communities. In order to avoid being biased, the lottery method was applied where the house number of each house in each of the communities was written on pieces of paper which were then folded and selected at random. This exercise was repeated until the selected houses matched with the sample size. Afterwards, the same lottery method was applied to select the household heads who were the primary unit for the data collection, especially in situations where there were more than one household head in a selected house. To do this, an alphabet was written on a piece of paper which was folded together with other blank pieces of paper. The household heads were then asked to pick at

random so that the household head that picked the piece of paper that bore the written alphabet was interviewed. This was done purposely to ensure that the researcher does not use his personal judgment to select the households for the study. This however, provided the research with some form of scientific foundation. In all, eight communities namely; Bui Village, Bui Camp, Bator Akanyakrom, Dokokyina, Dam Site, Lucene, Brewohodi and Agbegikuro were selected for this study through the census procedure because they are the only communities in the study area whose lands were acquired for the construction of the Bui dam and subsequently relocated. This procedure ensured that none of the communities affected by the Bui Dam project was left out of the study. Table 3.1 shows the total number of household heads and population of the communities selected.

Table 3.1: Study Communities and their Respective Population and Household Heads

No.	Communities	Household heads	Population
1	Bui Village	42	297
2	Bator Akanyakrom	63	437
3	Dokokyina	36	165
4	Bui Camp	36	100
5	Brewohodi	10	48
6	Dam site	6	36
7	Agbegikuro	22	107
8	Lucene	4	26
Total		219	1,216

(Bui Power Authority, 2013)

The sampling frame for this study included the list of the total number of household heads of the eight communities selected which was two hundred and nineteen (219). This figure, however, was used to calculate the sample size for this study. The appropriate sample size for this study was determined using the formula $n = \frac{N}{1+N(e)^2}$ where “n” is the sample size, “N” is total number of household heads of the eight communities selected which was two hundred and nineteen (219) and “e” is the margin of error which was 5 percent with 95 percent confidence level (Gomez and Jones, 2010). Using the formula and substituting the

total number of household heads (219), the result was one hundred and forty-two (142). Mathematically, the sample size was calculated as shown. Sample size (n) = $219/1+219(0.05)^2=142$.

To determine the total number of household heads to be interviewed in each of the eight communities selected, the simple proportion formula was employed. Thus, the number of household heads selected from each of the study communities was therefore calculated by dividing the population of household heads of each community by the total number of all the household heads (219) of all the eight (8) communities selected and then multiplied by the sample size of 142. For example, (Bui village) = $36/219 \times 142 = 23$. The same procedure was repeated to calculate for the remaining seven communities based on which 42 household heads were interviewed in Bator Akanyakrom, 23 in Dokokyina, 27 in Bui Camp, Brewohodi 6, Dam Site 4, Agbegikuro 14 and 3 in Lucene.

Table 3.2: Total Number of the Sampled Household Heads for the Study.

Study Communities	Sampled Household heads
Bui Village	27
Bator Akanyakrom	42
Dokokyina	23
Bui Camp	23
Brewohodi	6
Dam Site	4
Agbegikuro	14
Lucene	3

Source; Field Survey, 2015

Total=142

3.4 Methods and Tools for Data Collection

The study employed the interviewer questionnaire administration and unstructured interview methods and observation. By this method, the questions on the questionnaire were read to the respondents and the responses were written by the interviewer. The method was

the most appropriate for this study because of the low levels of formal education of the respondents, and that by administering interviewee questionnaires could have led to non-responses. In addition, these methods were employed so as to give the interviewee the opportunity to ask questions for clarification. The observation method was also used to directly observe the target population in their natural setting since what people usually say or do may be different from the reality on the ground.

The data collection tools that were employed for this study included questionnaire, interview guide, camera, tape recorder and a pocket note book. These tools were used as and when any one of them became necessary. The questionnaire was used to collect household data (quantitative) in the eight communities. The questionnaire comprised a set of close and open ended questions and through a simple random sampling technique household heads in each of the communities were selected for the interviews.

The interview guide was also used to collect purely qualitative information from institutions such as the district assemblies and key informants such as the opinion leaders of the selected communities. At the same time, the interview guide was also used to collect information from some of the household heads since some of them were not only heads of households but also elders and opinion leaders in some of the study communities. Different sets of questions were answered by the key informants. A focus group discussion was also used to collect information from the opinion leaders of Bator Akanyakrom. This was because it is the largest in terms of population among the resettled communities. They were also better organised and very accommodating. This (focus group discussion) helped to correct the inaccuracies and inconsistencies of the information provided by the individual household heads. Observation guide indicated the things to observe such as attitudes,

environment and living conditions of the local people in the study communities. In addition, a camera was used to take photographs that were considered necessary for this study. The responses from the in-depth interviews were written in a pocket notebook so that in the event of the recorder failing, the information will remain intact. Since the selected communities were inhabited by different ethnic groups such as Gonjas, Dagaaba, Akans, Mo and Ewes, two natives from the study area who speak the languages of these ethnic groups were trained to assist in conducting the interviews so that those interviewees who did not understand the researcher's language were not left out during the interview process. This was done to ensure that all persons that matter to the study were fully involved.

3.5 Data Analysis Techniques

All the collected data were cleaned, edited, and coded. Cleaning and editing were done to detect faulty data which helped to prevent any form of ambiguities and inconsistencies in the responses offered by the interviewees. Both descriptive and inferential statistics were applied to analyse the quantitative data. The T- test for instance was used to show the differences in the output level of major crops such as yam, cassava, maize and cashew before and after the land was acquired to build the Bui Dam by comparing the means of the level of production of these samples.

On the other hand, the qualitative data were also subjected to content analysis. This technique helped to make inferences from the responses of the in-depth interviews with the key informants by systematically and objectively identifying the special characteristics of the messages. Thus, this analytical technique helped to discover the various categories and themes or patterns that emerged from the data. In this particular study however, the categories for analysis were drawn from the interview guide where the themes and patterns

emerged after assessing the data within and across the various group of interviewees. The results of this analysis were presented by means of direct quotations. The ensuing paragraphs describe the background to the study area.

3.6 Background to the Study Area

3.6.1 Introduction

This section provides detail background characteristics of the districts where this study took place. The land acquired for the Bui Dam project cut across two districts namely; the Banda and Bole districts. The section presents a comprehensive description of the historical background, physical characteristics, population, economic activities and social infrastructure in the study districts.

3.6.2 Historical Background

The Banda district in the Brong Ahafo region with its capital Banda Ahenkro was carved from the Tain District by President J.E.A Mills, by a Legislative Instrument L.I. 2092 and forms part of the new districts and municipalities created in the year 2012. The district was inaugurated simultaneously with other 45 districts at their various locations on 28th June, 2012. This new creation arose as a result of the large size of the then Tain District so as to allow the government to fully implement its policies of local governance to the benefit of the entire citizenry.

The Bole district of the Northern Region of Ghana on the other hand, was established by the Minister responsible for Local Government and Rural Development by subsection (1) of section (3) of the Local Government Act, 1993 (ACT462) on the 18th day of February, 2004 during the tenure of President John Agyekum-Kuffour.

3.6.3 Location and Size

Owing to the newness of the Banda district, arrangements are still ongoing to come out with the exact position of the district in terms of longitudes and latitudes as well as the total land area coverage. The district is bordered to the West by La Cote d' Ivoire, to the South by the Tain district, to the north by the Northern Region and to the East by the Mo Traditional Area in the Kintampo south district. The Bole district however, lies between Latitude 8° 10' N and 5° 09'N and Longitude 1° 50E and 2° 45 W. The district is located at the extreme western part of the Northern Region of Ghana. The district is to the north by Sawla/Tuna/Kalba district, to the west by the Republic of Ivory Coast, to the east by West Gonja district and to the south by Wenchi and Kintampo districts of the Brong -Ahafo Region. The district stretches from Bodi in the north to Bamboi in the south. The Bole district covers an area of about 4,800 square kilometres; out of the area of 70,384 square kilometres of the northern region. The ensuing pages show the composite maps of the two districts.

Figure 3.1 District Map of Banda

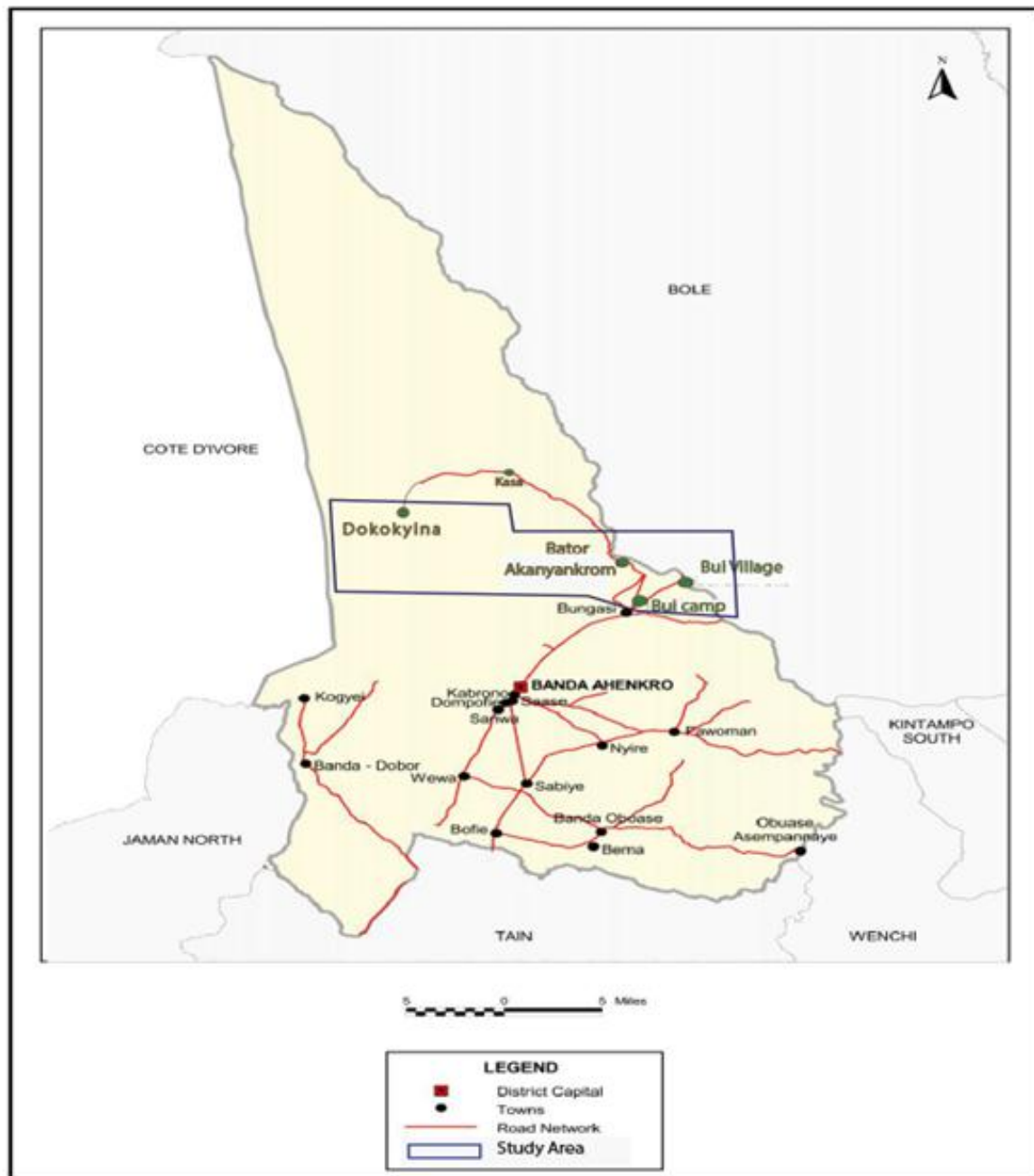
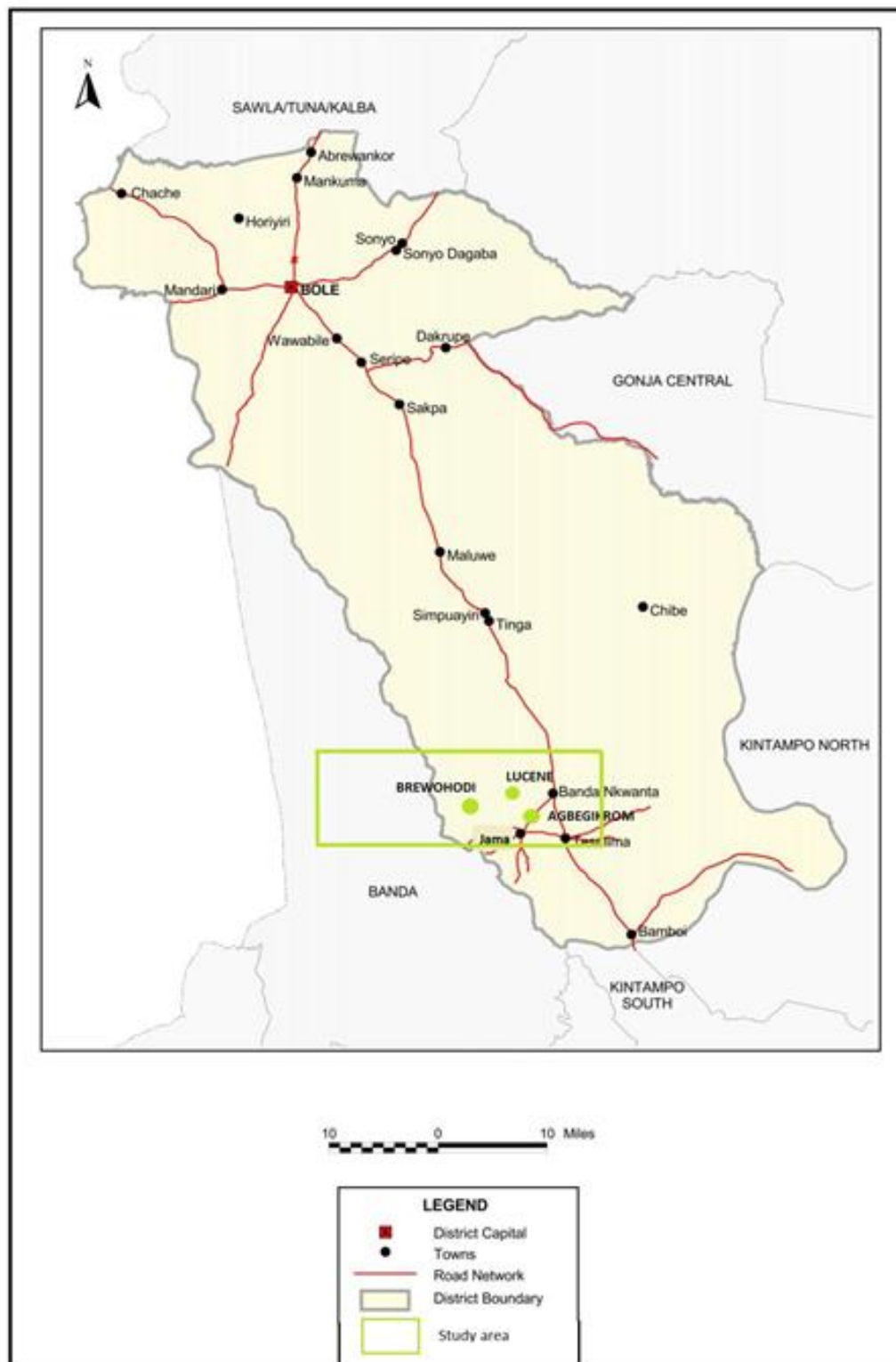


