

**THE EFFECTS OF LARGE SCALE LAND ACQUISITION ON THE
LIVELIHOODS OF SMALLHOLDER FARMING HOUSEHOLDS IN THE
PRU DISTRICT OF BRONG AHAFO REGION, GHANA-PERSPECTIVE OF
TENANTS FARMERS.**

KNUST

BY

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**JUNE, 2018
DECLARATION**

I, Charles Quansah, hereby declare that this thesis, —The Effects of Large Scale Land Acquisition on the Livelihoods of Smallholder Farming Households in the Pru District of Brong-Ahafo Region of Ghana is entirely my own work carried out under the guidance of my supervisors. Apart from references cited, which have been duly acknowledged, no section of this thesis is a reproduction of anybody’s work submitted for the award of a degree in any university. I therefore, take full responsibility of the content.

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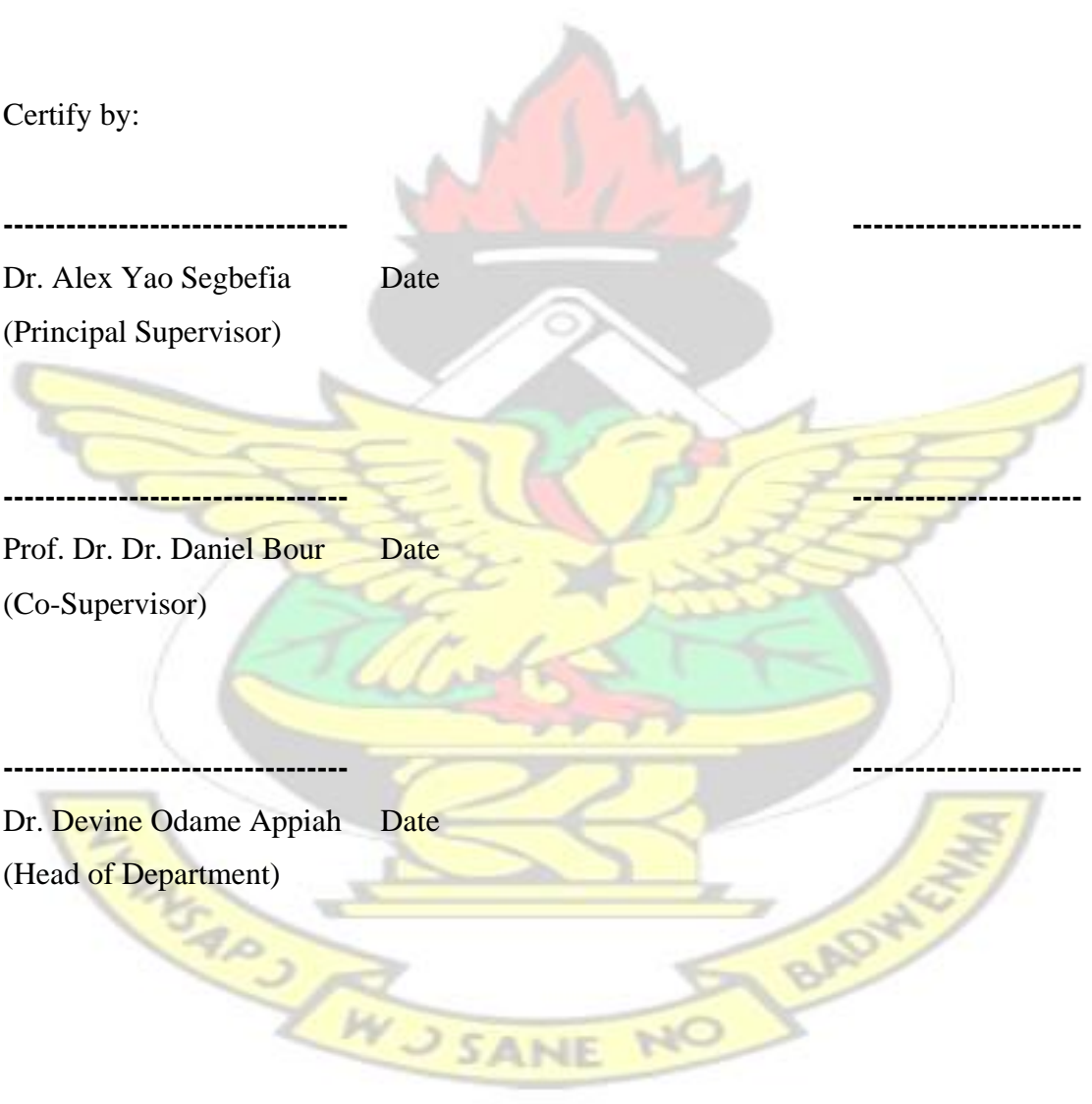
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DEDICATION

This work is dedicated to my elder brother, Joseph Essuman Quansah, who contributed enormously towards the success of this work.

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ABSTRACT

In recent times, Ghana has become one of the destinations for large scale land acquisition in Africa, attracting more foreign investors in the agricultural sector. It is expected that large scale lands acquired will improve the socio-economic conditions of smallholder farmers in deprived rural economies. The study is underpinned by the critical agrarian political economy theory and the modern world system theory. This study assessed the effects of large scale land acquisition on the livelihoods of smallholder farming households in the Pru District Assembly of Brong-Ahafo Region of Ghana. Primary data were collected from 332 randomly selected smallholder farming households using structured questionnaires and were complemented with data from focus group discussions and key informant interviews. The empirical findings revealed a six-step procedure in acquiring large tracts of land for investment starting from the identification of reserved lands by the District Assembly through to the transfer of ownership to investors. The study also found that large scale land acquisition has a significant positive effect on employment, healthcare and food security, but significant negative effect on income levels of smallholder farming households. Reducing the number of days of visit to farms, leaving very early to farms, and depending on rain water are the coping strategies employed by the smallholder farmers. Also, the farmers adapt to the effects of large scale land acquisition by keeping backyard gardens, planting hybrid seeds and buying of motor bikes and bicycles to facilitate long distance farming. Based on the findings, the study recommends that farming households should be given opportunity to participate in decision making, leading to acquisition of lands by large scale land investors. Also, lands of defunct companies should be returned to the initial occupants for their needs and cultivation. Finally, District Assemblies must formulate policies and enforce the existing by-laws that will ensure that large scale land investors employ workers from the host communities for the intended projects.

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LIST OF ABBREVIATIONS / ACRONYMS



ADB	Africa Development Bank
ATZ	Agro-temperate Zoning
CBR	Crude Birth Rate
CDR	Crude Death Rate
CEO	Chief Executive Officer
CLS	Customary Land Secretariat
CSOs	Civil Society Organisations
DA	District Assembly
DADU	District Agricultural Development Unit
DFID	Department for international Development.
EPA	Environmental Protection Agency
ETC	Export Trading Company
EU	European Union
FAO	Food and Agriculture Organisation
FDI	Foreign Direct Investment
FDIs	Foreign Direct Investments
FOE	Federal Office for Energy
GEXSI	Global Exchange for Social Investment
GFR	General Fertility Rate
HH	Household Heads
HLS	Household Livelihood Security
IFAD	International Fund for Agricultural Development
IGO	Inter Governmental Organisations
IIED	International Institute for Environment and Development
ILC	International Land Coalition
LC	Lands Commission
LDC	Least Developed Countries
LEI	Livelihood Effect Index

LSL	Large Scale Land Acquisition
MADU	Metropolitan Agricultural Development Unit
MDG	Millennium Development Goal
MMDAs	Metropolitan, Municipal and District Assemblies
MOFA	Ministry of Food and Agriculture
MWS	Modern World System
NAPE	National Association of Professional Environment
NGO	Non-governmental Organisations
NJPI	National Jatropha Plantation Initiative
OASL	Office of the Administrator of Stool Lands
SDGs	Sustainable Development Goals
SE4ALL	Sustainable Energy for All
SHD	Sustainable Human Development
SLF	Sustainable Livelihood Framework
SPSS	Statistical Package for Social Science
SSA	Sub-Saharan Africa
TA	Traditional Authority
TFR	Total Fertility Rate
UN	United Nations
UNDP	United Nations Development Programme
US	United State
USAID	United State Aid for International Development
USD	United State Dollar
WB	World Bank
WWF	World Wide Fund

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background to the Study

Large Scale Land Acquisition (LSLA) through long-term leases or outright purchase in developing countries (Africa, Asia, Latin America and Eastern Europe) has been described as global land grab (Makutsa, 2010), transnational commercial land deals (Borras and Franco, 2009; Yaro, 2011) and global interest in farmlands (World Bank, 2011).

Depending on the purpose for which the land has been acquired, LSLA can be compulsory, especially when it is needed for public purposes. In this regard, central or local governments exercise their power of expropriation to acquire private lands for public purposes from the allodial title holders. Land acquisition in the public interest could also mean acquiring private lands by governments for private companies and individuals for purposes of the focus and the main reasons of the establishment (Kasanga and Kotey, 2001). This may contribute to public interest, welfare, and confer direct benefits, including profits on the land user (Kotey, 2002).

The desire to achieve energy efficiency, upsurge production, maximise profits, expand to other nations and achieve food sufficiency explains why rich individuals, international and multi-national companies, corporations and governments are playing leading roles in the recent investments in large scale land acquisitions in Latin America, Eastern Europe and Africa (Cotula *et al.*, 2009).

Recent statistics indicated that the global share of large scale land acquisitions among the continents are 48 percent for Africa, Asia 21 percent, America 8.2 percent, Europe

2.3 percent and Oceania 2.3 percent (Anseeuw *et al.*, 2012 cited in Malkamuu and Zakaaryaas, 2012). Clearly, Africa is rapidly becoming a centre for large scale land acquisition with millions of hectares of land either sold or leased out annually, mainly to foreign investors. Foreign investors perceive Africa as the best destination for land investments, because it is where lands can be obtained at cheaper prices, without any problem on documentation. Hence, the motivations and decisions to secure large scale land by investors (Ahab and Kring, 2012).

The global food price crisis of 2007–2008, convinced many governments and private commodity buyers that international markets would be less reliable and more volatile in the future, and that markets could not be trusted to provide a stable supply of food commodities. In order to achieve food security or stability of supply, buying farmland, outsourcing food production was seen as more interesting than buying on the international markets. The acquisition of farmlands became popular among certain governments who were concerned about their future capability to feed themselves. It also became a preferred way for investment funds to hedge their assets against inflation, particularly in a context in which the stock markets continued to be unreliable and were providing, at best, low returns on investment (De Schutter, 2011).

Indeed, a 2012 report based on the Land Matrix Database shows that Africa is the most affected region by large scale land acquisition investors activity, where there were 754 deals covering 56.2 million hectares of lands (Anseeuw *et al.*, 2012). The total land sold out or leased in Africa is about 48 percent of the total agricultural area in the continent, which is approximately the size of Kenya (Anseeuw *et al.*, 2012).

It is claimed that many developing countries in Africa and beyond seem to be keen in adopting a development model that places large scale land acquisition or agribusinesses supported by Foreign Direct Investments (FDI) at the centre of their

policy (Richards, 2013). An important driver for large-scale land acquisition in Ghana and the rest of Africa, is the growing global demand for bio-fuel (Jatropha) and other plantations such as orange, coconut, cashew, rice, mango etc. The period from 2005 to 2007 has experienced unprecedented growth in global biodiesel demand and production (Biofuels International, 2007). Biofuels and other plantations accounted for 2.7 percent of all global fuel for road transportation in 2010 (Kemausuour *et al.*, 2013). Global demand for biofuel has been projected to increase to about 183.8 billion litres by 2015 (Global Biofuels Outlook, 2009-2015).

In recent times, Ghana has become one of the destinations for large scale land deals in Africa, attracting high foreign investments in the agricultural sector and other plantations. Over the past ten years, the government of Ghana has leased out large tracts of land for investors, mainly foreign investors. One main feature of such large scale land deals in Ghana has been that, lands given to foreign investors are larger than those given to domestic investors. Among the reasons was that the government perceives foreign firms to possess more capital, experience, technologies with high quality of goods and services and high skills personnel than the domestic firms and investors to carry out big investments successfully (Giddens, 1979 cited in Scoones, 1998).

In addition, the government offers very generous incentives for foreign investors including lower capital requirements, guarantee against expropriation or nationalisation and attractive financial incentives, such as exemptions of income tax on exports (tax holidays) and free custom duties on imports (Rahmato, 2011; Tam rat, 2010).

The increasing trends for large scale land acquisition by investors for plantations development by powerful and developed nations on the weak and vulnerable global

south and developing nations, the need for government plan and desire to accelerate development has also led to giving out lands which belong to the poor rural farmers, which has affected the livelihoods of the smallholder farmers as well as reduction of farm size, reduction in output, low savings, less capital building and low assets development and total reduction in the small scale farmer entire life. These phenomenon has occurred due to smallholder farmers losing the farmlands on which they depend for their livelihood and losing it has worsen their living conditions (Chizoba *et al.*, 2012).

Attempts to ‘regulate’ large-scale investment in farmlands are misleading as they presuppose that such investments can be desirable under certain conditions, provided they are well managed. The assumption estimates that, the opportunity costs involved in giving away farmland that is considered ‘idle’ to promote a type of farming that will have much less powerful poverty reducing impacts than if access to land and water were democratised for the local farming communities. Overestimated capacity of the governance structures in the host countries also pays too little attention to the risks of encouraging a commodification of land in the name of improving security of tenure, as well as a further dependence of agriculture based countries on international markets in the name of local food security, which may have serious negative consequences in the long term (De Schutter, 2011).