Figure 3.2 District Map of Bole



3.6.4 Drainage, Geology and Soils

Generally, the Banda district is well drained. The district is drained by the Black Volta, Tombe and Tain rivers. The Black Volta marks the northern boundary of the district with the Northern Region. The tributary rivers which serve the communities in the district are Tain and Nyampanie. While some of the streams dry up in the dry season, the Black Volta flow throughout the year. Ground water potential in the district is highly variable. Much depends on the nature of the underlying rock formations and rainfall. The present combination of the lack of water storage in the wet season, heavy run-off, high evaporation and low infiltration rates to charge aquifers in some areas contribute to water deficiencies hampering human settlement and agricultural production.

Geologically, the Banda district is underlain mostly by the Birimian formation. The area falls under lower Birimian which include such metamorphosed sediments as phyllite and schist. There are also granite and grano-diorite in the south- east and western parts of the district. The greatest proportion of the district falls under savanna ochrosol with some lithosol. The land is generally low - lying and most of the soils are sandy loam and in the valleys, loamy soils exist. The soils are fairly rich in nutrients and are suitable for the cultivation of crops such as maize, yams and cassava. There are clay deposits for bricks and the soil supports the cultivation of transitional and forest crops like cashew.

The Bole district on the other hand, is endowed with water bodies such as the Black Volta, dams, streams and dugouts which serve the numerous needs of human beings and animals. Soils of the district are predominantly light textured surface horizons in which sandy loams are common. Many soils contain abundant coarse materials either gravel or stone which adversely affect their physical properties particularly their water holding capacity. The soils

are generally very fertile for agriculture. The fertile nature of the soils also favours the growth of grasses and shrubs thus, making the area favourable for the grazing of livestock.

3.6.5 Vegetation and Climate

The Banda district spans the moist-semi-deciduous forest and the Guinea Savannah woodland vegetation zones. The Guinea Savannah woodland represents an eco-climatic zone which has evolved in response to climatic and edaphic limiting factors and has been modified substantially through human activities. The original forest vegetation has been subjected to degradation, caused mainly by the indiscriminate bush fires, slash and burn agriculture, logging and felling of trees for fuel over the years. The cumulative effect is that secondary vegetation occurs in cultivated areas. In the semi-derived savannah areas, there are the absence of large economic trees as a result of logging, charcoal burning and mechanised farming. The grooves show that with protection, forest in the area can be productive because the soils in the sacred groves appear more fertile compared to soils lying a few metres away which have been laid bare by intensive cultivation and other unsustainable uses. In the grooves, wildlife like deer and antelope are found. The combination of the vegetation zones like guinea savannah, transitional zone and the forest permit the cultivation of a variety of crops such as cereal, tubers and vegetables as well as animal rearing. The aesthetic beauty of the district is enhanced by the Nyua Kpoo Mountain and the Sheli Kpoo cave which are all potential tourist sites to be harnessed. The prevailing climatic conditions in the district constitute important parameters for development. Climate for example, has some influence on the quality and quantity of land cover. Similarly, rainfall and available moisture content are vital factors for existing potential resources use in the district.

The vegetation of the Bole district however consists of savannah wood land, with trees such as sheanut, Dawadawa, teak, kapok and mango. There are also tall grasses and shrubs with thorny species also being common. At a few places, flood plain, pond and clay, flat vegetation is found. The natural vegetation in most parts of the district especially around the settlements has disappeared. What is seen today has resulted from the interference by man and animals through cultivation, grazing and exploitation for firewood. Beyond the major settlements, the grasses are periodically burnt down, especially during the dry season to clear the land of much of the vegetation. Grazing by animals has contributed to keeping the vegetation down. These activities have an adverse effect on the soil texture and the environment in particular. Erosion which affects soil fertility is very likely. The rains begin around May and end in October. The rainfall is seasonal and is characterised by a single maximum. The mean annual rainfall is about 1,100mm. The average rainfall is very small. June, July and August generally record the heaviest rainfall and also the greatest number of raining days. The rainfall is characterised by thunder storms and somewhat erratic in nature. The district also experiences extreme temperature. The daily and annual range of temperature is wide. The coldest nights in the year are experienced in the months of December, January and February. During these months the air becomes dry and the atmosphere becomes hazy and one cannot see clearly due to the fine dust in the air. The day's temperatures at this period are between 28°C and 40°C, but under cloudless skies the night can be very cold with temperatures under 28° C. This is the period of the harmathan. Sudden rise in temperature is experienced in the months of March, April and May when temperature exceeds 30°C. The nights are usually hot, hence people prefer to cook, eat and sleep outside. When the rains start the mean temperature begins to fall again. Two dominant winds influence the climate of the Bole district. The rain-bearing winds that bring rain to the district from May to October are the south west winds from the Atlantic Ocean. From

November to February, the harmathan period brings into the district the dry winds from the Sahara desert. These winds carry a thick haze of dust. The wind-borne dust is often thick enough to obscure the sun and affect visibility. As a large proportion of the vegetation is lost to the Bui Dam construction, individuals in the profiled districts whose livelihoods depend on hunting, wood gathering and hunting for, example would experience livelihood struggles. Also, the construction of the dam coupled with its associated destruction of both the biological and physical components of the environment would alter the climate of the area which has the potential to adversely affect agricultural activities in the districts.

3.6.6 Population

The Banda district had a population size of 45,000 as of 2010 with males being 21,000 and females being 24,000 (Ghana Statistical Service, 2010). The population has been increasing over the years with a growth rate of 2.6 percent. The population density in the district is 27.0 persons per square kilometre (27persons/km²), which is less than the regional population density of 45.9 persons per square kilometre and the national figure of 49.3 persons per kilometre. This low density of the district implies that there is low concentration of people in the district and coupled with the scattered nature of settlements make it extremely difficult to provide basic services to the people of the district. Population density is defined as the number of people per square kilometre (km²) of unit area of land. The pattern of the settlement is dispersed. There is currently no urban settlement in the Banda district but it is envisaged that with its current status as an autonomous district assembly, the construction of the Bui Dam and the Savannah Accelerated Development Authority (SADA), the district would experience population explosion within the shortest possible time in some communities. Though some communities could be considered as having higher population than others, resources are equitably distributed according to the

population on threshold of the various communities. Development projects are also not necessarily skewed in favour of the bigger settlements. This is basically done to discourage migration to the bigger town. The Bole district on the other hand, has an estimated population of about 75,151. The population growth rate is about 3.6 percent per annum. The population is sparse with a density of about fourteen persons per square kilometre. The district capital Bole is the only biggest town in the district.

3.6.7 Economic Activities

Essentially, the Banda district is predominantly agrarian with majority of the inhabitants involved in fishing and crop farming. The construction of the Bui Dam and the institution of the Savannah Accelerated Development Authority (SADA) projects have added further impetus to these occupations, hence, if these projects are effectively harnessed by the district assembly, the inevitable result would be a major boost in mechanised agriculture and modernised fishing. In the Bole district, the agricultural sector engages about eighty percent of the district's labour force. Production is basically food crops at the subsistence level. Teaching, Civil Service, Petty trading and others constitute the remaining twenty percent. There is therefore much seasonal underemployment or unemployment during the dry season. As part of the challenges facing this sector, there is a growing concern from women in the district about the fact that shea nut trees from which women gather nuts for butter processing are being cut to transplant mango seedlings. Also, farmers in the district are not satisfied with marketing arrangement. Although, the Bole district is agrarian in nature, emphasis is placed on small scale industrial activities. The promotion and development of small scale industrial activities in the district constitute a vital component of establishing synergetic relationship between agriculture and industry. These small scale industries include, agro- based, wood based, clothing, repairs, service, metal based and Art

based. Specific examples of these industries are milling, brewing, distillery, carpentry, dress making, vulcanising, food processing, chop bar, blacksmithing, pottery and basketry (Bole District Assembly, 2002). Since the major economic activity in the districts is farming, it then implies that, the livelihoods of the inhabitants of the districts directly depend on the natural capital. In the light of this, it is obvious that the large scale land acquired for the Bui Dam project would have devastating effects on the general livelihood situation of the people in the districts.

3.6.8 Education and Health

The Banda district, which was carved out of the Tain district in 2012, is described as one of the most deprived districts in the country. The district is making efforts to provide infrastructural facilities. The assembly has benefited from a six-unit classroom block from the Ghana Education Trust Fund (GETFund) for the Banda Boase Local Authority (L/A) Primary School. Work is also ongoing on a four-unit classroom pavilion, a headmaster's bungalow and a two-unit semi-detached teacher's bungalow, all at the Bandaman Senior High School and funded with the district assembly's common fund (DACF). Six communities are benefiting from the Livelihood Empowerment Against Poverty Programme (LEAP), while fifteen schools are also benefiting from the school feeding programme. The assembly has also benefited from an International Development Agency's funded Small Town Water project at Sabiye and four boreholes from the same funding source under the Rural Water and Sanitation Programme (RWSP). The district, over the last one year, has mechanised five boreholes, while eight boreholes have been drilled. In order to attract the needed human resources to the young and dominantly rural district, the assembly is working at providing both office and residential accommodation for critical staff members of the assembly and decentralised departments.

With respect to the Bole district, generally, educational services in the district are divided into five education circuits namely, Bole, Bamboi, Sawla, Tuna and Gindabor. There is one Senior High School, twenty Junior High Schools, seventy nine primary Schools, two Day Care Centers and three Day Nurseries in the district. Also, there are two Vocational institutes. The Non-formal Education division of the Ministry of Education is making effort to address the problem of adult illiteracy (Bole District Assembly, 2002).

In the area of health, the Bole district has nine health facilities; a district hospital, five health centres and two clinics. Two of the health centres are newly established and still lack the necessary infrastructure for their full operations. They are located in the Area Council Building of Mandari and Mankuma sub-districts. All the facilities with the exception of two, offer a twenty-four hour service to the communities they serve. The district hospital serves as the highest referral point for patients in the district and has a catchments area extending beyond the borders of the country to Ivory Coast. The District Health Centre is divided into six sub-districts under Bole, Bamboi, Sawla, Kalba, Tinga and Tuna. These settlements have various health facilities such as clinics and health posts at Tinga, Bamboi and Tuna. The Bole district assembly has three CHIPS compounds in Maluwe, Carpenter and Benfu. There is also a maternity home at Sawla, which is privately run. The Catholic Relief Service is also running a primary health care programme in the district. The provision of quality health care delivery remains the goal of the District Assembly. The district is among the non-endemic districts in the country for guinea worm (Bole District Assembly, 2002). Improved health and education play a critical role in promoting livelihood sustainability. Hence, following the efforts made by the districts in the areas of health and education of the people, it would help the people whose land was grabbed for the Bui Dam

project to be able to diversify their livelihood strategies and work hard to maintain decent livelihoods despite being made landless.

In conclusion, the profile indicates that the Banda district is a relatively newer one which was less than three years at the time the study was conducted.

CHAPTER FOUR

DATA ANALYSES AND DISCUSSION OF RESULTS

4.1. Introduction

This chapter presents the data analyses and the discussion of results. The discussions were done under six broad headings. These included the discussions on the socio-demographic characteristics of the respondents and the five specific objectives. The discussions on the objectives began with the effects of land grabbing on livelihood assets, the implications of land grabbing on local food production, the effects of land grabbing on household income, the local people's reactions to land grabbing and lastly, the local people's coping mechanisms after the land grabs. A paragraph was also devoted to discuss the linkages between the research findings, theoretical and conceptual frameworks of this study.

4.2 Socio-economic and Demographic Characteristics of Respondents

There were more male respondents than females in the study area. As shown in Table 4.1, out of the 142 respondents, 70 percent was males while the remaining 30 percent was females. Since men constitute the majority of household heads and for that matter the bread winners of their families, there is the likelihood that the effects of land grabbing due to the Bui Dam project would adversely affect more men than women in the study area. This implies, the poverty levels of many households would increase since many households which draw their livelihoods from assets such as land would have their livelihood strategies and outcomes seriously undermined by the land grabbing situation. The evidence on the ground was that, the few household heads who were women even admitted during the survey that, men were the landlords before the land was taken to construct the Bui Dam, and so to them, losing such a valuable asset like the land is simply an indication that the land grabbing incident due to the Bui Dam project had really hit men harder than women.

Table 4.1 Sex Distribution of Respondents

Sex	Frequency (n)	Percentage (%)
Male	99	70.0
Female	43	30.0
Total	142	100.0

Source: Field Survey, 2015

As regards the occupational distribution of the respondents, the study found farming as the main occupation of the inhabitants of the study communities followed by fishing. As shown in Table 4.2, of the 142 respondents, 51 percent was farmers and followed by fishing 24 percent. The findings clearly justify that the livelihoods of the people in the study communities are directly dependent on the natural capital such as land, forest and water bodies. Against this backdrop, it implies that the acquisition of 444 square kilometres of agricultural land for the Bui Dam project would make the livelihoods of the affected people precarious. For those farmers who had completely lost their farmlands for example, they would have to adapt new livelihood strategies as a way of earning a living. Equally, the fishermen would also have to adapt to fishing in the resultant lake from the dam construction or quit the business.

Table 4.2 Occupational Distribution of Respondents

Occupation	Frequency (n)	Percentage (%)
Farming	73	51.0
Fishing	34	24.0
Petty Trading	17	12.0
Hunting	5	4.0
Wood gathering	13	9.0
Total	142	100.0

Source: Field Survey, 2015

Also, the study captured more adults as respondents. The results in Table 4.3 show that, the average age of the respondents was 39 years (Standard deviation, SD= 6.51) while the minimum age was found to be 20 years with the maximum age being 50 years. The results imply that, majority of the respondents were within the age range of 41-50 years. The advantage is that, majority of the respondents were mature enough to provide relevant

responses that had the potential to facilitate the attainment of the objectives of the study. Thus, the study included different category of respondents with regard to age and with different levels of experiences. This facilitated the gathering of diverse views from individuals across the communities selected which contributed to the elimination of bias and thus, gave the study greater credibility. The likelihood is that, the effects of land grabbing on livelihoods would be severer on the aged group than the youth since they (the aged) would not be able to migrate to cities and towns to find alternative livelihoods or diversify their existing livelihood strategies easily. Hence, they would experience worsening living conditions.

Table 4.3 Age Distribution of Respondents

Age	Frequency (n)	Percentage (%)
20-30	7	5.0
31-40	50	35.0
41-50	85	60.0
Total	142	100.0

Source: Field Survey, 2015. Mean = 39.0; Standard Deviation = 6.51, Minimum = 20; Maximum = 50

Generally, majority of the respondents have had formal education. However, the level of education was found to be low generally. As shown in Table 4.4, 55 percent of the respondents had Junior high and primary school education. With such low levels of education, the tendency is that, such people would obviously depend on the natural capital for their livelihoods. Hence, taking vast land to construct the Bui Dam would hamper their ability to seek decent livelihoods. Thus, the effects of land grabbing would be more greatly felt by the 55 percent people with low levels of education and the 8 percent who never schooled than the 36 percent who have had tertiary and Senior High School education. This is because persons with low levels of formal education coupled with the never schooled group will depend more on the natural capital like the land and water bodies to make a living. On the contrary, persons with substantial levels of formal education would be able to

apply the skills they have acquired through their education to find for themselves alternative forms of livelihoods. So then, it can be concluded that persons with substantial levels of formal education are highly adaptive than those with little or no form of formal education in the event of vulnerabilities.

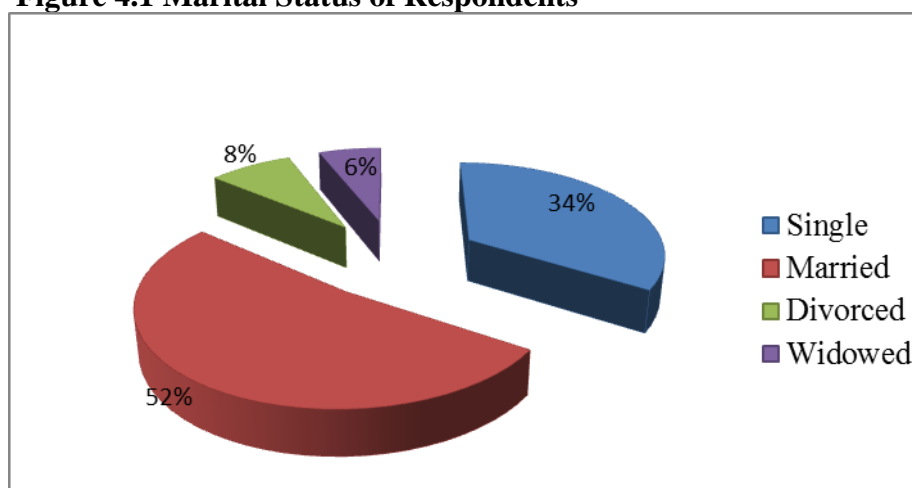
Table 4.4 Educational Status of Respondents

Education	Frequency (n)	Percentage (%)
Tertiary Education	13	9.0
Senior High School/Vocational	40	28.0
Junior High School	67	47.0
Primary Education	11	8.0
Never Schooled	11	8.0
Total	142	100.0

Source: Field Survey, 2015

Furthermore, majority of the people contacted were married as shown in Figure 4.1. For instance, out of the 142 respondents included in the study, 52 percent was married, 34 percent was single, and 8 percent of the respondents divorced while 6 percent of them were widowed. With greater percentage of respondents ever married, it implies that, they may have children and other dependents to care for. Hence, by losing their farmland to the Bui Dam project would make it difficult to produce enough food to feed their families.

Figure 4.1 Marital Status of Respondents



Source: Field Survey, 2015

4.3. Effects of Land Grabbing on Livelihood Assets

Since livelihood assets such as land, forest, and water bodies are critical to livelihood sustainability, especially in rural environments, the study assessed the views of the respondents on the effects of land grabbing on their livelihood assets. It was found from the study that the land grabbing activity due to the Bui Dam project has adversely affected the natural capital, social capital and financial capital base of the people in the study communities. These included land, forest, water bodies, employment and family relationships and networks (family ties). As shown in Table 4.5, all the respondents in the study area for instance indicated that their access to farmland is worsened. This implies that with limited access to land, livelihood activity such as farming which constitutes the major economic activity of the inhabitants of the study area has been undermined. This finding is consistent with the views of (Milimo et al, 2001; cited in Cotula, 2012) that a major effect linked to large scale acquisition of land is the potential loss of residential-based assets. This result also corroborates the views of Mann (2010) that land grabbing seriously takes away livelihood assets of the local framers and pastoralists which has adverse economic, social and political implications, especially for countries that are already food insecure. According to the local people, the land which is the main asset upon which they draw their livelihoods has been lost to the dam construction such that, a large portion of the land after the dam construction is controlled by the Bui Power Authority for the purpose of preserving the river (Black Volta) in order to protect the dam.

Table 4.5 Effects of Land Grabbing on Livelihood Assets

Statement	Response			Total
	Improved %	Worsened %	No Change %	
Access to land	0.0	100	0.0	100
Access to water resources	0.0	67.0	33.0	100
Access to forest resources	5.0	62.0	33.0	100
Relationship with families	0.0	94.0	6.0	100
Access to good drinking water	100	0.0	0.0	100
Access to credit facilities	5.0	2.0	93.0	100
Income/savings	4.0	96.0	0.0	100
Employment	0.0	53.0	47.0	100
Access to educational and health facilities	100	0.0	0.0	100
Good roads	62.0	0.0	38.0	100
Personal skills	0.0	0.0	100	100

Source: Field Survey, 2015

In addition, the land grabbing incident has worsened family relationships and networks. From Table 4.5, 94 percent of the respondents held the view that the land grabbing activity in the study area due to the Bui Dam project has worsened family relationships and networks (family ties). This is because after the land acquisition, some family members migrated to big towns and cities in search for alternative livelihoods. Thus, the land grabbing incident caused family disintegration. As regards employment opportunities, it was also found from the study that, the construction of the dam did not bring the inhabitants of the study area the expected employment opportunities. As shown in Table 4.5, 53 percent of the respondents held this view. Thus, employment situation in the study area is worsened. One of the reasons was that, the contractor brought his own personnel because the local people did not have the requisite skills and qualification to apply for the jobs created out of the Bui Dam construction. Observation on the ground showed that the Bui Power Authority has not created employment opportunities for the affected people because most of the workers according to the respondents were foreign nationals whilst the rest were brought from Accra. Although, majority of respondents according to this study have had formal education, the level is so low that it is not surprising the few employment opportunities

created by the Bui Dam construction eluded the local inhabitants. This outcome is in consonance with the views of Theting (2010) that recent studies conducted in some Eastern African countries like Kenya, Tanzania and Mozambique revealed that the investments in grabbed lands did not bring the promise of job creation. On the other hand, this finding however, contradicts the views of Braun and Ruth (2009) that proponents of land grabbing list a number of opportunities such as the provision of farm and off-farm jobs for the poor rural dwellers. Besides, the Bui Power Authority has failed to provide any form of skill training to improve the personal skills of the people, especially the youth to enable them find other forms of livelihoods. As shown in Table 4.5, it was found that, none of the respondents received any form of skill training from the Bui Power Authority. This implies the affected people would continue to struggle for decent livelihoods.

On the contrary, it was found that the land grabbing situation as a result of the Bui Dam project has brought about improvement in the physical asset base of the people in the study communities. This finding substantiates the views of Braun and Ruth (2009) that proponents of land grabbing list possible benefits for the rural poor such as the provision of rural infrastructure like construction of schools and health posts. Observations on the ground showed that, there has been the construction of new roads, educational and health facilities as well as the drilling of bore holes which previously did not exist. As shown in Table 4.5, more than 50 percent of the respondents in each case asserted that there have been the construction of roads (62 percent), educational and health facilities(100 percent) as well as the drilling of bore hole to provide the people with access to good drinking water (100 percent). Some of the communities where these facilities were found comprised Dokokyina, Bui Village, Bui Camp, Dam site, Akanyakrom, Lucene. Observation on the ground revealed that the local people's access to educational and health care facilities has

improved because chips compounds and schools have been provided. According to them, the construction of roads for example has made them now connected with other districts. This has the likelihood of boosting trade and other commercial activities in the study communities. This photograph for, example is the basic school that serves all the resettled communities in the Banda district.



Plate 4.1: School Building at Bui Village

The findings in Table 4.5 coincide with the position of the conceptual framework of this study. In the framework, it has been demonstrated that, institutional policies and processes could invoke vulnerability scenarios that affect livelihood assets and these vulnerabilities can equally inform policies as shown by the direction of arrows in the framework. This is exactly what the findings in Table 4.5 depict. The decision of the Bui Power Authority and for that matter government to take control of vast tracts of agricultural land belonging to local subsistence farmers for the Bui Dam project has made them landless, hence worsening their access to the natural capital such as land, forest and water body. In contrast, the policy

to build the dam has improved local people's access to the physical capital. Generally, evidence from this study shows that, the main livelihood activities of the people in the study area are farming and fishing. This implies that the livelihoods of the inhabitants in the study area are directly dependent on the natural capital more than the physical capital. Therefore, it can be concluded that the livelihood situations of the people in the study area is seriously threatened due to the dire consequences the construction of the dam has had on the natural capital upon which livelihoods are drawn. The effects of the land grabbed for the Bui Dam project on the local livelihood assets have therefore been more of negatives than of positives.

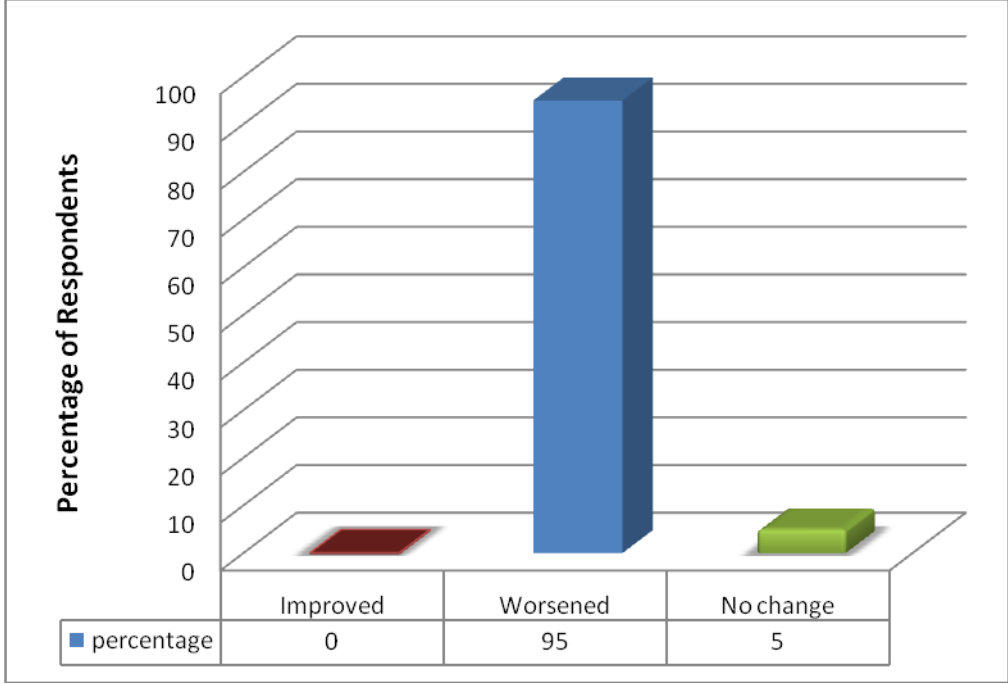
4.4 Implications of Land Grabbing on Local Food Production (food crop and fish)

Land grabbing potentially could boost local food production and food security if the agricultural investment on the grabbed land is carried out responsibly. On the contrary, putting the land to other uses aside agriculture, could adversely affect local food production and food security. Haralambous, Liversage and Romano (2009) for instance indicate that, as land grabbing leads to increased investments in food production flowing to rural areas of developing countries; it could present essential benefits and opportunities for promoting the livelihoods of poor rural communities. On the other hand, Andersen (2010) also believes that if the risks associated with land grabbing such as natural resource degradation, loss of indigenous farming practices and increasing food insecurity are not addressed, it could lead to failure to become development opportunity for host countries.