Despite the known adverse effects of large scale land acquisition for investments on small-holder farmers, governments in many developing countries are almost always willing to accept these investments in the name of Foreign Direct Investments (FDIs). This phenomenon is not new to Ghana as vast areas of lands have been acquired and used for the purposes of establishing plantations and other useful purposes (White *et al.*, 2012).

In Ghana, the National Jatropha and other Plantation Initiative (NJPI) which was initiated in 2006, had a target of developing up to one million hectares of jatropha plantations by the year 2010. Indeed, currently, available literature is silent on whether this target has been achieved or not. However, Hughes *et al.*, (2011), identified over 20 companies, mostly foreign owned, that are cultivating large scale jatropha and other plantations in Ghana.

One plausible explanation for allowing these investments in the Brong-Ahafo Region is their perceived positive effects on employment opportunities, an increased and improvement in household and national incomes, and the country's competitiveness in regional and international trade (Knight, 2010; Schoneveld *et al.*, 2010; Feintrenie, 2010; Bosch and Zeller, 2013). These investments, therefore, have the potential to improve the living conditions of smallholder farmers who were depending on the land for their livelihoods. They are expected to make significant impacts on rural economies through infrastructure development.

Clearly, available literature is silent on clarifying the effects of large-scale acquisition for Bio fuel, example. Jatropha investments and other plantations on smallholder farmers who depend on the land for their livelihood. While some researchers see the effects as positive (Knight, 2010; Schoneveld *et al.*, 2010; Feintrenie, 2010; Bosch and Zeller, 2013); others consider them as negative (World Bank, 2002: 157; Schoneveld *et al.*, 2010; Hughes *et al.*, 2011; Sindayigaya, 2011:14; FAO, 2012; FAO, 2013). The negative effects are the bases for the ongoing discourse on land right issues, responsible agricultural investments and food security (Liversage, 2010).

The discussions focus on how land administration systems, investments in agriculture and other recognised bodies and institutions responsibilities can be improved so that, the land rights and livelihoods of smallholder farmers, pastoralists and other vulnerable

groups could be protected and strengthened in the Pru District of BrongAhafo Region, and Ghana as a whole. Even before such discussions are concluded, many governments in developing countries continue to open up their economies to multi-national companies. This could possibly be explained by the positive effects of such investments on the national economies. At the macro level, the effects of large scale land investments may be positive. This may be different from the community level, especially, where smallholder farmers are displaced by such investments without agreed well defined compensation.

The aim of this present study, therefore, is to assess the effects of large scale land acquisition on the livelihoods of smallholder farming households and determine how they cope with and adapt to the effects of land acquisition after their farm lands have been taken away for large scale land projects by investors.

1.2 Problem Statement

The effects of large scale land acquisition in various parts of the Brong Ahafo Region in Ghana have led to the displacement of several smallholder farmers as indicated by International land coalition (2009) and Tsikata and Yaro, (2011). However, while findings reasons to the displacement of smallholder farmers due to large scale land acquisition, the effects of displacement on the livelihood outcomes of smallholder farmers remains largely unexamined and little understood. How displaced smallholder farmers rework their livelihood remains unexamined. This is necessary if we are to develop understanding in order to guide future policy and take appropriate actions to better manage large scale land acquisition in Ghana. Also, factors that predispose farmers towards being easily displaced from their farm lands also remain unknown and unexamined in the Pru District.

Smallholder farmers in most cases are absent in the acquisition process (World Bank, 2009). This hinders their ability to contribute and present their persistent needs to the investors in all deliberations. They are also not represented and signified in the documentation and acquisition process. They are not given notices to evacuate and the lands under cultivation, hence destroying their crops on the land and sometimes given short notices for them to vacate the lands. This leads to conflicts between investor's workers and the smallholder farmers (Borras and Franco, 2010).

Borras *et al.*, (2014) argue that, most of the smallholder farmers' land ownership are not documented, as most of the farmers are given a piece of land to farm on subsistence bases, where the farmers cultivate the crops for their family consumption and sell out the surplus for basic needs of the family. The chief is the custodian of the land any time they deem it appropriate, he could use his power to reclaim and could use the land from smallholder farmers for any specific purpose. This would depend on the social, economic and political needs and interest of the people in the district.

It is therefore imperative to document and map out the processes of large scale land acquisition to find out tenurial status and matters of inclusion and exclusion in the processes. It is imperative to note that earlier scientific studies undertaken in the Pru District of Brong Ahafo Region, focused much on the socio-economic livelihood dynamics of smallholders (Acheampong and Campion, 2014). The large scale land acquisition dimension of these previous studies failed to give consideration to their critical aspect which was having a serious impact on the vast farming population livelihoods in the agrarian communities of the Pru District. As a result, this research addresses the huge gap in literature to better understand the effects of large scale land acquisition on the livelihoods of smallholder farmers in selected farming communities in the Pru District.

In another development, several studies have assessed the effects of large scale land investments on the environment and socio-economic dimensions of large scale land acquisition (Schoneveld *et al.*, 2010; Hughes *et al.*, 2011; FAO, 2013 Bosch and Zeller, 2013). The findings from these studies revealed a mixed effect (negative and positive) of large scale land acquisition. While Bosch and Zeller (2013) and FAO (2013) observed that such investments enhanced employment opportunities, which could improve biodiversity and increase revenue in the host communities; Schoneveld *et al.*, (2010b) and Hughes *et al.*, (2011) provide evidence to suggest that the investments lead to impoverishment. They also have serious consequences, such as the export of valuable resources in contexts where local populations are considered to have food and energy insecurity (Behrman *et al.*, 2011).

The activities of large scale land acquisition projects threaten communities' access to land, the land tenure system, food security and livelihood assets in Sub-Saharan Africa (Schoneveld, 2010). In addition, earlier studies used qualitative method for their analysis to assess the effects of large scale land investments on the environment and socio-economic dimension of large scale land acquisition. However, in the case of this study, mixed method approach was used, quantitative and qualitative, as the method has helped establish a gap in terms of the method used by other scholars.

It is noted that, lands acquired for the establishment of LSLA plantations in Ghana have led to the displacement and dislocation of many smallholder farmers and pastoralists. These investments have displaced many smallholder farmers whose livelihood depended on the land. The literature shows that several studies have assessed the effects of such investments on the environment (Schoneveld *et al.*, 2010) Also, others have assessed the effects on the economic dimensions (Hughes *et al.*,

2011). However, little or none of the studies provides a comprehensive discussion of the effects of LSLA on the livelihoods of smallholder outcome of affected farmers. In another development, factors that have also influenced Investors to acquire large tracts of land in Pru District. Again , the contemporary trends of LSLA and the various coping and adaptation strategies that determine their livelihoods effects are not well documented in the various literature hence the need to fill this gap.

1.3 Research Questions

Based on the research problem, the study sought to find answers to these specific questions.

1. How do large scale investors acquire land in the Pru District of Brong-Ahafo Region?
2. To what extent have large scale land acquisitions affected the livelihoods assets of smallholder farmers in the Pru District?
3. What factors have influenced investors to acquire large scale land for plantation and its effects on the livelihoods of smallholder farmers?
4. To what extent have the factors influencing large scale land acquisitions, affected the livelihoods of smallholder farmers in the Pru District of Brong Ahafo Region?
5. How do smallholder farmers cope with and adapt to the effects of large scale land acquisitions on their livelihoods?

1.4 Research Objectives

1.4.1 Main Objective

The main objective of this study was to assess the effects of large scale land acquisition on the livelihoods assets of smallholder farmers in the Pru District of the Brong-Ahafo Region.

1.4.2 Specific Objectives

The specific objectives of the study were to:

1. Map out the processes involved in acquiring large scale land by investors.
2. Examine the effects of large scale land acquisition on the livelihood assets of smallholder farmers.
3. Determine factors influencing investors to acquire large scale land for plantation and the effects on the livelihood of smallholder farmers.
4. Determine the factors influencing the extent to which livelihoods of smallholder households have been affected by LSLA.
5. Identify the coping and adaptation strategies of smallholder farmers to withstand the effects of large scale land acquisition.

1.5 Research Hypotheses

1. **H₀**: Large scale land acquisition has no significant effects on the livelihood assets of smallholder farming households,
H₁: The educational level of household heads has no significant association with the livelihoods of smallholder farming household adversely affected by LSLA.
H₀: Size of farmland lost by a household to large scale land investors has no significant association with the livelihoods of smallholder farming household adversely affected by LSLA.
H₀: Off-farm activities have no significant relationship with livelihoods of smallholder farming households adversely affected by LSLA.
H₀: The income levels of household head has no significant relationship with the livelihoods of smallholder farming households adversely affected by LSLA.

H₀: The health care of household heads has no significant relationship with the livelihoods of smallholder farming households adversely affected by LSLA.

H₀: The employment levels of household head has no significant relationship with the livelihoods of smallholder farming households adversely affected by LSLA.

1.6 Scope of the Study

1.6.1 Contextual Scope

As outlined in the objectives of the study, the study has been designed in the context of assessing the effects of large-scale investments on smallholder farming households' livelihoods assets in the Pru District of Ghana and how they cope with and adapt to these effects. The study assessed the effects of large scale land acquisition on the livelihood assets, and livelihood outcomes of the affected smallholder farming households in the Pru District of Ghana. The coping and adaptation strategies used by the affected smallholder farming households to endure the effects have also been examined by this study.

1.6.2 Geographical Scope

The study was limited to the following communities in the Pru District of BrongAhafo Region of Ghana. Among the seven districts, Pru was the district with the highest concentration of LSLA investors. A lot of studies has been done in Asante Akyem South, Yendi Municipality and Nkoranza district but less has been done in the Pru District on LSLA. The communities are Adwentura, Kadue, Kobre, Abease and Prang. The affected plantations in these communities were established not later than 2008. They therefore provide very good bases for the assessment of the effects of investments on the livelihoods of small-holder farmers. Detailed description of the study areas has been provided in Chapter Three of this study.

1.7 Significance of the Study

This study would serve as a piece of literature among the already empirically existing publications on the subject of the effects of large-scale land acquisition. Findings of this research will be useful for institutions such as Food and Agriculture Organisation, Ministry of Food and Agriculture, Environmental Protection Agency, District Assemblies, Traditional Authorities, Lands Commission and all the relevant stakeholders among others on how large scale plantations should be promoted and regulated. The findings will serve as evidence and reference material and guideline for future studies.

Also, there exist several studies on large scale land acquisition and farmers' livelihoods. Besides, these studies concentrate on establishing relationships between large scale land acquisition and farmers' livelihoods with countless efforts tailored towards measuring the extent to which farmers' livelihood have been affected by large scale land activities. This study, therefore went beyond establishing the relationship between large scale land investment and farmers' livelihoods to provide in-depth knowledge relating to the effects that befall farming households' livelihoods as a result of large scale land acquisitions. This would guide stakeholders to formulate specific policies to mitigate the rising effects of large scale land acquisition on the livelihoods of smallholder farming households in the Pru District, the region and the country as a whole. The study's imperativeness rests on the fact that it can serve as an evaluation report with the tendency of enhancing feedback into the planning process.

Finally, this study unearths the mechanisms adopted by smallholder farming households to cope with, and adapt to the effects of large scale land acquisition. Developmental projects of governmental and non-governmental organisations can therefore be redirected to strengthening resilience of farming households to the effects

of large scale land activities through the institutions of coping and adaptation strategies by the government and local authorities with the consent of the smallholder farmers.

1.7.1 Limitations of the Study

The successful completion of the study was hindered by the following constraints: The time available for the study was not enough to consider all the various regions where investors have acquired large scale land for the various investments and other plantations.

Access to the required information on time was a serious constraint. Credible institutions capable of providing the information were unwilling to give under the disguise of confidentiality. This protracted and thus delayed the time allotted for the data collection, with its associated financial implications of travelling from Kumasi to Yeji on several occasions with the team of five trained assistants. Notwithstanding the above limitations, the study results have not been affected and thus are credible and useful for any purposes of evaluation and feedback.

Also, language was a problem, since the District was full of different tribes and cultures from all over Ghana. The researcher had to rely on an interpreter who understood the various languages spoken in the district for an agreed fee. This affected the rate and time at which the work was to be completed. In another development, it resulted to an increase of the cost in relationship to money committed to the study.

1.8 Organisation of the Thesis

This thesis is organised into eight chapters. Chapter one presents the general introduction of the study. Chapter Two outlines a review of related literature including definitions of key concepts and terms; review of theories underpinning the study; conceptual framework for the study based on the Sustainable Livelihood Framework;

the effects of large scale land acquisition on the livelihood of farmers; factors influencing the effect of large scale land acquisition on the livelihood of farmers; the effects of large scale land acquisition on farming households' livelihood outcomes; the coping and adaptation strategies of farming households to abate the effects of large scale land acquisition; and the gaps identified in the literature. Chapter Three presents the study's methodology comprising the study area, sampling procedure, data collection methods and methods of data analysis. Chapter Four presents the socio-demographic data of the respondents of the study communities. Chapter Five presents the findings of the processes involved in acquiring land on large scale by investors. Chapter Six presents the findings on the effects of large scale land acquisition on livelihood assets of smallholder farmers and the factors influencing large scale land acquisition on livelihood outcomes of smallholder farmers. Chapter Seven presents the coping and adaptation strategies adopted by smallholder farmers, and Chapter Eight presents a summary of major findings, conclusions and recommendations of the study.