As regards the implications of land grabbing on local food production, the study assessed the level of local food crop production after the land grabs, the major food crops grown before and after the land grabs, the trends in the productivity of major crops before and after

land grabbing as well as the quantity of fish catch after the land was grabbed for the Bui Dam project. Figure 4.2 depicts respondents’ views on local food crop production after the land grabs.

Figure 4.2: Respondents’ Views on Local Food Crop Production After the Land Grabs

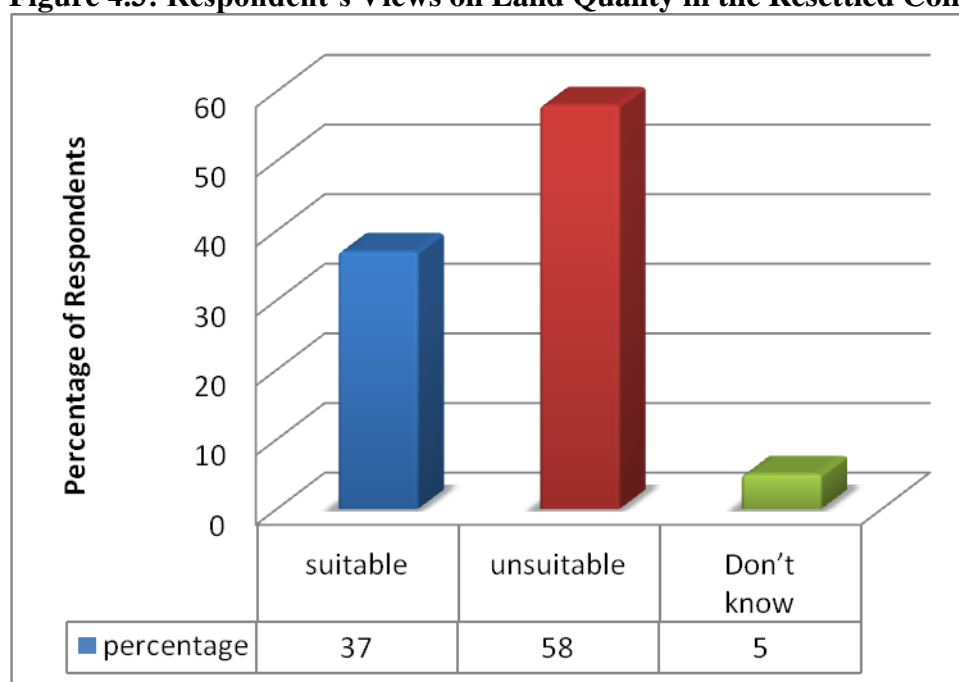


Source: Field survey, 2015

With respect to respondents’ views on the implications of land grabbing on local food crop production, the study revealed that the land grabbing incident as a result of the Bui Dam project has adversely affected local food crop production in the study communities. As shown in Figure 4.2, 95 percent of the respondents indicated that the land grabbing activity in the study communities following the Bui Dam project has generally worsened local food crop production due to its adverse consequences on farming. This result substantiates the views of the Pesticide Action Network, a Non-Governmental Organisation in Asia and the Pacific (2010) that, land grabbing undermines and ruins small-scale and backyard farming that is otherwise built on local, indigenous and gender-based knowledge, often times employing biodiversity-based techniques. This result equally corroborates the views of Action Aid International (2008) that high quality land may be diverted from local food

production and income generation activities previously carried out by the rural communities. The reasons ascribed for the decline in local food crop production included the view that, majority of the people have been made landless, while others have had their farm sizes significantly reduced after the dam construction. For instance, it was found that, 57 percent of the respondents totally lost their farmlands for the dam construction at their original location. Another significant reason ascribed for the worsening food crop production in the study communities was that current farmland in the resettled communities is not suitable for farming because it has been used by the host community for a long time before it was allocated to them. From Figure 4.3, 58 percent of the respondents indicated that the current land made available is unsuitable for farming. According to the local inhabitants in the resettled communities, the evidence on the ground is that crops such as yam sometimes get rotten before they are harvested.

Figure 4.3: Respondent's Views on Land Quality in the Resettled Communities



Source: Field survey, 2015

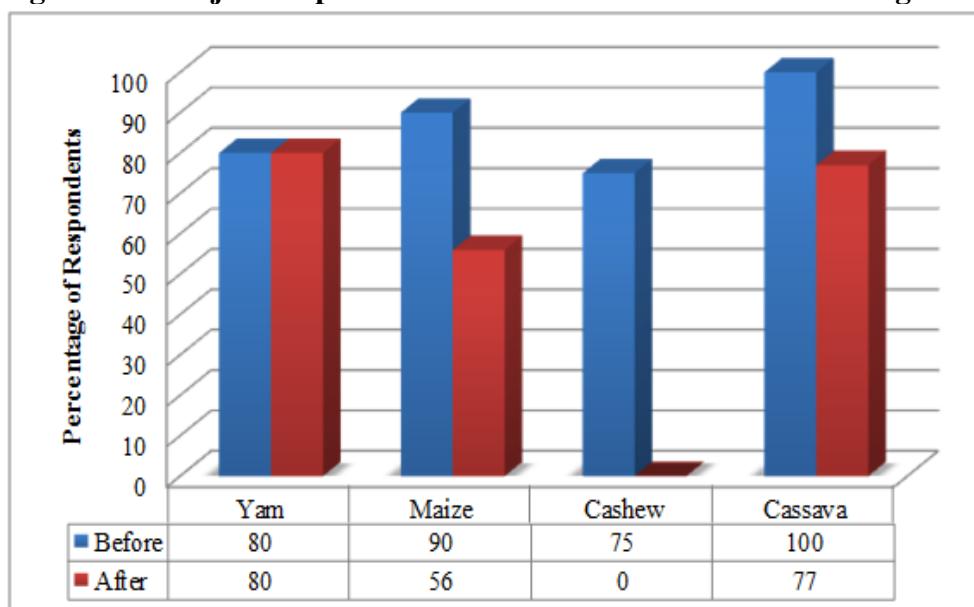
Since farming constitutes an important livelihood activity in the study communities, the vast land taken for the Bui Dam project is thwarting the efforts of local subsistence farmers in

their pursuit for sustainable livelihoods. This is because according to FAO (2002), people with extensive land rights are often guaranteed of decent livelihoods compared to those with limited land rights, and those with limited land rights are also more likely to enjoy sustainable livelihoods than the landless.

4.4.1 Major Crops Grown Before and After the Land Grabs

As regards the major types of crops cultivated before and after the land grabs, there have not been any significant changes with the exception of the cultivation of cashew which has ceased after the land had been grabbed. The major crops cultivated by farmers before the land was taken included yam, maize, cassava and cashew. After the land acquisition, yam, cassava and maize are still being cultivated but cashew is not. In Figure 4.4, it is shown that for yam and cassava production, 80 percent of the respondents admitted growing yam before and after relocation, 100 percent of respondents cultivated cassava before the land grabs; but this reduced to 77 percent after the land grabs. This is because yam and cassava are the predominant staple food crops in the study communities. Hence, majority of farmers still cultivate yam and cassava after the land grabs irrespective of the poor soil quality as identified in Figure 4.3. Also, evidence from Figure 4.4, shows that the land grabbing situation in the study area has adversely affected maize and cashew production. For example, it was also observed from Figure 4.4 that the number of people involved in maize production dropped sharply from 90 percent before land grabbing to 56 percent after land grabbing, while that of cashew also fell from 75 percent before land grabbing to non-cultivation after land grabbing. This is threatening the local food security of the study communities. Some of the reasons ascribed included, poor soil quality and reduction in the average land holdings of farmers.

Figure 4.4: Major Crops Grown Before and After Land Grabbing



Source: Field survey, 2015

These findings substantiate the views of Action Aid International (2008) that, as land is grabbed for big investments, it could induce land-use changes to the detriment of food security. The likelihood is that, farmers whose livelihoods depend on cashew production would lose annual income which all cash crops provide. This invariably would have devastating effects on the living conditions of the affected farmers in the study area.

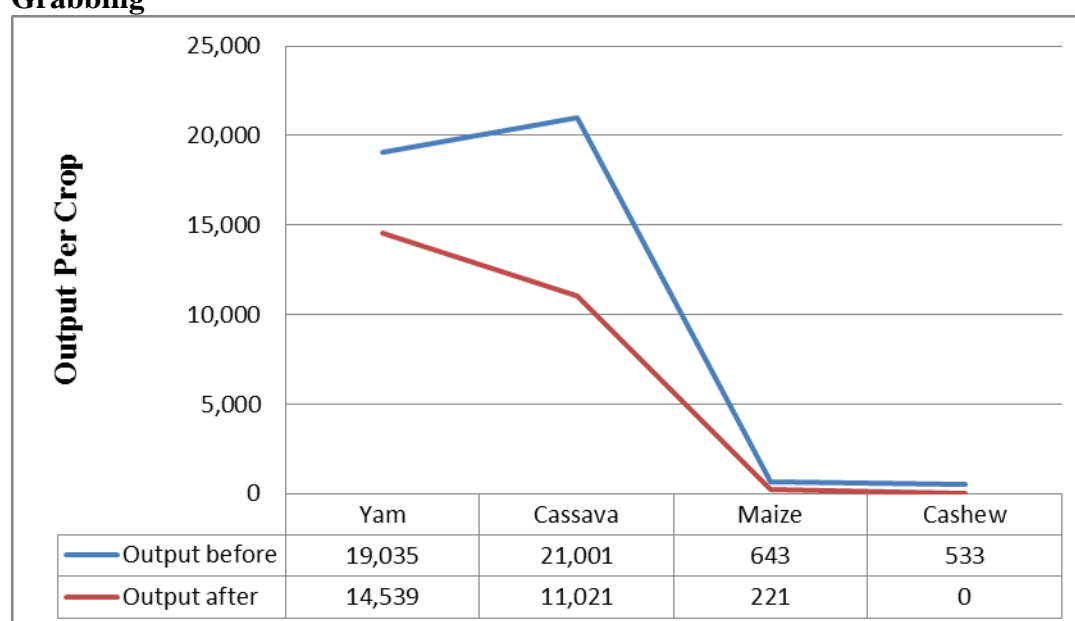
During the focus group discussion, the participants noted that:

“Our current farmland is so small that if we use it to cultivate cashew which is a cash crop, the implication is that we will not have farmland to grow food crops to feed our families. That is why farmers in this community do not cultivate cashew again”(Focus group discussion, March, 2015).

Significantly, by quantification, the results in Figure 4.5 show that the output of yam for example, dropped from 19,035 tubers before the land grabs (2005-2006) and the subsequent construction of the Dam to 14,539 tubers after the project (2013-2014). Also, the output of

maize fell from 643 bags for the periods before the land grabs (2005-2006) to 221 bags afterwards (2013-2014). The same downward trend in production cut across the other crops such as cassava and cashew; but cashew production ceased completely after the Bui Dam project. This implies that the land grabbed for the Bui Dam project has undermined agricultural productivity. These results reinforce the views of the respondents on food production in Figures 4.2 and 4.4.

Figure 4.5: Trends in Food Crop Productivity for Major Crops Before and After Land Grabbing



Source: Field Survey, 2015

Note: Output of yam and cassava was measured by the number of tubers.

Output of maize and cashew was measured by number of bags.

4.4.2 Test of Hypothesis

The study hypothesised that;

H_0 : There is no significant difference between output levels for major crops before and after land grabbing.

H₁: There is significant difference between output levels for major crops before and after land grab

Table 4.6 depicts the T-test results on the differences in output levels of major crops before (2005-2006) and after (2013-2014) the land was taken to construct the Bui Dam.

Table 4.6: T-test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	920.061	2552.759		.360	.753
Output levels after land grab	1.456	.280	.965	5.203	.035

a. Dependent Variable: Output levels before land grab

To determine whether there was a difference in output levels before and after the local people's land was grabbed to construct the Bui Dam; quantitative data on the output levels for the major crops such as yam, cassava, maize and cashew for the period before the land grabs (2005-2006) and after the grabs (2013-2014) were taken. To establish the difference using the t-test, the output levels of the major crops for before were held constant. From the test statistics, it is found that there is no significant difference in the output levels of the crops before the land was taken to construct the dam, which represents the periods 2005-2006. This is because from the test results the significance value of .753 is greater than the alpha value of 0.05. On the other hand, per the t-test statistics, it is established that there is significant difference in the output levels of yam, cassava, maize and cashew after the land was taken to construct the Bui Dam, which represents the periods 2013-2014. This is because the test results show a significant value of .035 which less than the alpha value of 0.05. Hence, the null hypothesis that, there is no significant difference between output levels of major crops before and after the land grabs was rejected, while the alternative

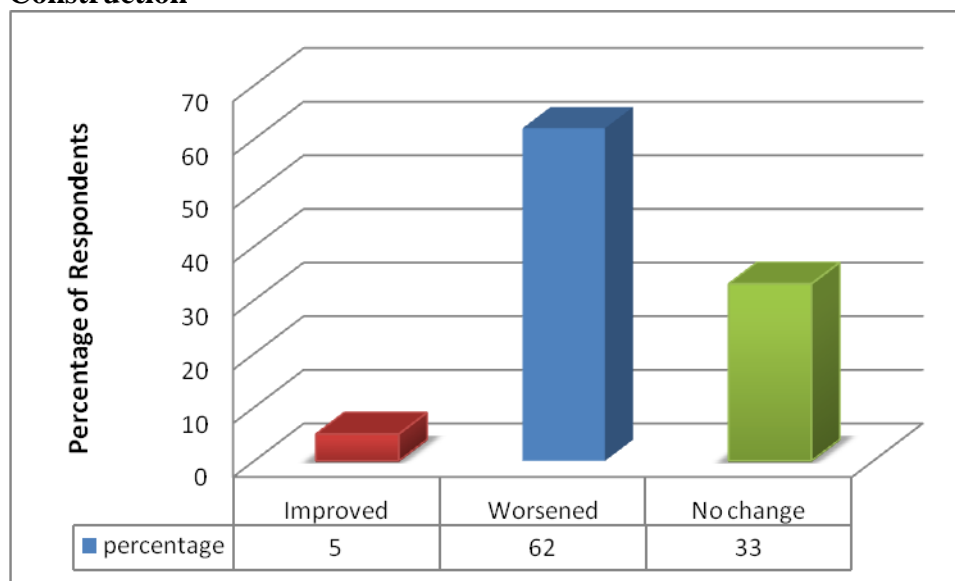
hypothesis that there is significant difference in output levels of major crops before and after the land grabs was accepted.