1.9 Chapter Summary

The chapter delved into the background of the study highlighting the importance and drivers, negative and positive effects of large scale land acquisition. It also considered the problem statement of the study which established the gaps to be accomplished. The chapter unravels the areas of the study which require and need to assess the effects of large scale land acquisition on the livelihood assets, livelihood strategies, and livelihood outcomes of smallholder farmers in the Pru District of Brong-Ahafo Region. The chapter further reviews the research questions which helped the researcher to achieve the objectives of the study and the hypothesis. The scope of the study, relevance of the study and the organisation of chapters which reviews what the research seeks to accomplish and achieve in each chapter as this study entails nine chapters.

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL ISSUES

2.1 Introduction

The previous chapter highlighted the background to the study, the problem statement of the study, research objectives and research questions as well as the research hypotheses, scope of the study, relevance of the study and the organisation of the thesis. This chapter reviews and discusses the various concepts and theories underpinning the study. This is to help gain insight into the discourse on the subject of large-scale land acquisition and its resultant implications on smallholder livelihoods. The chapter presents contextual, theoretical and empirical reviews of the literature. The contextual reviews were done to strengthen the development of data collection instruments presented in the methodology of this research report.

The theoretical reviews were required in understanding the various sides of the subject matter in the theoretical discourse. This is to enable the researcher understand how the scholarship informs theoretical literature. The empirical reviews were required to unveil the findings of various studies and scholarships on the subject and their corresponding methodologies in order to throw light on the existing knowledge in literature. This enhanced the researcher to identify gaps in knowledge. Sections 2.2, 2.3 and 2.4 present definitions of terminologies, drivers of large scale land acquisition and trends in large scale land acquisition respectively.

The theoretical and conceptual frameworks and process of large scale land acquisition are presented in sections 2.5, 2.6 and 2.7 respectively. Sections 2.8, 2.9, 2.10 and 2.11 present literature review on effects of large scale land acquisition on livelihood, factors influencing the effects of large scale land acquisition on farmers' livelihoods, effects

of large scale land acquisition on livelihood outcomes and coping and adaptation strategies on the effects of large scale land acquisition respectively. The chapter ends with a summary of the literature review and gaps identified and the chapter summary in section 2.12 and 2.13 respectively.

2.2 Definition of Terminologies and Concepts

2.2.1 Smallholder Farmers

Smallholder farmers have been defined in various ways depending on the context, country and even ecological zone. Often the term ‘smallholder’ is interchangeably used with ‘small-scale’, ‘resource poor’ and sometimes ‘peasant farmer’ (Calcaterra, 2013; Berdegúe, 2013) whilst authors like Cousins (2010) thought that ‘smallholder’ and ‘small-scale’ could not be used interchangeably.

There exists a strong relationship between smallholdership, agriculture and rural poverty. Kydd (2002) for instance shows that, the majority of the world’s extremely poor live in rural areas and have livelihoods which are bound closely to smallholder agriculture as farmers, labourers, transporters, marketers and processors of produce and as suppliers of non-agricultural services to households whose income is principally agriculture-derived. Smallholders are often considered as forming part of the ‘rural poor’, together with subsistence producers and landless households. The emphasis is often on commonalities rather than differences e.g. in assets, income, investment and class identity (Cousins, 2010).

Since Chayanov published in 1925 his theory of the peasant economy, there has been recognition that the key feature of the agricultural smallholder sector is its reliance on family labour that leads to linking the operation of the family farm to the family's consumption and labour circumstances and demographic cycles (Chayanov, 1986).

Lipton (2005), and the World Bank (2007), have forged a strong consensus that the definitional characteristics of this type of agriculture include but is not limited to the following; small farms, family-operated, no or limited non-family hired labour (Nagayets, 2005; Wiggins *et al.*, 2010; Hazell *et al.*, 2010; IFAD, 2010). However, Berdegúe and Fuentealba (2011) argue that there are limitations with this definition, given that it fails to properly account for the qualitative aspect of the concept.

The definition of smallholders could also be characteristically based on agricultural activities or on size of land operated. Thus, the definition could be done subjectively (qualitative criteria) or objectively (quantitative criteria). According to Calcaterra (2013), farm size (quantitative criteria) is a frequently used indicator, however, the relevance of one fixed number may differ across sectors and countries (e.g. a 25 ha sugarcane farmer in Rwanda may be considered as a large-scale farmer, while a 200 ha soybean farmer in Brazil as a small-scale farmer). One could also choose a definition which includes other indicators, such as labour input, farm management and income or other several indicators such as fixed thresholds, regional averages, their production capacities, market orientation, labour input and household income, farming system, legal aspects or land tenure.

Calcaterra (2013), made attempts to classify smallholder based on landholding by presenting the following landholding thresholds;

- Large farm: 75 ha – 500 ha
- Small farm: 10 ha – 74.99 ha
- Micro farm: < 10 ha

Multilateral Organisations such as FAO, World Bank and the Africa Development Bank (ADB) generally defined smallholders as farmers with 2 hectares of lands (FAO, 1991; World Bank, 2003; Dixon *et al.*, 2003). Thapa (2009) updates this definition by

saying that ‘smallholders are farmers with 2 hectares of lands who mostly depend on labour from household members’. The ADB seeks to adapt its smallholder definition to agro-ecological zones that eventually affect farming activities and the composition of farming portfolios.

Although ADB’s usual definition for smallholder farmers is normally limited to the concept of hectares of lands used for farming thus 2 hectares or below for smallholder farmers. An amplified definition by ADB (2010) includes population density as well as variable for land size holdings of smallholders. In areas with a high population density, smallholders usually cultivate less than one hectare, which may increase up to 10 hectares in more sparsely populated semi-arid areas (Tanyeri-Abur and Wattenbach, 2003 cited in Calcaterra, 2013). Given the variability and subjectivity in the definition of the term, one would want to agree with Calcaterra (2013), who conversely thought that ‘perhaps the simplest way to deal with smallholders is by not defining them’. Cousins (2010) also feared that the term is used in an inconsistent manner, referring, inter alia, to producers who occasionally sell products for cash as a supplement to other sources of income; to those who regularly market a surplus after their consumption needs have been met; and to those who are small-scale commercial farmers, with a primary focus on production for the market.

One of the main characteristics of production systems of smallholder farmers are of simple, outdated technologies, low returns, high seasonal labour fluctuations and women playing a vital role in production. Smallholder farmers differ in individual characteristics, farm size, resource distribution between food and cash crops, livestock and off-farm activities, their use of external inputs and hired labour, the proportion of food crops sold and household expenditure patterns (Sartorius and Kirsten, 2007).

Smallholder farmers can play an important role in livelihoods creation amongst the rural poor (Department of Agriculture, Forestry and Fisheries, 2012). Existing definitions of smallholder farming tend to obscure important differences between households engaged in agriculture. In the past the common term for small-scale farmers who rely mostly on household labour, and who sell at least part of their produce for cash, was ‘peasant’, and this is still a key term for some analysts (AkramLodhi and Kay, 2009, Hebinck and van Averbek, 2007, Van der Ploeg and Marsden, 2008).

Within the national context, MOFA maintains that agriculture is predominantly on a smallholder basis in Ghana with about 90 percent of farm holdings less than 2 hectares (MOFA 2006). Indeed, smallholders in Ghana, as elsewhere, are widely considered to be the largest as well as the most vulnerable component of the rural sector (Chamberlin, 2008). Various definitions of smallholders are accompanied by differing estimates of such things as their contribution to the agricultural economy and incidence of poverty among others exist in Ghana. Nyanteng and Seini (2000) state that over 90 percent of the country’s food production is derived from holdings of 3 ha or less land.

Chamberlin (2008) has also argued that, the term connotes limited land availability. Other dimensions may sketch a broader view of ‘resource-poor’ farmers for example, those with limited capital (including animals), fragmented holdings and limited access to inputs. On the contrary, Ghana Poverty and Social Impact Analysis implicitly argues that for Ghanaian farmers, different resource and risk conditions better define smallholders than simple measures of landholdings. Chamberlin (2008) further argues that, more nuanced conceptualisations of smallholders are difficult to measure.

Asuming-Brempong *et al.*, (2004), stress that quantitatively the precise definitions are elusive, in looking across a variety of working definitions for Ghana and elsewhere. Smallholders are engaged in the cultivation of several of the main bio-fuel feed stocks

and others, such as jatropha, oil palm, cashew, soya, sugarcane, maize and orange. Now based on the various concepts and ideas expressed on the term small holder farmer, this study defines smallholder farmer as a farmer with limited resource in terms of land, labour, crop yields, capital and technology.

2.2.2 Large Scale Landholders

Studies on the subject of large-scale plantation development definition remains scanty in literature. Within the global context, the World Wide Fund (WWF) contracted the Global Exchange for Social Investment (GEXSI) to conduct the first global market study on plantations such as sugar cane, jatropha, mango, cashew and others which draw a general picture of the current status and future outlook of project developments in Latin America, Africa, and Asia. The study considered both the scale of projects as well as into the different organisational schemes and cultivation methods, has defined and consistent the scale of land acquisitions. The GEXSI's report classified plantation projects less than 1000 ha (<1000 ha) to be pilot or medium-scale plantations. Within the national context however, any agro-investment projects of 40 hectares and above could be classified as commercial land in Ghana and needs to be environmentally assessed before implementation (EPA Guideline, 1999). It can be inferred that any land acquisition below the 40 ha of land is smallscale whilst above 40 ha is large-scale.

Following the definition of the standard of small holder farmers established in Chapter One, the land acquisitions in this study are all large-scale. Thus, Tsikata and Yaro (2011) report Solar Harvest Limited to have acquired 10,600 hectares of land for jatropha plantation in the Northern Region of Ghana whilst varying figures (although above 1000 ha) are reported for Scan farm in Asante Akyem Agogo. Schoneveld *et al.*, (2010a) for instance reports 30,000 hectares for Scan farm within the Asante Akyem

North District but Wisborg (2012) reports 304,000 hectares while Hamenoo (2014) reports 13,058.35 hectares within the same district of Asante Akyem.

2.2.3 Large Scale Land Acquisitions

The issue of large scale land acquisitions though not very new, has picked pace with increasing cases in the developing world. Hence it has attracted attention in academia. Following this, several individuals and organisations have attempted a definition of the concept.

From the reports of Friends of the Earth (2010), a Non-Governmental Organisation (NGO), the term — large-scale land acquisition harshly called ‘land grabbing’ 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 ‘large-scale land acquisition’ 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.

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 ‘Large scale land acquisition’ 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. Indeed, to them, the concept ‘large scale land acquisition’ 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 phenomenon of large-scale land acquisition of farmlands in Least Developing Countries (LDCs) has come to be known as Global Land Grab (GLG) (Makutsa, 2010) or Transnational Commercial Land Deals (Tsikata and Yaro, 2011) or Global Interest in Farmlands (World Bank, 2010). Woodhouse (2012) attributes the phenomenon to the weak regulatory and legal frameworks in the LDCs to protect the interests of existing land users. World Bank (2009) also attributes the phenomenon of large-scale land acquisition for jatropha and other plantations to the global demand for the use of clean and alternative sources of bio-energy against the threats of climate change. These demands appeared to have emerged from the developed countries.

The International Land Coalition’s (ILC) Tirana Declaration of 2011 on the other hand, defined ‘large scale land acquisition’ 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 ‘large scale land acquisition’ 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 by ILC has 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 acquired can be regarded as land grab or not.

The Food and Agriculture Organisation (FAO), International Fund for Agricultural Development (IFAD) and International Institute for Environment and Development (IIED) (FAO, IFAD, IIED, 2009) defined large scale land acquisition 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 large scale land acquisition 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, which will give them foreign exchange. This definition narrows the concept of large scale land acquisition to nations with food security problems and private investors, yet evidence from cases around the globe indicates that, it is not only ‘food unsecured’ 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 and other plantation to meet their energy targets.

Large scale land acquisition is also defined as a global situation whereby an agreement is reached between both foreign public and private investors and domestic states that allow 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 large scale land acquisition as merely the acquisition of large tracts of land without acknowledging that it includes the acquisition and control of water bodies and other resources of the environment that fall within the land area acquired.

From the point of view of VIVAT International (2014), large scale land acquisition includes land acquisitions by transnational corporations, business enterprises, private investors, and foreign governments through sale or lease contracts which sometimes can last a period of 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. Boomers (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, large scale land acquisition is done by foreign governments and International Corporations 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 instance, whereas VIVAT International (2014) recognises that land grabbing also includes water grabbing, Boomers (2010) failed to acknowledge that.

The National Association of Professional Environmentalists (NAPE, 2012) reported, large scale land acquisition occurs when farmlands used for food production by local smallholder 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 acquired for crop production for foreign consumptions, but hinted that some lands are also used 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 acquisition 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 large scale land acquisition 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 a nutshell, for the purpose of this study, the term large scale land acquisition is defined as the acquisitions, purchases and leases of agricultural lands belonging to local farmers in such a way that it undermines the livelihood assets of the affected people.

2.2.4 Livelihood

The term livelihood is complex to define. An attempt to develop a universally accepted definition has been said to be difficult (DFID, 2000). Some definitions have, however, been developed through extensive learning and practice to reflect the complexity of the concept. The most widely used definition of a livelihood system is from the work of Chambers and Conway (1992).

They defined the concept to comprise people, their capabilities and their means of living, including food, income and assets. The authors indicate that livelihood has a tripartite relationship where people survive by using their capabilities to make productive uses of their assets, which are both tangible (resources and stores) and intangible (claims and access).

According to Lakwo (2006) and Murray (2001), a livelihood comprises the capabilities, assets (i.e. stores, resources, claims and access) and activities required for a means of living. These assets are generally recognised within sustainable livelihoods theory as also identified by Carney (1998) and Ellis (2000) are summarised below:

- Natural (environmental) capital: natural resources (land, water, wildlife, biodiversity, environmental resources, and others).
- Physical capital: basic infrastructure (water, sanitation, energy, transport and communications), housing and the means and equipment of production.
- Human capital: health, knowledge, skills, information, ability to labour.
- Social capital: social resources (relationships of trust, membership of groups, networks, access to wider institutions).
- Financial capital: financial resources available (regular remittances or pensions, savings, supplies of credit).

This asset can be stored, accumulated, exchanged, or depleted and put to work to generate a flow of income or other benefits (Rakodi 2002). This study therefore adopts the definition of Lakwo (2006) and Murray (2001) as a lens through which livelihood would be viewed. Livelihood is the totality of individual assets capability contributing to wellbeing and activities required for a means of living.

2.2.5 Livelihood Outcomes

Bagchi *et al.*, (1998) use the term „*livelihood trajectories*“ to describe and explain the direction and pattern of livelihoods of individuals or groups of people (e.g. households). A livelihood trajectory approach allows the examination of an individual household’s —strategic behaviour that is embedded in a historical repertoire, in social differentiation (de Haan and Zoomers 2005) and in perceptions of risk. A focus on livelihood trajectories allows a deeper penetration into the beliefs, needs, aspirations and limitations of people’s lives, but one that is also contextualised in relation to power and institutions (de Haan and Zoomers 2005). Defined livelihood outcome as an increasingly important application of the livelihood trajectory approach in exploring the shocks and stresses that can affect livelihoods, as well as in elucidating the

characteristics of the overall livelihood strategy that contribute to increased resilience or vulnerability.

Livelihoods involve the use of assets in activities to produce outputs both to meet people's consumption requirements and aspirations and to invest assets and activities for the future. All these take place in the context of an uncertain environment. People therefore often face major challenges in matching the different production and income patterns on the one hand, with consumption and investment needs on the other. These challenges were particularly considered and resolved. It then became the outcomes when people cannot access financial market mechanisms for saving, borrowing and insurance: in such situations people craft livelihood strategies to try to match often intermittent resource availability with more continuous consumption demands, while also allowing for unexpected falls in their resource supply or increases in their demand (Dorward *et al.*, 2003).

2.2.6 Coping and Adaptation Strategies

Just as one needs to know what stressors are, so there is a need to know what kinds of coping strategies are at our disposal and its relationship to the study. Coping strategies are primarily concerned with psychological rather than physiological and genetic.

Landmark research on emotional stress led to discovery not only of physiological arousal reactions to signals of danger, but also the instinctive fight-and-flight coping patterns (Cannon, 1936). Response to changes are as vitally important to the survival and adaptation; however, it was not until that research on stress and coping was introduced to the larger scientific community as well as the public arena (Selye, 1976).

The next major development focuses on traits/styles of coping. Various scales have been developed to measure individual differences such as repressors vs. sensitizers

(Byrne, 1971), screeners vs. non screeners (Baum, Calnick, Davis, and Gatchel, 1982), monitors vs. blunders (Miller, 1979), and Type A vs. Type B individuals (Glass, 1977). More recent research favoring the trait approach includes McCrae's (1982) personality-based coping, Epstein and Meier's (1989) constructive thinking, and Carver, Scheier and Weintraub's (1989) dispositional coping styles.

Seminal publication continues to dominate the field because of its emphasis on identification of functional categories of specific coping behaviours to deal with specific situations. However, they provided a comprehensive definition of stress and coping: —The cognitive theory of stress and coping on which this discussion is based is relational and process oriented (Lazarus and Folkman, 1984).

In attempt to define coping, Lazarus and Folkman stated

—The relational characteristic is evident in the definition of stress as a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and as endangering his or her well-being. Coping refers to cognitive and behavioral efforts to master, reduce, or tolerate the internal and/or external demands that are created by the stressful transaction” (Lazarus and Folkman, 1984).

The evolution of coping has emphasised the following coping strategies as being important for future research: creative, proactive, collective, existential, and spiritual coping. Coping mechanisms can also be described as ‘survival skills’. They are strategies that people use in order to deal with stresses, pain, and natural changes that we experience in life. Coping strategies are learned behavioral patterns used to cope (Wong, 1993).

There are negative coping strategies and positive coping strategies. Many people use their coping strategies to benefit them in a positive way. However, they are not always able to cope with the difficulties that they face. The study revealed that many individuals experience a range of emotions throughout their lives, some good, some not so good. Behaviours are usually a result of how people handle their emotions. If they are able to handle the emotions positively, then the behaviour will likely be positive. However, if individuals do not handle their emotions in a positive way, then the behaviour will be negative. Coping can be defined as an effort to manage and overcome demands and critical events that pose a challenge, threat, harm, loss, or benefit to a person. The term coping often has been used in a more narrow sense as a response required of an organism to adapt to adverse circumstances (Lazarus, 1991).

In the context of a recent positive psychology movement, however, the conceptualization of coping is broadening and now includes self-regulated goal attainment strategies and personal growth as well (Snyder, 1999). The actual meaning is not only to serve the relevance of the situation and choice of coping, but also plays a vital role for coping conduct itself, especially coping that supports positive effects. In an effort to shed light on the "other side of coping," the authors identify three meaning-related coping strategies that foster positive emotions in the context of prolonged stress: positive reappraisal, problem-focused coping, and infusing ordinary events with positive meaning (Folkman and Markowitz, 2000).

2.3 Theoretical Framework

2.3.1 Review of Theories on Large Scale Land Acquisition

Theories such as the Modern World System theory, the Core-Periphery theory, the neo-Gramscian theory, Globalization theory, the Political Economy theory, and the

resilience theory are discussed below. The purpose of this theoretical review is to help our understanding on the emergence of modern large scale land acquisition issues.

The first theory is the Modern World System (MWS) theory which was developed by Wallenstein (1974). The bottom line of the theory is that the modern system was focused by Western capitalism in the sixteenth and seventeenth centuries has not been essentially altered (Wallenstein, 2004). Gilpin (1987) believes that this system reproduces itself with the result that the rich get richer and the poor get poorer.

Gilpin continues to argue that the theory is based on the Marxist act of faith, i.e. on the Marxist conception of social reality. The theory differs from traditional Marxism in that traditional or orthodox Marxism believes that capitalism has a historic mission to develop the world, while the MWS theory's main argument is that the world capitalist system under-develops the less developed countries (Gilpin, 1987). The theory distinguishes the modern world into three regions such as core, periphery and semi-periphery.

A theory that appeared to have complemented the MWS theory is the Core-periphery theory. Indeed, the Core-periphery theory was first developed by Friedman (1966) to explain how economic development and settlement systems or spatial structures evolved. According to him, for each major period of economic development which a country goes through, there is a corresponding structure of the space economy and it has transcended the simple notions of growth pole and growth centre. His coreperiphery concept has gone beyond distribution of resources which growth pole notion tried to address to encompass real problems of regional development in geographic space. The context upon which he introduces his concept is that of nations which are in transition from being a colony to independent economies. He believed that these economies usually have a single centre and a periphery that is loosely tied to

that centre. The centre and its periphery have minimal relationships and if developed, it is usually one-sided, where the periphery remains backwards and exploited and unable to grow because it is supporting the growth of the centre.

Baumann (2013) in his study —The Political Economy of Large Scale Land Acquisition linked Friedman’s core-periphery theory to world economies. He believes that the core regions benefited the most from the capitalist world economy. The core region is the industrialised and most developed region of the world. On the other end of the scale lay the peripheral zones, the so-called developing world.

Between the two lies the semi-peripheries.

These areas represented either core regions in decline or peripheries attempting to improve their relative position in the world economic system. In this view, the so-called emerging power nations are today’s semi periphery. According to Wallenstein, the semi-peripheries have always been exploited by the core. This leads to what Andre Gunder Frank (1972) and others called the —development of underdevelopment.

Neo-Gramscian theory is another renowned land grabbing theory and was developed by Cox (1983). According to Belier and Morton, the writings of Cox and his development of a critical theory of hegemony meant a —crucial break with mainstream international relations approaches (Bailer and Morton 2004: 86).

Like MWS theory (as earlier discussed), neo-Gramscian thought is based within Marxist ideology and goes back to the —acts of faith of the Italian thinker Antonio Gramsci. Scholars like Stephen Gill, Andreas Bailer and others have developed the neo-Gramscian perspective further (e.g. Gill and Law, 1988; Billing, 2013; Belier and Morton, 2001, 2003a, 2003b, 2004). The neo-Gramscian view establishes a fundamental challenge to conventional international relations theory. The Gramscian

theory focuses on the socio-cultural interplay between the ruler and the ruled within state struggles over hegemony leading to various avenues along which domination and resistance exist (Bieler and Morton 2003b). In fact, the theory provides fruitful insights into the dynamics and conflicts between —large scale land acquisition investors and the affected countries or communities (Baumann, 2013).

Other related concepts that seemed to be complementing the neo-Gramscian perspective are the Agropolitan concept and the Pedagogy of the oppressed. The Agropolitan concept for instance is based on the theory that any larger form of settlement in the rural areas will tend to exploit the rural people, thus, the urban elites, traders and local industries will draw resources away from the rural areas whilst the Pedagogy of the oppressed developed by Paulo Frère (2005) highlights the contradiction between the oppressors and the oppressed, and how it is overcome.

The globalisation theory also viewed in the globalization dimension in theoretical literature on the subject of large-scale land acquisition for plantation projects appears to be an emerging theory. This theory is credited to Margulis *et al.*, (2013) and Sassen (2013). Margulis *et al.*, (2013) for instance notes that, scholars of globalization have been absent from the debate on large scale land acquisition, indicating that the neglect is unfortunate because large scale land acquisition is emblematic of contemporary globalization. He argues that land acquisition speaks to many of the big questions that concern scholars of globalization. He notes also that from the perspective of economic globalization, large scale land acquisition has facilitated extensive and rapid flows of capital, goods, and ideas across borders.

Margulis *et al.*, (2013) further indicates that land grabbing occurs in the context of late capitalism and global multiple crises. He mentions that an important conclusion to be drawn from the globalization theory is that modern land grabbing is a —unique world

historical eventl (Margulis *et al.*, 2013: p18), because it shows that there is a shift in the global political economy towards a more polycentric configuration of power and production. This new polycentric configuration of power is a necessary theoretical conclusion from globalization theory because it helps to understand the emergence of —newl land grabbers from the semi-periphery of the world: China and India. Margulis *et al.*, (2013) argues that, contemporary global large scale land acquisition reveals many aspects specific to our era of advanced economic globalization (Korpi, 2013).

Hence, a broader understanding of power relations and political struggles that are in play in global governance institutions and practices dealing with large scale land acquisition. The next theory (political economy theory) therefore builds on the globalization theory.

The political economic theory is a sophisticated theoretical lens and analytical tool that appreciates that politics and economics are inseparable when dealing with resources in society (Chasukwa, 2013). Thus, this framework assumes that resources are allocated not on the basis of relative efficiency or merit but according to power. Brieger (2006) is reviewed to understand the main beneficiaries and losers of largescale land acquisition as a major source of livelihoods for majority of people in Ghana.

States and societies transit or transform through integration of the global political economies (globalisation), various vulnerability scenarios are created, hence the need for communities to develop resilient characteristics to adapt to the effects and hence, the resilience theory. The Resilience theory emerged in the 1970s from the research of Holing (1973) to help understand the capacity of ecosystems with alternative attractors to persist in the state or community subject to perturbations (Folk *et al.*, 2002). Holing (1973; p 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 brief, the resilience theory best describes the ability of a system (community or state) to absorb turbulences 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 Seeliger and Turok, 2014). The theory indicates that since humanity depends on ecosystem services for wealth and prosperity, there is a significant relationship between ecosystems and humanity (Carpenter *et al.*, 2001). 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 Seeliger and Turok, 2014).

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’ (ability to withstand transformational changes). 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). These smallholder farmers from developing countries become poor after losing their lands on which they derive their livelihood while the large scale investors further enrich their

developed countries. Based on this assertion this study is based on the Modern World System (MWS) theory and the Political Economy theory.

2.4 Philosophy of Large Scale Land Acquisition

Poverty is often associated with hunger, and in 2008 there were an estimated 1 billion hungry people in the world. At the height of the recent food price crisis, the Food and Agriculture Organisation (FAO) announced that in order to meet the world's growing needs, food production would have to double by 2050, with the required increase mainly in developing countries, where the majority of the world's rural poor live and where 95 per cent of the population increase during this period is expected to occur (FAO 2008a).

Convergence of global crises (financial, environmental, energy, food) in recent years has been contributing to a dramatic reappraisal of and rush to acquire land, especially land located in the global South. Transnational and national economic actors from various business sectors (oil and auto, mining and forestry, food and chemical, bioenergy, etc.) are eagerly acquiring, or declaring their intention to acquire large swathes of land on which to build, maintain or extend large-scale extractive and agro industrial enterprises. National governments in developed and developing countries are looking to secure their own food and energy needs of the present and the future. This makes Borras and Franco (2010) to affirm their philosophy of large scale land acquisition is based on its contribution to shortage in global food and fuel shortage.