Further, as regards respondents' views on the quantity of fish catch after the Bui Dam project in the study communities; it was revealed that the quantity of fish catch has drastically reduced after the project. From Figure 4.6, it was found that 62 percent of the respondents indicated worsening situation in terms of the quantity of fish catch after the construction of the dam due to its dire consequences on fishing. The fishermen asserted that, they lack adequate knowledge and skills on fishing in a lake as they are used to fishing in the river. Alternatively, competition from bigger fishing boats from Yeji, Bamboi and Krachi as well as the difficulty in accessing the river due to the long distance created by the construction of the dam, the constant blocking of the river during the day, making it impossible for fishermen to go fishing were reasons ascribed for the decline in the quantity of fish catch after the Bui Dam project. In fact, looking at the concerns raised by the local fishermen in the study communities, clearly, it shows that the general interest in fishing as a livelihood activity among the local fisher folks has dwindled; hence it is not amazing that the quantity of fish catch has fallen. The low fish catch according to the respondents, has led to an increase in the prices of fish thereby hindering the local people's ability to afford fish which is an important source of food and protein to them. This means that most of the local people who depend on fishing as a livelihood strategy now experience worsening living conditions.

At Bator Akanyakrom for example, this was what one respondent said:

“for me if you ask of my opinion on the status of fishing in this community, that is Bator Akanyakrom, my simple answer is that it is almost collapsed in this community. This is because to go fishing, a fisherman will now have to cover a distance between three and four kilometres, and getting means of transport is difficult. So for us in the south in particular, fishing as an economic activity is no more popular here. Initially, the Bui Power Authority promised to convey us to and from the riverside so that we could continue our fishing business but they conveyed us for about three months and stopped”(In-depth interview, March, 2015).

Figure 4.6: Respondents’ Views on the Quantity of Fish Catch After the Dam Construction



Source: Field Survey, 2015

In conclusion, it can be stated that, the findings in Figures 4.2, 4.4, 4.5 and Table 4.6 reinforce the position of the adapted conceptual framework of the study that, livelihood strategies often adopted by people in the pursuit for livelihood sustainability; are directly influenced by the available livelihood assets. Hence, it is a common knowledge that, the decision to construct the Bui Dam that led to the capture of 444 square kilometres of farmland is undisputedly undermining the local people’s primary livelihood strategies such

as farming and fishing due to challenges such as landlessness, land fragmentation, problem of proximity and lack of capacity to fish in the resultant lake from the dam. It is therefore, not astonishing that livelihood outcomes such as food crop productivity and quantity of fish catch in the study communities are showing a decline as identified in Figures 4.2, 4.5 and Table 4.6. In all these, usually the people who often bear these challenges are the rural poor whose livelihoods are directly dependent on the natural capital. This explains why in the adapted conceptual framework the ‘poor’ is represented below indicating that they are often the recipients of the consequences of institutional policies and processes (Bui Power Authority) that in many instances come with its own problems for livelihood assets, strategies and outcomes.

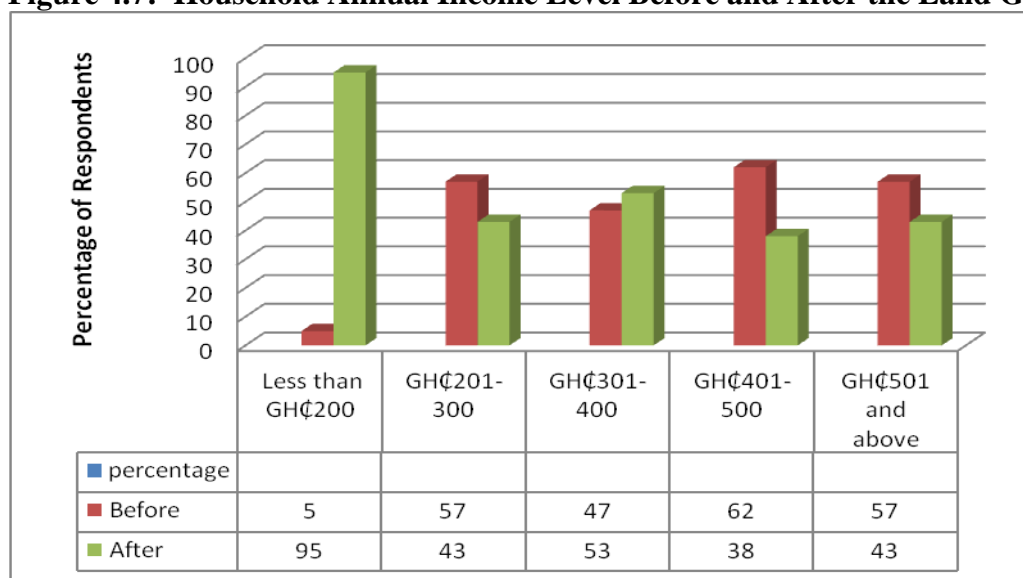
4.5. Effects of Land Grabbing on Income Levels of the Local People

Livelihood outcomes such as improved incomes are directly related to the level of productivity. In situations where common livelihood assets such as land, forest and water body upon which the livelihoods of majority of the people in rural communities depend on are grabbed, it undermines people’s ability to enjoy sustainable livelihoods. Mann (2010) for example, note that since land grabbing leads to the loss of livelihood assets, it also means that local food crop farmers together with pastoralist have equally lost their source of income.

As regards income levels of the affected people, the results showed that, there have been significant changes in household’s annual income levels before and after the land grabbing incident in the study communities as a result of the Bui Dam project. This is shown in Figure 4.7. The data in Figure 4.7 represents household’s annual income level before and

after the land was grabbed as well as the percentages of households (people) in the respective income levels.

Figure 4.7: Household Annual Income Level Before and After the Land Grabs



Source: Field survey, 2015

It was found that, before the land grabs (Thus, the period from 2005-2006) only 5 percent of the respondents or households were earning an annual income of less than GH¢200. However, the number of households or respondents earning an annual income of less than GH¢200 shot up to 95 percent after the land grabs (Thus, the period from 2013-2014). This shows a significant rise in the percentage of people earning lower than GH¢200. Also, 62 percent of the respondents was earning within GH¢401-500 as annual income before the land grabs but this reduced to 38 percent after the land grabs. This means that, majority of the households in the study communities are within the lower income levels relative to the situation before the dam construction. Thus, there has been a fall from higher income levels to lower income levels amongst some households affected by the land deals. These results are consistent with the views of Mann (2010) that since land grabbing leads to loss of livelihood assets; it also means that local food crop farmers together with pastoralist have equally lost their source of income. The generally low income levels of the affected people

(households) after the land grabs in the study communities were attributed to the reduction in average size of farmland, low crop yield due to poor soil quality and the frequent blockage of the river during the day for power generation in the night, making fishing business unpredictable and not lucrative.

A respondent at Agbegikuro for instance had this to say:

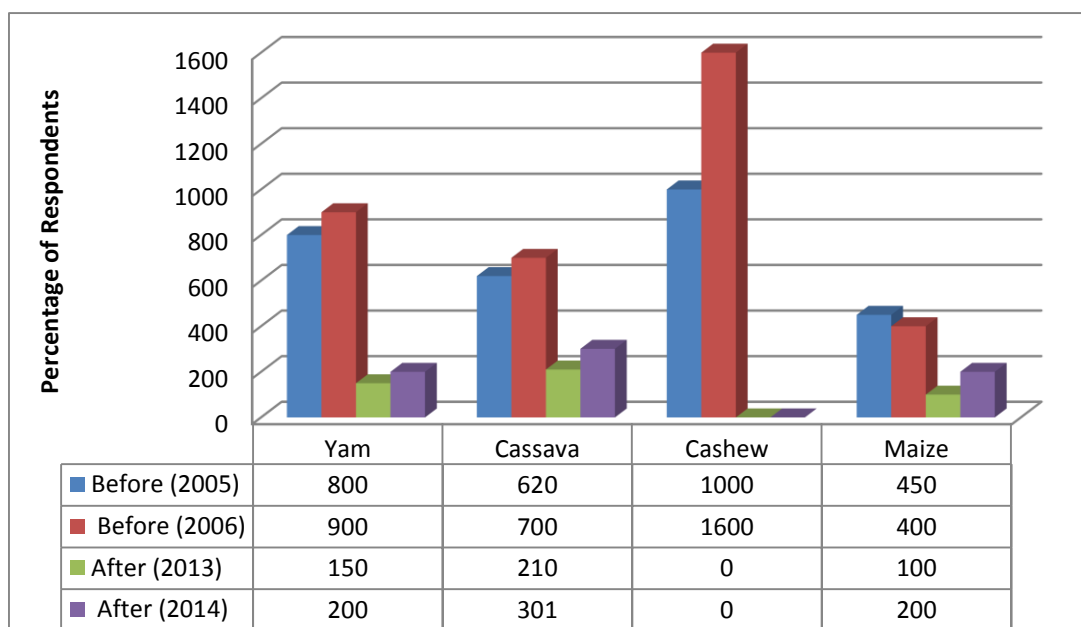
“before our relocation to this very place, my income level was high, because I could earn over one thousand Ghana Cedis annually since fishing was very lucrative and the farmland was also very fertile, extensive and supported both food crops and cash crops such as cashew. However, at our resettled location, average farmland is smaller in size and also of poor quality. Fishing is also flooded by many big fishing boats from Yeji and Bamboi. Now, after the dam construction, the river surface is widened making fishing dangerous. In fact, as fishermen here, we lack the skills to fish on the wider river surface since we are used to fishing in the narrow river channel. Many of us do not fish anymore, leading to low incomes level” (In-depth Interview, March, 2015).

The dramatic fall of many households from higher income levels before the land was taken for the Bui Dam project to lower income levels after the land grabs has had dire consequences on the living conditions of the inhabitants in the study communities. Households in lower income brackets are unable to save money or meet adequately their households' basic socio-economic needs. This undermines their quality of life.

Furthermore, in order to determine whether indeed in real terms, the average income earnings of the local people affected by land grabbing was within the income levels identified in Figure 4.7, the study assessed the average annual income earnings of farmers in

the study area by identifying how much on the average was earned annually from commonly cultivated crops such as yam, cassava, cashew and maize before and after the land grabs. The results are shown in Figure 4.8.

Figure 4.8: Average Annual Income of Farmers Per Crop Before and After the Construction of the Bui Dam



Source: Field Survey, 2015

It was found that prior to the land grabbing incident; farmers in the study communities were making substantial incomes from crops such as yam, cassava, cashew and maize. For instance, in the years 2005 and 2006 (before land grabbing) farmers' average annual earnings from cashew production was GH¢1000 and rose to GH¢1600. Thus, among the commonly cultivated crops, cashew generated the highest income for farmers. In contrast, after the land grabs, farmers' average earnings from cashew reduced to zero (2013 and 2014 = after land grabbing). The reason according to the people was that their cashew farms which used to offer them annual income fell within the land area grabbed for the Bui Dam project. Also, the affected people reiterated that, their land sizes reduced after the land grabs, hence, if they use the remaining land to cultivate cashew which is a cash crop, they would not be able to grow food crops to feed their families. This implies that, farmers

whose only source of income was through cashew plantation were experiencing worsening living conditions after the land grabs. Similarly, with regard to the average income earnings of farmers for yam production, it appreciated from GH¢800 to GH¢900 before the land grabs (2005 and 2006) but decreased to GH¢150 in 2013 after the land had been taken.

Generally, the findings in Figure 4.8 depict a drastic fall in the average annual income earning of farmers for those identifiable crops. For the periods before the land grabbing and the subsequent construction of the dam (thus, 2005 and 2006), income per crop showed an increasing trend, but fluctuated downwards after the construction of the dam. This outcome further substantiates the views of Mann (2010) that since land grabbing leads to the loss of livelihood assets; it also means that local food crop farmers together with pastoralist have equally lost their source of income. As shown in Figure 4.8, it can be argued that, the land grabbing situation in the study area has significantly reduced the average income of farmers. The findings in Figure 4.8 however, reaffirm that of Figure 4.7 that, indeed the inhabitants (households) of the study communities have fallen from higher income levels before the land grabs to lower income levels after land grabbing. For example, in Figure 4.6, it is found that, the number of people within the lower income brackets has increased after the land had been taken to construct the Bui Dam. With such a dramatic fall in household income after the Bui Dam project, it is an undeniable fact that, the general living conditions of the affected households is threatened.