Land in the global South has been coveted for multiple reasons historically. But currently, there is momentum building behind an apparently newer idea: that longterm control of large landholdings beyond one's own national borders is needed to supply the food and energy needed to sustain one's own population and society into the future

Different evaluations recommend that the aggregate terrains executed in this setting achieved 20 million hectares in 2005 and mid-2009 (Grain, 2008, Cotula *et al.*, 2009, IFPRI, 2009). Many of large scale land acquisitions are Transnational Commercial (TNC) driven, outside government-driven, yet quite often in close association (or agreement) with national governments. Now and again excessively national governments are effectively looking for conceivable land speculators. The merging of the different emergencies has prompted a revaluation of land, towards huge increments in monetary esteem which does not look good for the world's rustic working poor.

The phrase ‘global large scale land acquisition’ has become the most used phrase to describe and analyse the current explosion of large scale transnational commercial land transactions. Around the world, there have been strong reactions from states, corporations, and civil society groups. Some see land grabs as a major threat to the lives and livelihoods of the rural poor, and so oppose such commercial land deals. Others see economic opportunity for the rural poor, although they are wary of corruption and negative consequences, and so call for improving land market governance (Borras, 2010).

Over the past years, the convergence of global crises in food, energy, finance, and the environment has driven a dramatic revolution of land ownership. Powerful transnational and national economic actors from corporations to national governments and private equity funds have searched for ‘empty’ land often in distant countries that can serve as sites for fuel and food production in the event of future price spikes (Borras *et al.*, 2011)

Deininger *et al.*, (2011) stress that remote land acquisitions can be required to encourage country advancement by making work, expanding profitability, and enhancing market development. Others additionally contend that outside interest in

land adds to foundation improvement (Herrmann and Grote, 2015), trade openings and vitality security (Mitchell, 2011). Applying a likewise positive conclusion to that of Platteau (1996) who applies a customary law and financial aspects way to deal with property rights in the soul of Dements (1967) to the African setting. He predicts that the ascent in business weight ashore created through land acquisitions ought to prompt a more grounded land residency framework, expanded interests in agribusiness and more effective generation.

A conjunction of variables on the worldwide stage has throughout the most recent decade prompted a fast development in the degree and size of transnational interests in farmlands. Expanded interest for assets by China and other developing economies, strategy responsibilities to biofuels and sustainable power source, rising and precarious product costs, and enhanced venture prospects for future interest for water, sustenance, and vitality planned to make speculations progressively alluring (Anseeuw, Alden Wily, Cotula, and Taylor, 2012; Cotula, 2011; De Schutter, 2011a, 2011b; World Bank, 2011)

Large scale land acquisition hinges on the concept of solving pressing societal and global issues while contributing to sustainable use of natural resources and protecting the environment as this study sides with LSLA philosophy, but the philosophy of this study goes beyond that of LSLA to include the effect of LSLA on the host communities. It is only rational that solving global and societal needs should bring about the well-being of all human race than bettering the needs of others while destroying the livelihood of the host communities (Abease, Kobre, Adventura, Prang and Kadue), which has been the case at the Pru District Assembly in Brong Ahafo Region.

2.5 The Process of Large Scale Land Acquisitions

Large scale land acquisition involves a wide range of actors at community, local government, national government, and international investment levels. To fully understand a land acquisition and its effect on a community, it is also important to understand the complexities of the pre-acquisition process and its attendant outcomes that occur as a result of the acquisition (Behrman, 2011).

Behrman (2011) revealed that acquisition of large agricultural land is usually initiated through a process of consultation and negotiation that will eventually lead to a contract formally enunciating the terms of the acquisition. The multiplicity and diversity in this process and the extent to which local participation is involved has important implications for livelihood strategies of local men and women. Bending and Taylor (2009) showed several cases of outright illegal land acquisitions in Sudan where lands have been acquired outside the national law. However, this is not to say that land is always acquired inequitably or that the acquisitions are always illegitimate by all parties. Governments may not acknowledge customary rights of local users, a practice that is legal but that disregards the norms and needs of longstanding local users (Behrman, 2011). Cotula (2010) opined that the justification of land acquisition based on the notion of —unused lands needs to be critically examined. According to Behrman (2011), the first stage in large scale land acquisition is the identification of idle land depending on whether such lands are customary or privately owned as well as the users of these land identified.

This plantation project in Southern Mozambique is part of a much wider, global process. Over the past few years, agribusiness, investment funds and government agencies have been acquiring long-term rights over large areas of farmland in Africa.

Government concerns about food and energy security and private sector expectations of increasing returns from agriculture underpin much recent agricultural investment.

Some have welcomed this trend as a bearer of new livelihood opportunities in lower-income countries. Others have raised concerns about negative social impacts, including loss of local rights to land, water and other natural resources; threats to local food security; and the risk that large-scale investments marginalise family farmers.

Very little is known about the exact terms of land deals in Africa. Negotiations usually happen behind closed doors. Only rarely do local landholders have a say in those negotiations. Few contracts are publicly available. Yet, together with applicable national and international law, contracts define the terms of an investment project, and the way risks, costs and benefits are distributed. The authority to sign the contract and through what process greatly influence the extent to which people can have their voices heard. The terms of the deals can have major and lasting repercussions for agriculture and food security in recipient countries (De Schutter, 2009).

A few caveats are in order. Land deals come in many different shapes. Despite their diversity, the contracts in the sample cannot be considered as —representative of wider trends in a statistical sense. In addition, each —deal may involve multiple contracts and legal instruments – from a Memorandum of Understanding (MoU) outlining key features of the deal to an Investment Agreement or Convention of Establishment that regulates the investment as a whole, through to a Land Lease Contract or other instrument that actually transfers the land or parts of it. Some deals integrate these different aspects into a single document. Separate contracts may regulate lending, taxation, shareholding in joint-venture companies, technical or engineering services, or supply chain relationships. Contracts must also be read in the light of the rules of national and international law that regulate the project. National law regulates issues like land, water and resource rights, taxation, investment

promotion and environmental protection. International law sets fundamental human rights and protects foreign investment (Cotula, 2010).

The central role of the state in land allocations reflects trends in national law. In most African countries, land is owned by the state. For instance, land is nationalised in Ethiopia, where private land ownership is outlawed and only long-term land leases may be acquired. Other countries do allow private ownership, which may be acquired through land registration procedures (for instance, in Cameroon and Mali). But even in these cases, costly and cumbersome procedures mean that very few rural people hold ownership rights (Egbe, 2001, on Cameroon; Djiré, 2007, on Mali). In addition, where customary tenure systems are functioning and perceived as legitimate, local resource users may feel they have sufficient tenure security under these systems without needing to seek formal title. In Cameroon, for example, only about 3 percent of the land has been formally registered and is held under private ownership (Egbe, 2001), mainly by urban elites such as politicians, civil servants and businessmen (Firmin-Sellers and Sellers, 1999). As in many jurisdictions all untitled land is owned or otherwise held by the state. Governments end up controlling much rural land even where the statute books devote numerous provisions to regulating private ownership.

The problem is that the customary rights of local people may have no or little recognition under national law. This circumstance is historically rooted in the colonial experience, when colonisers treated conquered lands without visible developments as being empty and brought them under state ownership, and in decades of postindependence law-making shaped by single-party regimes or military dictatorships (Alden Wily, 2010). In countries like Cameroon and Ethiopia, where customary rights are not legally recognised, and even in countries like Mali, where customary land rights enjoy legal protection, national law considers most rural people as having qualified use

rights on land owned or administered by the state. As a result, the government has sole legal authority to sign off transactions.

Governments and investors may still undertake local consultations, but in many publicly reported deals in Africa local people are not properly consulted (World Bank, 2010) and are therefore vulnerable to dispossession. Several government agencies may be involved – even in countries that have created a central point of contact (so called —one-stop shop^{ll}) for prospective investors. This could create some confusion. In Mali, contracts are signed by the Minister of Agriculture; in such cases, the contract may commit the government to —do all that is necessary^{ll} to ensure that the authority that is formally empowered to allocate land will give effect to the deal (Roudart and Even, 2010).

In Ghana, the Lands Commission examine the potentials of the land deal which will not conflict with the development plan drawn up or approved by the planning authority of the area. The Lands Commission's oversight of land deals concluded through the Traditional Council (TC) is, therefore, at best perfunctory and fails to hold the TC accountable to the land trusteeship principle enshrined in the Constitution and in the National Land Policy (Ubink and Quan, 2008). Before or after land approval has been obtained, the investor will need to register its business with the Ghana Investment Promotion Centre. It is only at the stage when production is about to commence that the Environmental Protection Agency and, sometimes, the Water Resources Commission are usually contacted to obtain environmental and water permits, respectively (Ahwoi, 2010).

The absence and lack of involvement of statutory agencies (such as the Lands Commission, EPA and WRC) that can provide relevant technical knowledge and

information during the land negotiations process means that issues such as water availability vis-à-vis water requirements of large-scale jatropha production, impact of production activities on water rights of other users, their livelihoods and the environment get short-changed and are not even discussed at all. The old chiefs in the traditional councils are limited in their technical knowledge and often get excited about the employment and modern amenities that investors promise to bring to their villages that they overlook the long-term impacts of large-scale land deals (Williams *et al.*, 2012). In the study areas, customary landownership is controlled and managed by a Traditional Council comprising the area's paramount chief and elders. The traditional council as the 'allodial title holder' holds the ultimate right to withdraw user rights and reallocate and alienate land (Sarpong, 2006). It is the traditional council that holds the sole authority to negotiate with investors seeking to lease land. Article 266 (4) of the 1992 Constitution stipulates that non-citizens cannot be granted leasehold for a term exceeding 50 years at any one time.

The primary government institution on land matters is the Ministry of Lands, Forestry and Mines. However, a number of statutory agencies have been set up to perform land rights administration, management and regulatory functions. Three of them – the Lands Commission, the Office of the Administrator of Stool Lands (OASL) and the Environmental Protection Agency (EPA). The involvement of the Lands Commission in large-scale land acquisition deals derives from Article 267(3) of the 1992 Constitution which stipulates that there shall be no disposition or development of any stool land unless the Lands Commission of the region in which the land is situated has certified that the disposition or development is consistent with the development plan drawn up or approved by the planning authority for the area concerned. In addition to the Lands Commission, an independent Office of the Administrator of Stool Lands (OASL) was established in 1994 (Act 481) to, among other things, collect rents and

royalties from stool lands and disburse them to the stool (royal family), the traditional council and the local government authority (District Assembly). (Ahwoi, 2010).

More specifically, the Environmental Assessment Regulations, LI 1652 of 1999 require that all development activities likely to impact adversely on the environment be subject to an environmental assessment. An investor growing a crop such as jatropha on a large scale is expected to submit to the EPA an EIA, including an Environmental Management Plan (EMP) detailing impact mitigating measures. The EIA is supposed to cover ecological, environmental health, hazard and risk, noise, and socio-economic and water-quality impacts. When the EPA approves the EIA and EMP, the investor is issued an environmental permit to commence business. If the EIA and EMP are diligently conducted and prepared, they will partly serve to ensure that LSLAs lead to positive and beneficial social, economic and ecological outcomes for all stakeholders (William *et al.*, 2012).

In the Brong Ahafo Region, companies acquired their lands in a similar way through direct negotiations with the customary landowners, i.e., the paramount chiefs of the areas where they are located. In each case, the process started with the investor paying a visit to the Traditional Council (TC) to express interest in acquiring land in the area. During this visit, 'drink money' (previously a bottle of schnapps) is presented to the Traditional Council to acknowledge their ownership of the land, to demonstrate allegiance and for the customary pouring of libations on the ground to seek the 'gods' blessings for the transaction. Once the drink money is paid, the investor can inspect the land and begin the negotiation. The parties negotiate the price to pay, the size of land to be allocated, the duration of the lease and any other covenants stipulated by the TC. Once all terms are settled, an indenture is prepared to signify the conclusion of the land deal. Up to this point, no statutory agency is involved and rarely is any of the

existing land and water rights holders informed of, or consulted over, the land transaction. The financial capital, new technology and technical know-how that the investors bring coupled with the promise of increased employment and improved social amenities (schools, health clinics etc.) are some of the factors that made it possible for them to acquire large tracts of land. After the investor has concluded terms with the TC, the next step is to seek the concurrence of the Lands Commission which then issues a certificate of concurrence to approve the land deal (Hamenoo, 2014).

2.5.1 Trends in Large Scale Land Acquisition

2.5.1.1 Global Trend of Land Acquisition

In recent times Africa has become the major target of the large-scale land acquisition, accounting for 134 million hectares of reported land deals, of which 34 million hectares have been cross-referenced (Anseeuw *et al.*, 2012.). Seventy percent of the current land demand is targeted at Africa to meet the growing energy demand especially in the developed nations (Deininger *et al.*, 2011). Globally, Asia is leading in large scale land acquisition especially for the cultivation of jatropha and other plantations, accounting for 85 percent of jatropha plantations, with Africa comprising of 12 percent and Latin America trailing behind, with an initial global land under jatropha cultivation about 900,000 ha. However, it was estimated that by 2015, jatropha, cashew, mango and other plantations would be planted on 12.8million ha.

Africa would be the second largest producer with Ghana and Madagascar as the largest producers (Brittanie and Lutaladio, 2010).

2.6.1.2 Trends in Africa

Africa has been identified to be one of the most attractive continents for large scale plantation due to its favorable environment, political, and socio-cultural environment for the large-scale production of feedstock such as jatropha, rice, cashew, mango and

others. This has led to influx of both international and local investors into the plantation business. Mali and the Cape Verde Islands have a long experience in cultivation of jatropha and others providing for domestic energy supply. Literature reveals three broad categories of investors in Africa; these are the oil-rich Gulf States like Saudi Arabia, United Arab Emirates, Qatar, Bahrain, Oman, Kuwait and Jordan; Asian countries such as China, South Korea, Japan and India; as well as western and multinational private companies (Friis and Reenberg, 2010).