Table 4.9 also shows the results of the effects of land grabbing on the local people's annual income levels across the major occupations before and after land grabbing. This showed specifically the forms of occupation that became adversely affected after the Bui Dam project and those that witnessed improvement.

Table 4.7 Annual Income Levels of Respondents Across the Major Occupations Before and After the Land Grabs

Income levels	BEFORE					AFTER				
	Farming	Fishing	Petty trading	Hunting	Wood gathering	Farming	Fishing	Petty trading	Hunting	Wood gathering
Less than GH¢200	2	4	3	0	2	61	0	0	5	11
GH¢201-300	3	2	14	1	0	4	19	0	0	2
GH¢301-400	3	8	0	0	4	3	9	0	0	0
GH¢401-500	6	3	0	4	7	2	0	0	0	0
Above GH¢500	59	17	0	0	0	3	6	17	0	0

Source: Field Survey, 2015

There have been significant changes in the annual income levels of the inhabitants of the study communities across the various categories of occupation before and after the land was taken to construct the Bui Dam. As shown in Table 4.7, before the land acquisition as many as 59 farmers (respondents) out of the 73 in the study communities were earning above GH¢500. This implies that majority of the farmers in the study communities before land grabbing received improved incomes from their farming business. On the contrary, after the land grabs, majority of farmers have moved into lower income brackets. For example, out of the 73 farmers, 61 of them were earning less than GH¢200 as annual income. By implication, the land grabbing incident due to the Bui Dam project has seriously had detrimental effects on farming as an occupation after the project. Farming therefore has become less lucrative. Since farming is the predominate occupation of the respondents, it means majority of the people in the study communities have had their livelihood situation undermined. Some of the farmers indicated that their farm sizes have been reduced, while others mentioned that they have been landless.

With respect to fishermen, the situation was not different from that of farmers. Table 4.7 depicts that before the dam construction, 17 out of a total of 34 fishermen (respondents) in the study communities were earning above GH¢500 as an annual income. This suggests that before the land grabs fishing as a livelihood activity was very rewarding. Fishermen before the dam construction had secured livelihoods and so were able to meet adequately their needs. On the other hand, after the land acquisition due to the Bui Dam construction, majority of fishermen had their annual income levels dropping sharply. For instance, 19 out of the 34 fishermen were earning between GH¢201-300 as an annual income. This sharp fall in the annual income level of the fisher folks was mainly attributed to the problem of proximity between the resettled communities and the river. According the respondents, this

situation in the study communities has compelled many of the youth to migrate to cities and towns in search of alternative means of survival. Across the various categories of occupation among the inhabitants in the study area, petty trading became the most attractive and lucrative livelihood activity after the land grabs. As shown in Table 4.7, whereas 14 out of the 17 petty traders (respondents) in the communities earned between GH¢201-300 as an annual income before the land grabs, all the 17 petty traders earned above GH¢500 after the land grabs. By implication, petty trading was not very profitable before the land grabs. According to the respondents, the area was not open so they were unable to access other neighbouring communities. However, after the construction of the dam, the entire catchment area according to the respondents became very accessible, and this fuelled interest in the petty trading business. The area according to the local residents has witnessed influx of people after the project. These migrants have provided a wider market base for petty trading businesses. It can be concluded that with the exception of petty trading business, all the other forms of occupation have become unattractive after the Bui Dam project.

To sum up, it can be argued that livelihood outcomes such as improved incomes have been worsened by the decision of Bui Power Authority to take control of agricultural land in the Bui catchment area to construct the Bui Dam. This affirms the argument of the adapted conceptual framework of this study that, livelihood outcomes could either be positive, negative or remain unchanged following institutional policies and processes that usually creates vulnerabilities which often adversely impact on the available livelihood assets and strategies of the local inhabitants. Specifically, the findings in Figures 4.7 and 4.8, show a fall in household income which reflects one of the three livelihood outcomes outlined in the adapted conceptual framework, which is the negative option.

4.6 Land Grabbing and Social Tension

In rural communities where agriculture is the major occupation of the people, any attempt by governments, organisations and individuals to take control of large portions of farmland has often been resisted vehemently by the affected communities due to the fear of losing their livelihoods. This is because for the rural dwellers, an attempt to deny them of their land is considered as a deprivation of well-being. This section of the study assessed the local people's reactions to the large scale land taken for the Bui Dam project in the study area. The results on the local people's reactions to land grabbing are shown in Table 4.8.

Table 4.8 Land Grabbing and Social Tension

Statement	Response	Frequency	Percentage
Reaction of the host community to the resettling communities.	Satisfied	14	10.0
	Unsatisfied	128	90.0
	Total	142	100.0
Occurrence of conflict due to land grabbing.	Yes	84	59.2
	No	58	40.8
	Total	142	100
Nature of conflict	Violent	89	62.7
	Not Violent	53	37.3
	Total	142	100.0
Outstanding conflict	Yes	42	29.6
	No	100	70.4
	Total	142	100.0

Source: Field Survey, 2015

The study revealed that the local people initially reacted to the land grabbing activity in the study communities by engaging in conflict with the officials of the Bui Power Authority. As shown in Table 4.8, 59.2 percent of the respondents held the view that the land grabbing situation in the study communities resulted in conflict. This finding is in consonance with an assertion made by Chizoba et al (2012) that, the changing dynamics of land-use and rights have implications for property relations and can lead to violence and conflict in struggles for control. This may trigger security and social challenges including, riots, coups, hunger and poverty. In addition, this outcome also substantiates the views of De Schutter

(2010) that land has great economic and emotional significance and, hence it is a potential source of conflict that can span generations.

In the case of the study area, principal amongst the communities where conflict occurred were Dokokyina and Bui Village; all in the Banda District of the Brong Ahafo Region. According to the respondents, the conflict started in Dokokyina. The conflict was violent at Dokokyina such that it took the intervention of the military to eject them from their community. However, the situation was different at Bui Village. About twenty households in Dokokyina according to the respondents have still not showed up in the resettled communities due to anger. Also, 80 percent of the members of the host communities were not satisfied with the displaced people joining them. Generally, the reasons ascribed for the conflict were that, there was the fear of losing their farmland and for that matter their livelihoods. Another reason raised was their inability to easily access the river due to the problem of proximity. Specifically, the people of Bui Village for example, indicated that they initially resisted and engaged in conflict with the officials of the Bui Power Authority because the decision to relocate them under an existing community meant that they have lost their status as the true landlords of the area. In addition, they held the view that, by resettling them under an existing community (Bongase) equally meant that, traditionally their title men and women would have to operate under the chief of the host community. Also, they wanted the Bui Power Authority to resettle them on a chosen land since they were the landlords of the area. For the people of Dokokyina where the conflict was violent, they also held the view that, their original location was so far away from the proposed dam site that, it was not possible their community would be submerged. Their argument was that, by Bui Power Authority's own site plan, Dokokyina was not going to be submerged after the project. Further, they had the conviction that the officials of Bui Power Authority

(BPA) wanted to relocate them and take over their ‘galamsey’ business which had just emerged. Evidence on the ground revealed that even at the time of this study, some of the inhabitants of Dokokyina were still resisting the relocation and had not shown up at the resettled communities.

During the focus group discussions, this was what the participants said:

“Yes, it is true that the land grabbing situation resulted in conflicts in some communities. In Dokokyina for example, the process broke up conflict between some groups of the community members and the Bui Power Authority (BPA) which landed in court. Have you seen these new houses being constructed, it is for those people because they have now agreed to relocate” (Focus group discussions, March, 2015).

On the contrary, according to the resettled communities in the Bole district, they did not resist or engage in conflict with the Bui Power Authority concerning the decision to relocate them because where they were relocated was under the chief of Jama who happened to be their landlord. Thus, even at their original location they were still under the control of the chief of Jama. Also, they did not lose their farmlands completely as it is in the case of the resettled communities in the Banda district. Equally, in terms of proximity to the river, the local people in the Bole district admitted that, they were not too far compared to the situation in the resettled communities in the Banda district in the Brong Ahafo Region.

An elder at Bui Village when commenting on the spatial distribution of the effects of the large tracts of land grabbed to develop the Bui Dam had this to say;

“because of this project (Bui Dam) the living conditions of the inhabitants of the resettled communities in the Banda district have become very precarious because we lost completely all our farmlands which happened to be our main source of livelihood. The worse of all is that, we were resettled far away from the Bui River

making it impossible for us to go fishing. Also, another unfortunate thing is that, before the project those of us in Bui Village were land owners but now we are not”
(In-depth interview, March, 2015).

Looking at the sentiments expressed by the respondents, conflict was inevitable, especially given the fact that the inhabitants of the study area are largely farmers. In the Banda district for example, all respondents maintained that they have completely lost all their farmland to the Bui Dam project. It is therefore, not shocking that the occurrence of conflict was engineered by communities in this particular district.

These revelations explain why several evidence of conflict associated with land grabbing has widely been recorded across the globe. For instance, Mann (2010) observes that in Mozambique, when the government signed a contract with a Mining and Exploration Company for a bio-ethanol project, which involved the allocation of 30,000 hectares of land for a sugarcane plantation and a factory to produce 120 million litres of ethanol a year, the farming communities reacted to this deal vehemently because it was considered as being highly contentious since the same land had been promised to four local communities, numbering over 1,000 families, who had previously been displaced by the creation of a national park.

It can be concluded that, generally, the occupants of the land taken for the Bui Dam project were very unhappy about the decision. This explains the place of land to man and his existence. In terms of the spatial distribution of the effects of the land dispossession in the study communities, evidence from the study shows that the inhabitants of the Banda district have been severely hit compared to those in the Bole district.

In addition, it was important to assess whether the people and the communities that lost their land to the Bui Dam construction were adequately compensated and also assess their reactions to the compensation packages. The results are contained in Table 4.9.

Table 4.9: Land Grabbing, Compensation and Local People's Reactions

Statement	Response	Frequency	Percentage
Compensation of community members in full	Yes	31	21.8
	No	111	78.2
	Total	142	100.0
Participation in compensation negotiation process	Yes	64	45.0
	No	78	55.0
	Total	142	100.0
Satisfaction with Compensation packages	Satisfied	60	42.2
	Unsatisfied	82	57.8
	Total	142	100.0

Source: Field Survey, 2015

It was found that, the land grabbing activity in the study area was not accompanied by adequate compensation packages as expected. This finding corroborates the views of VIVAT International (2014) that in many cases of land grabbing, host communities and even host governments are not compensated appropriately for the actual value of the land. In Table 4.9, it is found that 57.8 percent of the respondents were not satisfied with the compensation packages. It is also noted that, the compensation package agreed upon with the officials of the Bui Power Authority was in two forms; land and cash crop compensation and housing compensation. According to the respondents, compensations for housing and cash crops were provided. However, the affected people claimed that, no cash compensation was provided for the loss of farmland by the Bui Power Authority. The respondents also indicated that they were not satisfied with the GH¢8.50p per cashew plant compensation package promised. As a result, they initially rejected this compensation package, but when it later turned out that they had no choice they disgruntledly accepted it.

An elder at Dokokyina for instance said;

“initially, the compensation packages and its payment resulted in disagreements with the Bui Power Authority but later we accepted it because we didn’t have a choice” (In-depth Interview, March, 2015).

As shown in Table 4.9, 78.2 percent of the respondents indicated that they were not fully compensated for losing their land to the Bui Dam project. From the perspectives of the respondents, the properties compensated for were not properly valued. They also maintained that, the compensation was just one time payment and held the view that, those farmers who had plantations such as cashew farms have lost annual income since cashew is a perennial crop. In addition, the amount given according to the respondents did not commensurate with assets lost.

This was attested to by the participants at Bator Akayankrom during the focus group discussions that:

“We did not have any knowledge regarding the process of valuing property so it was the Bui Power Authority who brought their own valuation officers who quoted GH¢8.50p compensation per cashew plant for us.” (Focus group discussions, March, 2015).

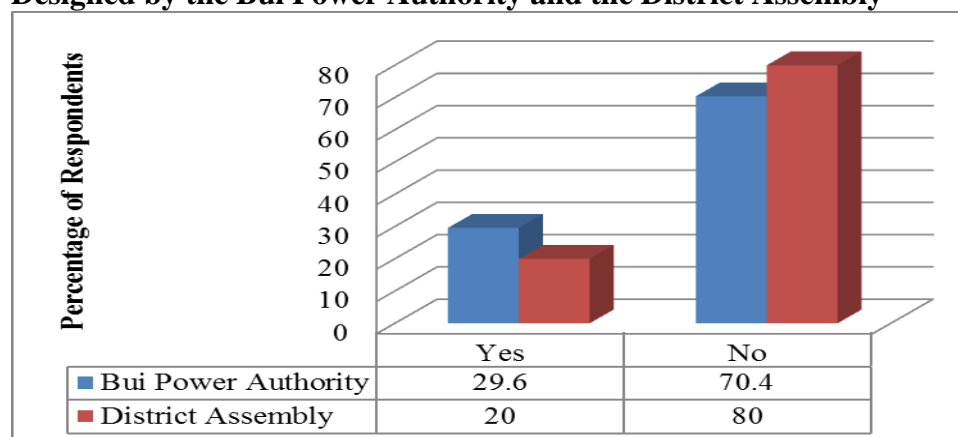
Generally, it can be concluded that the local people who lost their land to the Bui Dam project were completely dissatisfied with the compensation packages offered.

4.7 Coping Strategies and Interventions for Promoting Sustainable Livelihoods

Government decision to undertake developmental projects in many cases has deprived people of their livelihood assets such as land. In such instances, appropriate coping strategies and institutional interventions are critical to the promotion of livelihood sustainability. In this regard, the study assessed the awareness rate of the affected people on the livelihood interventions designed by the Bui Power Authority and the district assemblies

involved to promote the sustainability of the affected people's livelihoods. The level of awareness among the local people on livelihood interventions by the Bui Power Authority and the district assemblies is shown in Figure 4.9.