The Ghana government published a strategic energy plan in 2006 which aimed at producing 10 percent of biodiesel by the end of 2015. It was also mandated to produce biodiesel for electricity and transport by the end of 2020 to the interest of global and domestic needs (Hamenoo, 2014). Hamenoo in his study identified 17 commercial biofuel developments in Ghana and out of this 15 were owned by foreign companies and financed by some individual Ghanaians.

Jatropha plantation consisted of jatropha plantation by foreign owned companies. According to Schoneveld *et al.*, (2011) policy brief on land grabbing identified an estimate of 1,075,000 ha of lands located in the forest-savannah transition zone comprising Northern, Brong-Ahafo and Ashanti regions of Ghana owned by foreign companies.

2.5.2 Drivers of Large Scale Land Acquisition

According to the Energy Center (2008: p. 2), it is the environmental consequences of fossil fuels on the atmosphere, a phenomenon which has been shown to be responsible for global warming and the high cost of fuel that has stimulated the drive to look for these alternative sources of energy. This drive became necessary in reducing dependence on fossil fuels with clean energy as a long term effort for climate change mitigation (Antwi *et al.*, 2010; Kemausuor *et al.*, 2013; Sindyigaya, 2011).

Since 2005, there had been an unprecedented growth in global biodiesel demand, production, and production capacity (Biofuels International, 2007; ActionAid, 2009). Because several studies (Herzog *et al.*, 2001, Annie, 2006, Nature, 2007, Agency, 2008, Cotula *et al.*, 2008, Gaia-Foundation, 2008, GEXSI, 2008) have shown the biodiesel potential of such products as jatropha over the last decade, development and demands for these products continue to rise within and between countries. The increasing demands for traditional feedstock (raw materials) have contributed to a host of concerns on the implication these trends could offer for access to land and food crop production (Thurmond, 2007).

It is indeed remarkable to recall that,

—...the world's population has tripled since the United Nations was created immediately after the Second World War. And our numbers keep growing. So do the pressures on land, energy, food and water”. (Moon, 2011: 66th UN General Assembly Address).

The consequences of the pressures on these resources could continue to leave negative peals and impact on men, women and their livelihoods now and in the future. The resultant effects could be seen to retreat the global successes so far chalked by the United Nations in promoting a better world through the Millennium Development Goals (MDGs) environmental sustainability and poverty reduction or hamper future efforts consolidated in the roll of Sustainable Development Goals (SDGs). This is because, conventionally, there is significant relationship between access to land, water and food production.

Conventional energy sources based on oil, coal, and natural gas have proven to be highly effective drivers of economic progress, but with environmental implications. Climate change puts us all at risk, but it hurts the poor first (Sustainable Energy for All, 2013). The key to this challenge is to provide sustainable energy for all (SE4All). The United Nations SE4All sought to achieve three main goals by 2030 through ensuring universal access to modern energy services, doubling the global rate of improvement in energy efficiency and doubling the share of renewable energy in the global energy mix.

It is now clear that any effort to maintain atmospheric levels of CO₂ below even 550 ppm cannot be based fundamentally on oil and coal-powered global economy, barring radical carbon sequestration efforts. The potential of renewable energy sources are enormous as they can in principle meet many times the world's energy demand. (Herzog *et al.*, 2001).

On the grounds of sustainability, Herzog *et al.*, (2001) argued further that if land surfaces of 400-700 million hectares were used for biomass production for energy about halfway the next century, it could be done without conflicting with other land use functions and nature preservation. They partly attribute this assertion to better agricultural practices and partly by making use of huge areas of unproductive degraded lands. Their conclusion gives impetus to the conceptual problem and the hypotheses underlining this study (see Chapter One).

Several scholars also note that bio-diesel is carbon neutral because all the CO₂ released during consumption is sequestered from the atmosphere for the growth of plants and therefore causes no environmental pollution and are thus considered

‘green’ (Pandey *et al.*, 2012; El-Bassam, 1998; Herzog *et al.*, 2001; Khan, 2009).

Sadly, pressure on land is becoming an uncontrollably phenomenal and increasingly

large-scale in recent times towards meeting the demand for energy crops is on ascendency.

The European Union countries have set targets in their energy policies in an attempt to cap greenhouse gas emissions and other climate change related issues. In 2009 for example, European countries adopted the Directive 2009/28EC, which declares that each member state should achieve, among other targets, a minimum ten percent share of renewable energy consumption of fuel in the transport sector by 2020 (Franco and Borrás, 2010).

In the United Kingdom, there is an incentive that requires local fuel suppliers to have a certain percentage of agro-fuels in their aggregate sales or face a penalty of fifteen pence per liter. These kinds of measures have motivated investors (governments and/or private sector) to invest in the bio-fuel production, mostly using farmland overseas (Sindayigaya, 2011).

In fact, country by country targets and demands for the use of alternative sources of bio-energy also exist. This according to Dunmore (2012) include target levels of 1520 percent biodiesel mandate by 2020-2022 set by Brazil; 8 percent to 10 percent for Argentina; 2 percent for Canada; 3 percent for British Columbia; China with 10 percent by 2020; US has annual targets with 2014 target being 3.75 percent; India with 20 percent by 2017. The European Union (EU) also targeted 10 percent substitution of diesel and petrol with biodiesel and ethanol in their mainstream fossil fuel consumptions (Wetlands International, 2008) whilst Africa has no clear targets although efforts are emerging in that direction (Dunmore, 2012). Ghana for instance has a target of substituting national petroleum fuels consumption with biofuel by 10 percent by 2020 and 20 percent by 2030 (Energy Commission, 2010). The country's

Energy Strategy also sets a goal of renewable energy constituting 10 percent of national energy generation by 2020 (Sustainable Energy for All, 2013).

As a result of these targets, large-scale land acquisition for plantation of feedstock and biofuel development has intensified in recent times. Indeed, these targets are largely based on demands from the global markets and the industrialized economies.

Already, several countries including a surging number of developing countries have adopted or are in the process of adopting policies to promote liquid biofuel development. Typical among these countries are the United States, the EU, Brazil, Canada, Australia and Japan (Kemausuor *et al.*, 2013) whilst notable countries in Africa with biofuel strategies and policies in place are South Africa, Mozambique, Ethiopia, Senegal and Mali, including Ghana (Energy Commission, 2010).

The demand for agro fuels has increased rapidly over the past several years as oildependent countries establish ambitious targets for agro fuel production and for incorporating biodiesel and bioethanol with traditional transport fuels (Shepard, 2011). As a result, the use and production of biofuels has increased rapidly in recent years such that according to Mitchell (2008), the quantity of US corn used to produce ethanol increased by 53 million tons between 2002 and 2007, representing 30 percent of the total global growth in wheat and feed grains used (Shepard, 2011). Due to this demand and market, investors mainly from the private sector and European OECD member countries have targeted vast tracts of land to produce crops for agro-fuels in developing countries owing to low labour and land costs and, in some cases, land availability (Haralambous *et al.*, 2009; Shepard, 2011).

The World Bank for instance has estimated that approximately 56 million hectares of farmlands were leased or sold in the year 2009 alone (Sindayigaya, 2011) and more

than 70 percent of such lands are found in Africa (Wily, 2010; Deininger *et al.*, 2011; World Bank, 2011). International gatherings like the Copenhagen Summit on climate change held in 2009 dubbed —Cop 15 — and the Sustainable Energy-for-All Conference held in Brazil in 2012 dubbed —Rio +20— strongly voiced global decisions and efforts on the need to resort to alternative sources of sustainable and renewable energy in arresting future climate change problems.

These global voices indeed point hand to the use of clean and renewable energy in the interest of promoting regional and global carbon economies and emission reductions. Various commitments were made by governments, the UN, intergovernmental organisations (IGOs), non-governmental organisations (NGOs), civil society organisations (CSOs) and the private sector. Collectively, these tangible commitments led to the realization of more than \$500 billion in actions towards sustainable development (Rio +20, Voluntary Commitments, 2011).

Clearly, the subject of large-scale acquisition, as a phenomenon is indeed prevalent in Ghana with acquisition of 2000ha identified in 2008 and projected to reach 600,000ha by 2015 (GEXSI, 2008). Schoneveld *et al.*, (2011) also identified a total of 17 commercial biofuel development companies in Ghana out of which fifteen are foreign-owned and/or financed by some individual Ghanaians.

Schoneveld *et al.*, (2011) further found that thirteen of the foreign companies focus primarily on the cultivation of jatropha, one on cassava and another on oil palm.

Similarly, the National Jatropha Plantation Initiative (NJPI), which was initiated in 2006, targeted developing up to one million hectares of jatropha plantations by the year 2010 on available idle and degraded lands in phases for the next five to six years.

Although, much remain unknown about the outcome of this initiative, it was reportedly estimated that by August 2009, the jatropha companies collectively had access to 1,075,000 hectares of land, 730,000 hectares of which is located in the forest-savanna transition zone of central Ghana made up of Brong-Ahafo, Northern and Ashanti regions (Schoneveld *et al.*, 2011; Policy Brief on Land Grabbing, 2012: p5). Examples of these large-scale land development companies include Biofuel Africa Ltd (Solar Harvest), found to have acquired 10,600ha of land in the Yendi District (Tsikata and Yaro, 2011; FAO, 2012) but 10,847ha was subsequently reported by Bugri (2012), Scan fuel (now Scan farm) Ghana Ltd which was reported to have acquired 304,000ha of land in the Asante Akyem North District (Wisborg, 2012) whilst Hamenoo (2014) found 13,058.35ha in recent studies on the subject.

This section therefore concludes that growing global attention placed on large scale land development is as a result of scientific investigations into renewal or biological energy and the quest for its incorporation into the global energy mix. Whiles these scientific investigations are acknowledged in helping to relatively reduce the conventional fossil fuel (petrol, diesel and paraffin) dependency, the resultant implications on land access as well as land use dimensions and on smallholder livelihoods have become topical in recent times, a discourse this chapter seeks to present. This section of the chapter concludes further that current discussion on large scale land acquisition is dominated by the energy and climate change concerns. Feedstock cultivation for biodiesel production appeared divided between food and non-food crops in the literature. Whiles the food crop feedstock (soybean, corn, rapeseed, sugarcane, etc.) has meanly invited global concerns on food security, the non-food crop feedstock option continues to invite not only food security but also land security concerns.

What is however missing in the large scale land acquisition debate is a discussion of the viability of feedstock production from the perspective of smallholder farmers in developing countries and the adoption of out-grower models and its implications from commercial plantation projects and investor production costs. The section finally concludes that renewable forms of energy are considered —green because they cause little depletion of the earth's resources, have beneficial environmental effects, and will cause negligible emissions into the carbon economy during power generation.

2.6 Effects of Large Scale Land Acquisition on Livelihood Assets

Despite evidenced researches on the ability of large scale land acquisition to providing a safe, cost effective and sustainable bioenergy which gained grounds after the escalating global oil prices in 2006 (Schoneveld *et al.*, 2010), a lot of questions have been raised by many researchers and some developing countries concerning the net impacts of large scale land acquisition for plantation on the livelihoods of people in project communities. Schoneveld *et al.*, (2011) summarises that, large scale land acquisition for plantation could either make invaluable contribution to reducing rural poverty or worsened the socio-economic conditions and environment of project based communities.

Supportively, Danso (2015) opines that, production could be used as a means to developing rural communities when the project adheres and considers the traditional land tenure systems with the consent of host communities. Levidow and Helena (2010), also sees the positive aspect of large scale land acquisition purposively for plantation, positing that large scale land acquisition for raw material production will not divert resources from food production. In contrast, a number of researches stand tall disapproving large scale land acquisition for plantation purposes; postulating that the situation has rather worsened livelihoods of host communities. Matondi *et al.*, (2011)

add that there are still a lot of arguments on the local benefits among advocates of biofuels in terms of employment creation, infrastructure, higher standards of living, etc. In some extreme instances, Levidow and Helena (2010) stress that large-scale jatropha cultivation has actually generated conflicts over resources in Africa (notably in Mozambique and Tanzania) and Asia. This occurs when most projects contribute to the loss or damage of the livelihood assets of the host communities with Schoneveld (2010) warning that the phenomenon can significantly exacerbate rural poverty as communities lose access to vital livelihood resources. Matondi *et al.*, (2011) report from the Minister of Energy in Mozambique that about 41 million hectares of marginal land could be used for jatropha plantation and other 36 million hectares could be used for biofuel cultivations without a threat to food production.

Buttressing the stance of the opponents to large scale land acquisition for jatropha plantations, Schoneveld (2010), Action-Aid (2010a, 23) cited in Daley (2011) recount the ordeal women farmers in Mozambique and Tanzania wallowed in after losing their farm lands to jatropha plantations. The farmers have reportedly lost their assets, the only farm lands on which their livelihood depended. Action-Aid (2010b, 28) presented a similar case, cited in Daley (2011) that a good number of Ghanaians and Senegalese have lost their ‘marginal’ lands on which was their main source of food, fuel and incomes.

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 greenhouse 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)

Assessing the effects of the project on host communities in relation to the adopted six livelihood assets of the sustainable livelihood framework, some positive responses have been achieved. Danso (2015) in a study of the Northern Ghana, had noted that the activities of Bio-fuel Africa Ltd had led to the generation of additional social assets in project host communities including grind-mill, dams, and a clinic.

Improving on the human capital, Vermeulen *et al.*, (2010) relate a case in Mali where the company had provided technical assistance to farmers in order to enable them improve on their agricultural activities.

Some instances of large scale land acquisition have impacted on the financial assets of host communities. Wujenja and Wonani (2012) upon studying found out that the project had contributed to long term public revenues. Also Abbink (2011) presents a case of foreign entrepreneurs in Ethiopia who have contributed to the revenue base of the government by paying land lease fees. A local farmers union in Mali has been able to invest and have 20 percent share in a Dutch funded project (Vermeulen *et al.*, 2010).

Another unfortunate instance has been relayed from Kisarawe district in Tanzania, where the project has led to the displacement of peasant farmers from their suitable agricultural lands to less productive lands. Succinctly put, Lyimo (2011) relays that

large tracts of fertile land either used or suitable for food production had been usurped by the 'project'. A hidden reality has been exposed by Larsen (2012) who accepts that between the periods of 2006 and 2008, 1750 people were employed by Bio-shape. Paradoxically the region of Kilwa eventually ran into food deficit. However, an opposing view has been presented by the Environment Project Brief of Zambia (n.d) that such projects will eventually lead to food security as labour income will more than compensate for the loss of land area (cited in German *et al.*, 2012).

Exploring further on the issue of loss of livelihood assets, Abbink (2011) laments that, the lands lost to the foreign investors espouses threats to host communities on their existing livelihoods, as the lands in Benishangul Gomez and Afar regional states in Ethiopia that were used for shifting cultivation and dry season grazing were no more. Finco and Doppler, (2010) presented that the food insecurity situation among smallholders was worsened after their farms (on which they cultivated maize, rice and cassava) were replaced with jatropha cultivations. Exacerbating the loss of assets by most people, Levidow and Helena (2010) present a case in Mozambique where the plantation led to the attraction of pests which destroyed nearby food crops.

2.7 Determinants of Effects of Large Scale Land Acquisition on Livelihoods

According to Deressa (2013), the question of whether large scale land acquisitions and portfolio combinations result in positive or negative change on sustainable livelihood outcome indicators is determined by other factors as well. First, the level of livelihood intensity, other than the total number of sustainable livelihoods created, is crucial in determining the effect of large scale land acquisition on livelihood of land occupants (Chambers, 1987 cited in Scoones 1998). In other words, combining livelihood resources creatively and innovatively, often in complex ways, may help improve livelihoods in a particular area. For instance, investment in labour and skills can

transform degraded land there by resulting in accumulation of natural capital and thus paving the way for more livelihood opportunities. In addition, by creating local economic linkages and recirculating knowledge, skills and resources proved to have increased farmers livelihood intensity to avert the negative impact of large scale agricultural land acquisition on local livelihoods in Bake Tibe Worde of Oromia region, Ethiopia (Deressa, 2013). According to Liu (2014), the vibrant national institutions with the capacity to effectively appraise investment proposals of large scale land investors, improve the design of the investment proposal, ensure local stakeholders participation and enforce regulations is crucial to ensuring positive impact of large scale agricultural projects on the livelihoods of host communities. Liu (2014) further reported that higher education of residents of local communities is required for minimal negative effect of large scale land acquisition on their livelihoods and increase project success. Thus, local communities with efficient and effective organisation, solidarity, collaboration, high civil society organisations (CSOs) capacity, in particular farmer organisations and where members participate actively in decision making and have a relatively high level of education and technical knowledge are likely to negotiate better land deals and as a result, benefit more rather than suffer the outcome of large scale land acquisition (Liu, 2014)

2.8 Effects of Large Scale Land Acquisition on Livelihood Outcomes

The effects of large scale land acquisition 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 acquisition 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 acquisition’ or large scale land acquisition.

There have been scholarly debates on the benefits or otherwise of large scale land acquisition for plantations on affected people. For the proponents, numerous positives can be cited stretching from environment to economic. Yet, enough evidence has equally been gathered on the adversities that large scale land acquisition for purposes of plantations has had on affected persons. The International Union for Conservation of Nature (ICUN,2008) precisely described the phenomenon as a shift from sustainability to non-sustainability. In their view, the poor subsistence farmer is denied his livelihood in order to gratify the interest of the rich fuel consumer, exports of goods, government policies. Grain *et al.*, (2014) agreed with this view and further asserted that such actions by multinational companies leave affected people who are mostly dependent on the land with diminutive alternatives and thus impoverishes farmers. There are a number of effects associated with the decrease of land holding size by smallholder farmer, mainly on household economy and food security. Nega *et al.*, (2003) reported that landholding is a major factor constraining household farm income and household food security in Ethiopia because declining landholding led to decline per capita food production and farm income, indicating that small-sized farms were not productive enough, even with improved technology . According to Nepa *et al.*, (2003), the consequence of declining landholding size is that it reduces the following practices or shortens the fallow cycle and rotation, which in turn resulted in declining soil quality and fertility.

Remarkably, the positivist view of large scale land acquisition has pointed on some occasions to the compensation offered affected people (Boamah and Overa, 2016, Boamah, 2010 and Mahonge, 2012) and others proposing appropriate compensation as a mitigating measure (Geuder-Jilg, 2014 and Hunsberger, Bolwig, Corbera, and Creutzig, 2014). On the other hand, claims of non-payment and inadequacy of compensation has dominated the scenes (Wendimu, 2012, Cotula, Vermeulen,

Leonard, and Keeley, 2009, Schoneveld, 2011, Hamenoo, 2014 and Ansoms, 2011). It then holds that compensation has not done enough hence alternative means are being sought by affected people to cope with the adverse effects of this land dispossession. According to Wujenja and Wonani (2012), the people of Mpongwe District in Zambia after due compensation were not properly paid and some attempts to find alternative livelihoods failed, because squatters on the acquired land resisted the efforts by the company to evacuate them. They again noted that the community's attempt to cope with the situation through this violent means escalated into a conflict against the company (Mpongwe Development Company Ltd).

Proponents of large scale land acquisition 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 acquisition 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 (von Braun and Ruth, 2009). Since large scale land acquisition 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 positive sum game. Investing in large scale land acquisition in agriculture can be an opportunity for growth. 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 large scale land acquisition 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 (Merges, 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 regards employment, however, when the projects are fully owned and controlled by investors, they may bring their own national workers. Furthermore, large scale land acquisition is 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 (Merges, 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 acquired 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 acquired 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.

Many researchers have found that large scale land acquisition for plantations of international demanded products such as jatropha, cashew and other plantation has positively impacted the livelihood outcomes of residents of the project host communities by providing jobs. In some African countries that have had a bit of experience of 'the project', jobs have been created in the host communities. In Zambia, Wujenja and Wonani (2012) reported that Export Trading Company Bio

Energy (ETC) that have acquired large scale of land for the project, have provided lots of people with jobs. Action Aid (2010), cited in Larsen (2012) also presented that Bio shape, large scale jatropha producer, employed between 70-80 percent of the villages as casual workers in Mavuji- Tanzania, who initially depended on domestic maize cultivation. A number of cases have been reported in Ghana (FAO, 2010; FAO, 2012; Cotula *et al.*, 2009 cited in Quarcson, 2014), where several hundreds of small scale farmers, engaged mostly in subsistence food crop production, have been engaged in jatropha plantations as farm labourers. In Mali, Vermeulen *et al.*, (2010) reported that a Dutch company into jatropha plantation has engaged on contract bases, more than 4000 small- holder farmers to produce the plant on decentralized arrangements.

Dwelling further on the case of Ghana, Danso (2015) noted from a study conducted in Yendi, Northern Ghana, that some people in the host communities were employed by the company, Bio-fuel Africa Ltd. It has been argued that the employees had a positive impact on their income levels. It has been postulated by Lyimo (2011); Levidow and Helena (2010) that the living conditions of host communities will also be enhanced as oil from jatropha seeds can be used by the people as medicine, for making soap and processed easily for cooking and lighting. Wujenja and Wonani (2012) report that a lot of indirect livelihoods have been created by ETC in Zambia, as traders sell goods and services to the company's employees.

Opponents of large scale land acquisition, 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. Theming (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 as it is not labour intensive but capital intensive through mechanisation. In terms of productivity, studies have shown that, the yield or output from large scale agricultural projects on acquired lands are 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 succinctly opined 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 acquired 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, Harmer and Kim, 2012). The National Association of Professional Environmentalist (NAPE, 2012) for instance, revealed that people living on Bugle 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 large scale land acquisition on livelihoods indicates that there will be severe food deficit in the Tana delta in Kenya, a home to many large scale land acquisition cases, if all the proposed agricultural investments on all acquired 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 not well 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 subSaharan 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, Timor, Knoblauch and Krista, 2011).

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 are 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 fulfilled. 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 pastoralists of their lands and forest thereby making them out-growers to the investors. Thus, this land deal directly was a means of transforming subsistence farming in commercial agriculture that has been feeding villagers over the years (Chamber, 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, Kowari 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, Mein Zen and Quisumbing (2011), Mutopo *et al.*, (2015) 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 (Molopo and Manse, 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, Casmir and Almeida, 2009). Daley and Angler (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. Atari and Aidyn (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 revealed that, the loss of land brought a damaging effect on women because of their high dependence on it. Women in Tandem 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 Tandem, 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 large scale land acquisition 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 large scale land acquisition 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, large scale land acquisition 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 large scale land acquisition 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 (Twene, 2017)

2.9 Sustainable Livelihood Frameworks

The study hinges on the influx and effects of large scale land acquisition and the livelihoods of smallholder farming households. Thus, before conceptualising an empirical framework for the study, there is the need to place emphasis on sustainable livelihoods as the basis for developing an all-encompassing conceptual framework.

2.9.1 Sustainable Livelihood Framework/Models

2.9.1a. DFID Sustainable Livelihood Framework/Model

The Department for International Development (DFID) sustainability livelihood framework (SLF) views people operating in a context of vulnerability. The adoption of a livelihood approach within DFID resulted from the publication of the 1997 United Kingdom (UK) Government White Paper on International Development. One of the three specific objectives designed to achieve this aim is a commitment to policies and actions which support sustainable livelihoods (Carney *et al.*, 1999 cited in Frantz, 2001).

The objective of DFID's sustainable livelihood approach (See Figure 2.2) is to increase the agency's effectiveness in poverty reduction by seeking to mainstream a set of core principles and a holistic perspective in the programming of support activities to ensure that these correspond to issues or areas of direct relevance for improving poor people's livelihoods. The framework is not intended to be an exact model of reality, but to provide an analytical structure to facilitate a broad and systematic understanding of the various factors that constrain or enhance livelihood opportunities, and to show how they relate to each other.

The sustainable livelihood framework is built around five principal categories of livelihood assets. An important part of the analysis is thus to find out people's access to different types of assets (such as physical, human, financial, natural, and social) and their ability to put these to productive use. The framework offers a way of assessing how organisations, policies, institutions and cultural norms shape livelihoods, both by determining who gains access to which type of asset, and defining what range of livelihood strategies are open and attractive to people (Carney, 1998).

The value of using a framework like this, according to DFID, is that, it encourages users to take a broad and systematic view of the factors that cause poverty, whether these are shocks and adverse trends, poorly functioning institutions and policies, or a basic lack of assets and to investigate the relations between them. It does not take a sectorial view of poverty, but tries to reconcile the contribution made by all the sectors to building up the stocks of assets upon which people draw to sustain their livelihoods. For DFID, the idea is that if people have better access to assets they will have more ability to influence structures and processes so that these become more responsive to their needs (Carney *et al.*, 1999).

Livelihood strategies are the ways in which people combine and use assets in pursuit of beneficial livelihood outcomes that meet their own livelihood objectives are also influenced by this environment. The possibility and effectiveness of livelihood strategies are dependent upon the accessibility of assets, services and opportunities which can be positively enhanced or negatively undermined by ecological factors, social structures or institutional processes. This accessibility is seen in the context of smallholder access to land before and after large-scale land acquisitions for jatropha plantations and others. The framework is also able to handle the complexities of local realities, livelihood strategies and poverty outcomes, and the dynamic interrelations

between them (DFID, 1999). The vulnerability context frames the external environment in which people exist. People's livelihoods and the wider availability of assets are fundamentally affected by critical trends as well as by shocks and seasonality over which they have limited or no control. The phenomena of large-scale land acquisition for development are seen to constitute the external environment of the smallholder farmers. These factors contributed to the adoption of this framework (see Fig 2.1).