Figure 4.9: Awareness Rate of the Local People on the Livelihood Interventions Designed by the Bui Power Authority and the District Assembly



Source: Field survey, 2015

It was found that the local people in the study communities affected by the Bui Dam project were not aware of any alternative livelihood interventions designed by the Bui Power Authority for promoting sustainable livelihoods in their communities. As shown in Figure 4.9, 70.4 percent of the respondents were not aware of any livelihood interventions designed by the Bui Power Authority (BPA) to ensure the sustainability of the livelihoods of the community members after their land was acquired for the construction of the Bui Dam project. However, 29.6 percent of the respondents mentioned promises given, which included, skill training, introduction of aquaculture and irrigation agriculture. Observation on the ground revealed that, there were no such interventions operational at the time of this study.

This is what a respondent had to say during the in-depth interview:

“for me as far as I am concerned, I am not aware of any livelihood intervention strategy designed by the Bui Power Authority (BPA) to improve our living conditions. All that I know is that the Bui Power Authority promised to introduce us

to aquaculture, provide jobs and skill training for the youth, irrigation facility and several others but they failed to provide any eventually” (In-depth Interview, March, 2015).

As regards the awareness level of the respondents on livelihood interventions designed by the district assemblies for promoting sustainable livelihoods of the local community members, it was also discovered that, the people in the study communities were not aware of any such interventions put in place by the districts. The results in Figure 4.9 show that, 80 percent of the respondents are not aware of any interventions designed by the district assemblies to ensure the sustainability of their livelihoods after their lands have been taken for the Bui Dam project. However, 20 percent of the respondents who claimed awareness of some livelihood intervention programme mentioned that, ‘at the initial stages when we arrived at the resettled communities, the Banda district assembly brought those of us in the south Fifty Bags of maize to be distributed among ourselves’. This was confirmed during the focus group discussions with the participants at Bator Akanyakrom. The likelihood is that, without any such strategies the land grabbing incident would adversely affect people’s living conditions in the study communities since in rural areas land is an important livelihood asset.

At the Banda district assembly, the Community Development Officer when responding to the question of livelihood interventions noted that:

“at the moment we have not designed any specific livelihood enhancement programme for the Bui Resettlement Communities because the assembly’s funds are purely earmarked for infrastructural development because the district is newly created. All the same, there are plans to provide a market, police station, and

extend school feeding programme to the Bui Resettlement communities”(In-depth Interview, March, 2015).

Thus, the views of the local people indicated that, at the time of this study no comprehensive alternative livelihood interventions had been implemented by the Bui Power Authority (BPA) nor the district assemblies for the communities affected by the land grabs. This supports the worsening livelihood situation reported by affected respondents.

Finally, with respect to the coping mechanisms employed by the respondents in the study communities, it was found from Table 4.10 that, 33 percent of the female respondents in the study area depend on their husbands as a coping mechanism for ensuring livelihood sustainability after the land grabs. This implies that, men have been the hardest hit category of people by the land grabbing incident. This however, contradicts the views of Mutopo and Manase (2012) that, women bear disproportionate costs in all land deals. This has the likelihood to prevent men from saving money to form capital for investments. Generally, Table 4.10 shows that, the only common coping mechanism for both men and women in the study communities after the land grabbing incident is petty trading. However, among the sex groups, petty trading is the more attractive coping strategy for women than for men. While only 23.2 percent of the male respondents were into petty trading, 42 percent of female respondents resorted to petty trading as a livelihood strategy to earn a living. Specifically, among the men, the results in Table 4.10 reveal that, the most popular coping mechanism for male respondents after the Bui Dam project is casual work, popularly referred to as *‘by- day work’* in the Ghanaian society. This is represented by 47 percent of the respondents. Others also include: farming and Pre-mix fuel business. On the other hand, as shown in Table 4.10, the specific coping mechanisms for only the female respondents in the study communities are wood gathering and pito brewing.

Among these coping mechanisms, the most reliable, effective and sustainable according to the respondents were petty trading, pre-mix fuel business and farming. This is because given the improvement in the physical asset base, the area continues to attract people from far and near. This has provided a reliable market for persons involved in petty trading businesses. Alternatively, since the river still exist fishing as an economic activity can stand the test of time. Also, with the limited farmland farmers can still do farming.

Table 4.10 Coping Strategies Adopted by Men and Women for Promoting Sustainable Livelihoods After Land Grabbing

Coping mechanism	Sex groups			
	Male		Female	
		percentage		percentage
None	5	5.1	0	0.0
Depending on husband	0	0.0	14	33.0
Petty Trading	23	23.2	18	42
Pre-mix fuel dealers	11	11.1	0	0.0
Casual work (<i>by-day</i>)	47	47.5	0	0.0
Farming	13	13.1	0	0.0
Wood gathering	0	0.0	7	16.0
Pito brewing	0	0.0	4	9.0
Total	99	100.0	43	100.0

Source: Field Survey, 2015

4.8 Linkages Between the Research Findings, Theoretical and Conceptual Frameworks

The construction of the Bui Dam is a form of technological innovation and a vehicle to transform communities and the state as a whole by providing reliable energy supply to boost socio-economic activities. As societies seek to transit from one stage to the other through technology, as in the case of the Bui dam construction in Ghana, it brings along some form of vulnerabilities. For instance, the development of the Bui Dam has created vulnerability scenarios for socio-economic processes such as landlessness and influx of people leading to competition for the limited livelihood assets and resources, land, environmental

degradation, economic shocks and stress such as increases in the prices of local commodities like food. These have made people's livelihoods precarious. These vulnerabilities have compelled the local people of the Bui catchment area to develop resilient capacities so as to promote sustainable socio-economic processes to be able to continue to provide goods and services that support their quality of life; while at the same time being exposed to a variety of shocks and stress. This clearly explains why after the construction of the dam the local residents whose lands were taken have resorted to several forms of coping mechanisms as a way of making ends meet. There is, therefore a strong link between the findings of this study and the theoretical framework. This is because whereas the transition theory for, example admonishes that the transformation of societies through technology influences the socio-economic life of the people, the resilience theory also argues that in times of shocks and stresses the affected people should develop adaptive capacities to withstand. This is exactly what the study has found where the local inhabitants in the Bui catchment area after losing their livelihood asset like the land to the Bui Dam have engaged themselves in other livelihood strategies to enable them survive.

Also, there is a direct linkage between the findings of this study and the conceptual framework. For example, the framework argues that institutional policies and processes like the BPA's or government's decision to acquire farmland belonging to local subsistence farmers to construct the Bui Dam hinders local people's access to livelihood assets like the land and water bodies which ultimately affect adversely the local people's livelihood strategies like farming and fishing as well as livelihood outcomes. Against this backdrop, it can be stated that, the research finding that, local people's access to the natural capital is worsened due to the vast land grabbed for the Bui Dam project is consistent with the position of the conceptual framework. Again, the framework substantiates the research

finding that, local food crop production and quantity of fish harvested after the Bui Dam project have sharply fallen. This is because the construction of the Bui Dam and its attendant loss of farmland have hampered the livelihood strategies of the local farmers and fishermen. Finally, the research finding that, the level of household annual income has fallen after the dam construction corroborates the conceptual framework. This is because the land grabbed for the Bui Dam project has had dire consequences on the core income generating activities of the local farmers and fishermen. Hence, the result had been low productivity leading to low income levels.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the relevant issues and the key findings of the study as well as policy recommendations and areas relevant for further research. The issue of land grabbing and livelihoods has received greater recognition in academic discourse. However, the positive and negative effects of land grabbing on livelihoods have not been adequately addressed.

5.2 Summary of Findings

The study aimed at examining both the positive and negative effects of land grabbing on rural livelihoods in the Banda and Bole districts following the acquisition of 444 square kilometres of farmland for the construction of the Bui Dam. In order to do this, the study was guided by five specific objectives. The first and second objectives of the study assessed the effects of land grabbing on local people's livelihood assets and the implications of land grabbing on local food production of the affected people. Third, the study examined the effects of land grabbing on income levels of the affected people. Also, the study assessed the local people's reactions to land grabbing and finally, the study examined the coping strategies and interventions for promoting livelihood sustainability in the study communities. To achieve these objectives, a total of 142 household heads were selected for the household survey with the heads of the households being the unit of inquiry. In-depth interviews, focus group discussions, observation, interview guide and interviewer administered questionnaire were the key tools and methods used for the study. The descriptive and inferential statistical tools of the SPSS and Excel software were employed

for the analyses of the quantitative data, whereas content analysis was used for the analysis of the qualitative data gathered. The key findings are summarised as follows:

5.2.1 Effects of Land Grabbing on Local Livelihood Assets

It was found from the study that the land grabbing incident as a result of the Bui Dam project has improved the physical capital base of the people in the study communities. This is because new roads, schools, chips compound and bore holes have been provided. However, it was also revealed that the acquisition of the land for the Bui Dam project and its associated relocation of the affected people have adversely affected the natural capital base of the people (land, forest and water bodies). Thus, generally, the study discovered that the local people's access to the natural capital had worsened, while access to the physical capital had improved.

5.2.2 Implications of Land Grabbing on Local Food Production

Further, it was found that the land grabbing incident due to the Bui Dam project has adversely affected local food crop production and quantity of fish caught of the affected people due to its adverse effects on farming and fishing. These were attributed to loss of farmland and low level of experience for fishing in the newly created lake as well as the problem of proximity between the resettled communities and the river.

5.2.3 Effects of Land Grabbing on the Income Levels of the Local People

Also, as regards the effects of land grabbing on income of the people in the study communities, the study showed that majority of the affected people experienced reduction in their annual incomes due to reduction in their productivity of both crop production and

the quantity of fish caught. Thus, farming and fishing are the most affected occupations in the study area.

5.2.4 Local People's Reactions to Land Grabbing

Regarding the issue of land grabbing and local people's reactions, it was found that the local people initially reacted by engaging in conflict with officials of the Bui Power Authority, particularly in Dokokyina. Equally, it was found that the land grabbing incident in the study area was not accompanied by adequate compensation packages as promised which were the bases for the conflict because assets lost did not commensurate with compensation packages.

5.2.5 Coping Mechanisms and Interventions for Ensuring Sustainable Local Livelihoods

Finally, with regard to interventions and coping strategies, the study revealed that, the main coping strategies adopted by both men and women in the study communities after the land was taken for the Bui Dam project are casual work (*by-day*) and petty trading respectively. The growing interest in petty trading was attributed to the view that, the construction of the dam has caused influx of people into the study area, thereby providing market for consumable goods. Other coping strategies included: farming, premixed fuel business, wood gathering and pito brewing. The local people in the study communities were unaware of any alternative livelihood interventions provided by the Bui Power Authority and the district assemblies to ensure the sustainability of their livelihoods.

5.3 Conclusion

The objectives of the study were appropriately validated by the findings and results. For instance, the assessment of the effects of land grabbing on local food production showed that, there have been a fall in both food crop and fish production. Equally, the hypothesis was verified by the findings of the study. It was proposed that there is no difference between output levels of major crops such as yam, cassava, maize and cashew before and after the land grabs. The results from the t-test depict that there is a significant difference between the output levels of major crops such as yam, cassava, maize and cashew before and after the local people's land was taken to construct the Bui Dam. This is because the t-test statistics indicated a significant value of .035 which is less than the alpha value of 0.05. Evidence from this study has proven that after the acquisition of the land for the development of the Bui Dam, it has helped to improve the physical capital (assets) base of the affected people. These assets include roads, educational and health facilities and access to good drinking water. Also, land grabbing by this study has promoted petty trading business following the influx of people into the area. These findings corroborate the arguments of the transformation/transition theory underpinning this study that; an attempt to transform communities through technological innovation enables change and development.

Notwithstanding these positives, the study has also revealed that the acquisition of the land for the Bui Dam project and its associated relocation of the affected people have adversely affected the natural capital base (land and water bodies) and the general food security of the affected people. In addition, the general income levels of the affected people have been adversely affected. Equally, these findings affirm the position of the adapted conceptual framework that institutional policies and processes can create vulnerability scenarios; in this particular context landlessness which adversely undermined the affected people's livelihood

strategies and the resultant outcomes. Also, the evidence that the local people have mapped up some coping mechanisms as a way of ensuring sustainable livelihood reinforces the position of the resilience theory that encourages people and communities hit by vulnerabilities to develop resilience capacities in order to absorb the shocks and stresses to be able to continue functioning. In general, it is succinct from the study that whenever large tracts of land previously used for subsistence farming are taken over from the local people, it comes along with both positive and negative impacts, but the negatives have often been greater than the positives as confirmed by this study.

5.4 Recommendations

Based on the findings of the study, the researcher recommended the following actions;

- 5.4.1 Since local people's access to the natural capital is worsened, thus, the land, the individuals in the study communities without farmland after the land grabbing following the Bui Dam project should negotiate with members of the host community who have adequate farmland for land on "abunu basis" where there would be an agreed formula between the farmer and the landowner on how produce is shared. This would ensure the landless group of people still have access to land.
- 5.4.2 Following the reduction in food crop productivity, the government, district assemblies and the Bui Power Authority should provide the local farmers with fertilizers at subsidised rate as well as irrigation facilities so as to help improve farm yield since the current farmland according to this study is unsuitable for farming. This would enable the local farmers to move away from extensive farming system to an intensive system so that with the limited farmland, productivity can still be improved. Also, with a reduction in the quantity of fish caught, the Bui Power

Authority should introduce aquaculture in the study communities so that fishermen can continue to do fishing. This will go a long way to sustain the fishing business in the study communities.

5.4.3 With the reduction in income levels, the local people in the study communities should also come together to form cooperative societies so as to pool their scarce resources together to enable them to secure loans from Banks. By this, they would be able to acquire modern implements that will promote the growth of their businesses and for that matter improve productivity and income levels. Equally, the district assemblies for, example should ensure that the Livelihood Empowerment Against Poverty Programme (LEAP) is extended to the people of the resettled communities.

5.4.4 To ensure sustainable coping mechanisms, the Bui Power Authority (BPA) together with the district assemblies concerned should design a well thought out comprehensive livelihood enhancement programmes. This should include skill training for the youth and the landless group of people in the study communities to enable such categories of people find alternative livelihood activities with the skills acquired.

5.4.5 Finally, to avoid conflict in the future, when the need arises to acquire large scale lands for any national project, there is the need for the government or institutions concerned to ensure adequate, free, fair and informed consent of the affected people from the planning stage to implementation, especially on issues of compensation for the local people. The compensation packages should not be exclusively determined

by those in authority or local elite but the generality of the affected people at community gatherings. With adequate and generally acceptable compensation packages, conflict will be avoided.

5.5 Areas for Further Research

- Land grabbing, monoculture and ecological ill health
- Land grabbing, community exclusion and the struggle for citizenship
- Efforts to handle the rise in land grabbing cases
- Land grabs, the production of foreign wealth and indigenous poverty
- Land grabbing and engendered vulnerabilities
- Land grabbing and rural development

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APPENDICES
Appendix 'A'
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF GEOGRAPHY AND RURAL DEVELOPMENT

This instrument is designed to elicit information to complete my research as part of my school's requirements for completing a master's degree programme. The purpose of this research is to investigate the effects of Land Grabbing on the livelihoods of the local people using Bui dam Construction as a case. You are requested to provide responses to the questions on the interview schedule noting that your participation is voluntary and that you can withdraw from the study at any time. Any information provided will be used mainly for the purposes of academic work and be held confidential. Thank you.

INTERVIEWER QUESTIONNAIRE FOR HOUSEHOLD HEADS

SECTION 'A' Socio- demographic characteristics of the respondents

This section requests from you your background information, which is particularly pertinent for establishing creditability of the research data.

1. Settlement a) Bui village b) Bator Akanyankrom c) Bui camp d) Dam site
e) Lucene F) Dokokyina g) Brewodi h) Abgegikrom
2. Gender: a) Male [] b) Female []
3. Age: a) 20-30 [] b) 30-40 [] c) 40-50 [] d) 50-60 e) Others specify-----
4. Level of education: a) university degree [] b) HND [] c) 'A' & 'O' level []
d) SSS/SHS []
5. Occupation: a) farming [] b) fishing [] c) petty trading [] d) artisan [] e) civil/public
servant [] f) others specify-----
6. Marital Status. a) Married [] b) Single [] c) divorced [] d) Never married [] e) Others
specify-----
7. Religion: a) Christian [] b) Islamic [] c) Traditional [] d) Others: specify-----
8. Number of household members: a) 1-5 [] b) 5-10 [] c) 10-15 [] d) 15-20 [] e) 20-25 []
f) Others; specify-----

9. Ethnicity; a)Akan [] b)Ewe [] c)Banda [] d) Gonja [] e)Dagaaba [] f) Others: specify-----

10. Among which of the following income brackets per month would you place yourself?

a) Less than GH100 [] b) 101-200 [] c) 201-300 [] d) 301-400 f) 401-500 [] g) others: specify-----

SECTION 'B' Effects of land grabbing on Livelihood Assets

This section seeks to uncover the various ways by which the land acquired for the construction of the Bui Dam has affected the livelihood assets of the local people.

11. How has the large scale land grabbed for the Bui Dam project affected your livelihood assets? Tick the options.

Livelihood Assets	Improved	Worsened	No change	Reasons
a. Access to land				
b. Access to water resources				
c. Access to forest resources				
d. Relationship with family				
e. Access to good drinking water				
f. Access credit facilities				
g. Income/ savings				
h. Employment				
i. Access to educational and health facilities				
j. Good roads				
k. Personal skills				

SECTION 'C' Implications of land grabbing on local food production

Now, I want to ask you questions on how the acquisition of your land for the creation of the Bui Dam has impacted on local food crop and fish production.

12. Do you still have a farmland after your land was acquired for the construction of the dam? a) Yes ☐ b) No ☐

13. If yes, how is your current farmland very suitable for farming? a) Very suitable ☐
b) suitable ☐ c) unsuitable ☐ d). Very unsuitable ☐ e) Don't know ☐

14. Give reason for your response-----

15. How has the land grabbing incident affected your household's food crop production in the resettled communities compare to the situation before?

a). significantly improved ☐ b). improved ☐ c). Significantly worsened ☐
d). worsened ☐ e). no change ☐

16. Give reason for your response-----

17. If you are still farming after the relocation, indicate the types of major crops grown before and after the relocation exercise.

Crops grown (before)	Crops grown (after)	reasons
1.		
2.		
3.		
4.		
5.		
6.		

18. If there has been a change in the types of major crops grown how that has affected your household's food crop production? a). significantly improved ☐ b). improved ☐
c). Significantly worsened ☐ d). worsened ☐ e). No change ☐

19. Give evidence for such effect on your household's food productivity-----
-- -----

20. If you are a farmer, indicate the level of productivity of the following crops annually before and after the land was taken/grabbed for the Bui Dam project.

Note:

2005 to 2006= period before land grabbing.

2013 to 2014 = period after land grabbing

Crops	2005	2006	2013	2014
Yam				
Cassava				
Maize				
cashew				
Total				

21. If you are a fisherman, how would you rate the level of fish production in the resettled communities compare to the situation before? a). significantly improved [] b). improved [] c). Significantly worsened [] d). worsened [] e). no change []

22. Give reason for your response -----

23. Which of these livelihood activities do/did you engage in for a living before and after the land was grabbed for the Bui Dam project?

Livelihood activities	Before (tick)	After (tick)
a. farming		
b. Fishing		
c. Wood gathering		
d. Livestock rearing		
e. Hunting		
f. Petty trading		
g. Charcoal burning		
h. others		

24. If there has been a change in your livelihood activity(s), what specific reason could have accounted for that?-----

-

SECTION 'C. Effects of land grabbing on income and well-being of the local people.

This section seeks to ascertain how the large scale land grabbed for constructing the Bui Dam has affected the income and well-being of the local people (households).

25. How has the land grabbed for the construction of the Bui Dam affected your income/economy? a). significantly improved [] b). improved [] c). Significantly worsened [] d). worsened [] e). No change []

26. Give reason for your response-----

--

27. Indicate your annual income level before and after the land was grabbed to construct the Bui Dam.

Income in Ghana cedis	Before (tick)	After (tick)
a. Less than 200		
b. 201-300		
c. 301-400		
d. 401-500		
e. 501 and above		

28. If there is change in annual income earned after the land grabbing incident, what specific reasons could have accounted for that?-----

29. How would you rate your income now compare to the period before the land grabs?

a).very high [] b). high [] c). very low [] d). low [] e). No change []

30. Give reason for your response-----

31. If there have been changes in income after the land grabs, how has that affected your well-being? a). significantly improved [] b). improved [] c). Significantly worsened []

d). worsened [] e). No change []

32. Give reason for your response-----

33. Indicate by ticking the category of gender with severely affected income levels after the land grabs. a. Men [] b. Women []

34. Indicate by ticking whether household income levels have been affected or unaffected after the acquisition of farmland to build the Bui Dam. a). affected [] b). unaffected []

35. If you are a farmer, indicate how much you earned from the following crops for the following farming seasons.

NOTE;

2005 and 2006= period before the land grabbing

2013 and 2014= period after land grabbing

crops	2005	2006	2013	2014
Yam				
Cassava				
Maize				
cashew				

Section 'E'. Land grabbing and Social Tension

This section seeks to uncover how the local people affected by the incident of land grabbing following the Bui Dam project reacted.

36. Did you react to the decision to take over your farmland for the Bui Dam project with conflict? a) Yes [] b) No []

37. If yes, apart from the loss of farmland which other reasons influenced this conflict-----

38. If yes, what was the nature of the conflict? a). violent [] b). Not violent []
39. Are there some outstanding conflicts currently? a) Yes [] b) No []
40. If no to question 36 indicate how you reacted to the incident of land grabbing in your communities?-----
41. Between the communities in the Banda and Bole Districts, where did the conflict starts if any? a). communities in Banda District [] b). Communities in the Bole District []
42. Give reasons for your response-----
43. How has the conflict affected you if any? -----
44. How did the host community react to your relocation to join them? a). satisfied []
b). unsatisfied []
45. How would you describe your relationship with the members of the host communities?
a) very good [] b). good [] c). very poor [] d). poor []
46. Give reason for your response-----
47. Were you fully compensated for the acquisition of your land for the dam project?
a) Yes [] b) No []
48. How satisfied were you with the compensation packages? a). very satisfied []
b). satisfied [] c). very unsatisfied [] d). unsatisfied []
49. Give reason (s) for your response-----
50. In what forms were you compensated? (Tick as many as possible). a). land [] b). cash []
c). housing [] d). Others -----
51. Did the compensation process result in any disagreement initially between the local people and the Bui Power Authority? a) Yes [] b) No []
52. What is the state of the relationship between the local people and the officials of the Bui Power Authority? a).very good [] b). good [] c). very poor [] d). poor []
53. Give reason for your answer-----
54. Spatially , between communities in the south and north, which of them has been severely affected by the land grabbing incident due to the Bui Dam project?-----

55. Give reason(s) for your response-----

SECTION F: Coping Strategies and interventions for promoting sustainable livelihoods

This section aims at finding out specific livelihood strategies and interventions put in place to promote sustainable livelihoods after the land was acquired for constructing the dam.

56. What interventions and coping strategies have you put in place to ensure the sustainability of your livelihoods after your land was acquired to build the dam?

1-----
2-----
3-----
4-----

57. Are there specific measures to ensure the sustainability of these interventions?

a) Yes [] b) No []

58. If 'yes', what are some of them-----

59. Are you aware of interventions or strategies designed by the Bui Power Authority to promote sustainable livelihoods in your community?

Yes [] b) No []

60. If yes, what are some of them?-----

61. In what specific ways have these interventions promoted your livelihoods?-----

62. Are you aware of some interventions put in place by the District Assembly to promote the sustainability of livelihoods of the local people? a) Yes [] b) No []

63. If yes, state some of them-----

64. Have these interventions benefited you and other members of this community if any?----

65. What specific coping strategies are being used by men to ensure sustainable livelihoods?-----

66. What specific coping strategies are being used by women to ensure sustainable livelihoods?-----

67. What would you recommend to be done to improve the livelihoods of the people in the community?-----

68. Is there anything you would like to share with me?-----

THANK YOU FOR YOUR CO-OPERATION

Appendix ‘B’

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF GEOGRAPHY AND RURAL DEVELOPMENT

This instrument is designed to elicit information to complete my research as part of my school's requirements for completing a master's degree programme. The purpose of this research is to investigate the effects of Land Grabbing on the livelihoods of the local people using Bui dam Construction as a case. You are requested to provide responses to the questions that will be asked from the interview guide noting that your participation is voluntary and that you can withdraw from the study at any time. Any information provided will be used mainly for the purposes of academic work and be held confidential.

Thank you.

INTERVIEW GUIDE FOR KEY INFORMANTS

A: land grabbing and livelihood assets

1. Existing livelihood assets before and after land grabbing
2. Local people's access to livelihood assets after land grabbing
3. Categories of livelihood assets improved after the land grabs

B: Land grabbing and local food production.

4. Implications of land acquisition on local food crop production due to the Bui Dam
5. Implications of the Bui Dam project on quantity fish catch
6. Major food crops grown before and after land acquisition

C: Land grabbing and people's income and well-being (*income in monetary terms*).

7. Changes in people's income after land grabbing and associated reasons

8. Category of gender with severely affected incomes after the land grabs
9. Nature of the effects of land grabbing on people's incomes

D: Land grabbing and social tension.

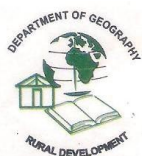
10. how the local people reacted to the land acquisition and their subsequent relocation
11. Nature of compensations and local people's reactions
12. Spatial distribution of the effects of land grabbing across districts and communities

E: Coping mechanisms and interventions for promoting sustainable livelihoods

13. Coping mechanisms adopted by local people after the land grabs for promoting their livelihoods
14. Interventions made by Bui Power Authority and District Assemblies to promote sustainable livelihoods.
15. Local people's awareness rate on the livelihood interventions designed by the Bui Power Authority and the District Assembly

THANK YOU FOR YOUR COOPERATION

Appendix 'C'



DEPARTMENT OF GEOGRAPHY AND RURAL DEVELOPMENT
FACULTY OF SOCIAL SCIENCES
COLLEGE OF ART AND SOCIAL SCIENCES
KWAME NKRUMAH UNIVERSITY OF SCIENCE & TECHNOLOGY



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Date:..... 30th March, 2015

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TO WHOM IT MAY CONCERN

Dear Sir/Madam,

DATA COLLECTION

This is to introduce to you **TWENE SAMUEL KINGSFORD** who is a second year Graduate student in the Department of Geography and Rural Development. The above mentioned student is collecting data for the preparation of a thesis on:

"LAND GRABBING AND RURAL LIVELIHOOD STRUGGLES; EXPERIENCES FROM BUI DAM CONSTRUCTION"

as part of the requirements for the completion of a Master Degree programme in Geography and Rural Development.

We shall be grateful for any assistance that you and your organization can give. We wish to assure you that any information or material given will be treated in strict confidentiality and used only for the purposes and subject to any other conditions that you may impose.

Yours faithfully,

Alexander Segbefia (PhD)
HEAD OF DEPARTMENT