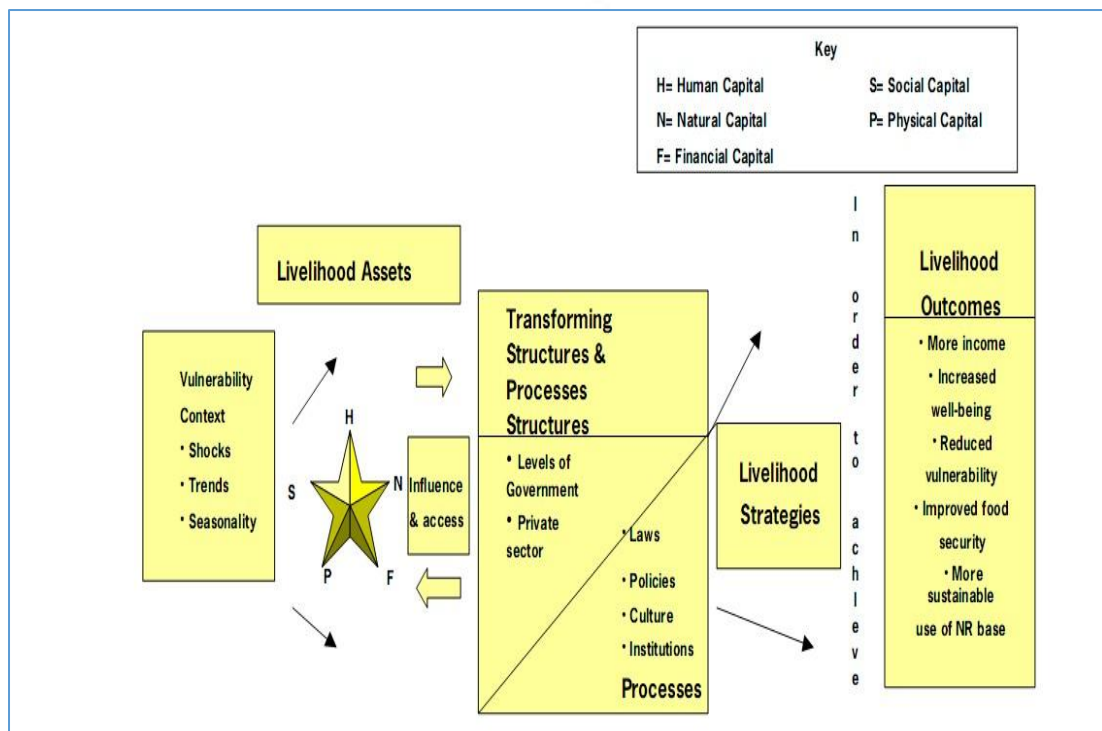


Figure 2.1: DFID Sustainable Livelihood Framework

Source: DFID, 1999

2.9.1b. UNDP Sustainable Livelihood Frameworks/Model

The promotion of sustainable livelihoods is part of UNDP's overall Sustainable Human Development (SHD) mandate, adopted in 1995. The mandate includes: poverty eradication, employment and sustainable livelihoods, gender, protection and regeneration of the environment, and governance (UNDP, 1995). The UNDP's sustainable livelihoods model offers both a conceptual and a programming framework for poverty reduction in a sustainable manner. The UNDP conceives 'livelihoods' as

the means, activities, entitlements, and assets by which people make a living. Assets are defined as: natural or biological (land, water, common-property resources, flora among others), social (community, family, social networks), political (participation and empowerment); human (education, labour, health, nutrition); physical (roads, clinics, markets, schools, bridges); and economic (jobs, savings, credit). Sustainable livelihoods are those that are able to cope with and recover from shocks and stress through adaptive and coping strategies, economically effective, ecologically sound, ensuring that livelihood activities which do not irreversibly degrade natural resources within a given ecosystem, and socially equitable, which suggests that promotion of livelihood opportunities for one group should not exclude options for other groups, either now or in the future.

UNDP employs an asset-based approach, emphasising the promotion of people's access to and sustainable use of the assets upon which they rely as central to poverty reduction. They stressed on the need to understand the coping and adaptive strategies pursued by people. Both are influenced by people's assets status, but also have implications for the composition of the assets themselves, which could be depleted or regenerated. Moreover, UNDP specifically focuses on the importance of technological improvements as a means to help people rise out of poverty.

In conclusion, the UNDP sustainable livelihood framework is to devise a set of integrated support activities to improve the sustainability of livelihoods among poor and vulnerable groups by strengthening the resilience of their coping and adaptive strategies. Although this is in principle an open-ended process, certain emphasis is given to the introduction of improved technologies as well as social and economic investments. The various support activities are organised as specific Sustainable Livelihood programmes, usually implemented at a district level with ramifications at

the community and household level. The UNDP Sustainable Livelihood Framework is presented in Figure 2.2.

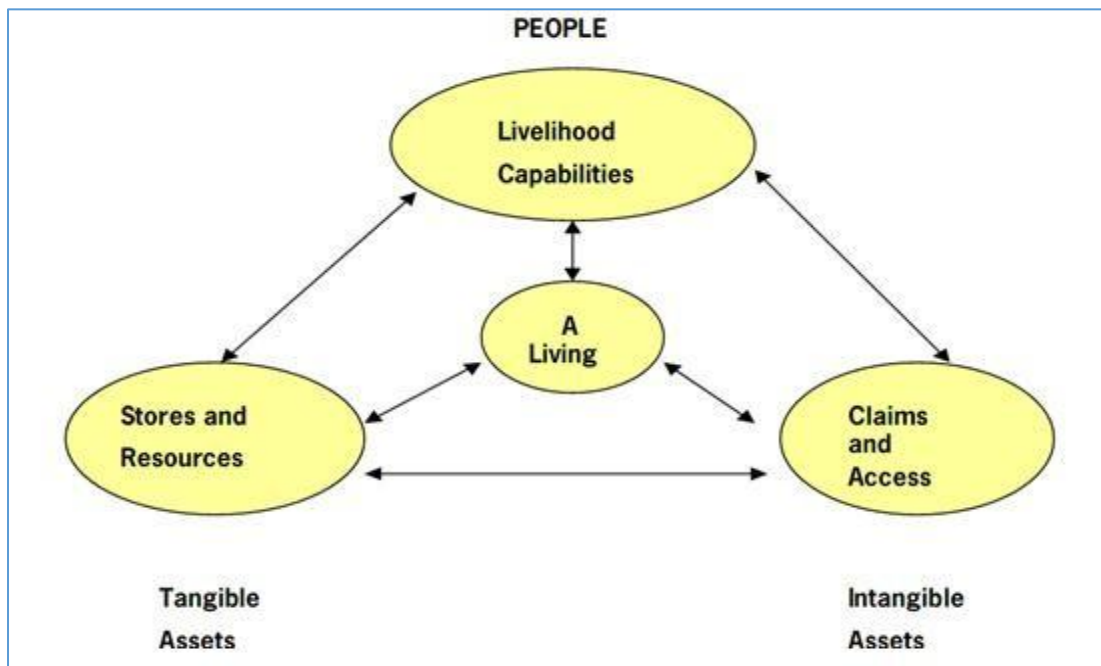


Figure 2.2: UNDP’s Sustainable Livelihood Framework

Source: UNDP, 1995

2.9.1c. Care International Sustainable Livelihood Framework/Model

Since 1994, CARE has used what it refers to as Household Livelihood Security (HLS) as a framework for programme analysis, design, monitoring, and evaluation. The concept of HLS derives from the classic definition of livelihoods developed by Chambers and Conway (1992), which embodies three fundamental attributes, namely: the possession of human capabilities (such as education, skills, health and psychological orientation), access to tangible and intangibles assets and existence of economic activities (Kranzt, 2001) (see Figure 2.3). The interaction between these three attributes defines what livelihood strategy entails. The framework has made three major livelihood shifts such as:

- i. A shift of concern from regional and national food security to a concern with the food security and nutritional status of the household and the individual.
- ii. A shift

from a ‘food first’ perspective to a livelihood perspective, which focuses not only on the production of food, but also on the ability of households and individuals to procure the additional food they require for an adequate diet.

iii. A shift from a materialist perspective focused on food production to a social perspective which focuses on the enhancement of people’s capabilities to secure their own livelihoods (Drinkwater and Rusinow, 1999 cited in Kranzt, 2001).

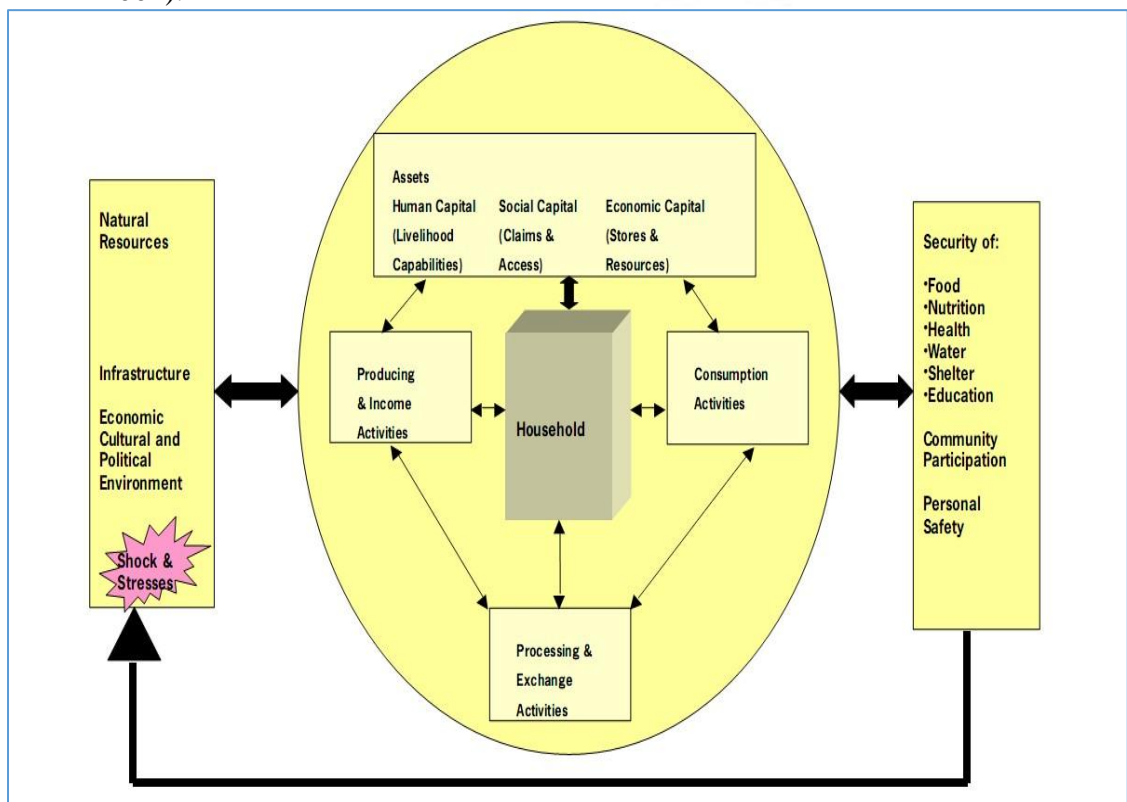


Figure 2.3: Care Model of Sustainable Livelihood Framework

Source: Kranzt, 2001

2.9.2 Comparison of Sustainable Livelihood Frameworks

It is difficult to pin down the significant differences between these three livelihoods frameworks. They all portray sustainable livelihood as an approach towards poverty reduction. They also use similar definitions of what constitutes sustainable livelihoods, share the view that livelihood resources must be conceptualized broadly, not only to include physical and economic assets but also human and social assets and also stress

the need to take into consideration the impact of overriding policies and economic structures of the livelihoods of the poor. One difference is how the agencies use the approach. UNDP and CARE use it to facilitate the planning of concrete projects and programmes. The DFID's Sustainable Livelihood framework is more of a basic framework for analysis than a procedure for programming, and it is also used to assess and review on-going projects and programmes to make them more sensitive and responsive to the conditions and needs of the poor. It is an instrument to enhance the poverty reduction of different kinds of activities supported by the agency, not just sustainable livelihood projects or programmes (Kranzt, 2001).

A second comparison is in the level of implementation. CARE supports household livelihood security primarily at community level. UNDP and DFID work at the community level, but also lay emphasis on the enabling policy environments, macroeconomic reforms, and legislation is equally important for effective poverty reduction.

Thus, for DFID, although the analysis of people's livelihoods usually takes place at a household or community level, the aim is not just to identify constraints or opportunities that could be harnessed or remedied at that level. Equally important is to get an understanding of how policies and other institutional factors, for example, impinge upon people's livelihoods at the local level, but have to be addressed at higher, policy levels. Two other points which are mentioned by Carney *et al.*, (1999) cited in Kranzt, (2001), but could not be documented are environmental factors and areas of specialisation. UNDP in particular and to some extent DFID, include environmental criteria in their Sustainable Livelihoods definitions, but CARE emphasised 'household livelihood security' over 'sustainable livelihoods' and is more concerned with immediate subsistence needs than long-term environmental effects. UNDP specialises in technology development and social and economic investment, and so tends to look

to those areas to improve people's livelihoods. After reviewing the various Sustainability Livelihood Frameworks, this study adopted a modified DFID Sustainable Livelihood Framework

2.10 Coping and Adaptation Strategies to Effects of Large Scale Land Acquisition

In fact, exclusive literature on the coping strategies of smallholders to the growing phenomenon of large-scale land acquisition for plantation development is opaque. However, attempts have been made by very few authors to report on smallholder coping strategies to shocks (Erikson and Silva, 2009; Robertson and PinstripeAndersen, 2010; Mutekwa, 2009) but such findings are less robust and unconvincing. Whiles several effects of the subject of large-scale land acquisition for plantation development have been reported on smallholder livelihoods (Cotula *et al.*, 2008; 2009; Poulton *et al.*, 2008; Tauli-Corpuz and Tamang, 2007; Knight, 2010; World Bank, 2010), researchers appeared to have paid no or little attention to coping strategies to such effects. This of course, has become a knowledge gap in literature which this study seeks to fill. What is however clear in literature on coping strategies of smallholders is the impacts of climate change on the agricultural activities (Mubiru *et al.*, 2015). Rural communities across the developing world use various coping strategies in response to poverty, food insecurity, conflict as well as environmental stresses; all challenges which are compounded by climate change and variability (Bryceson, 2002; Berman *et al.*, 2013).

How rural households in natural resource dependent communities respond to and cope with livelihood shocks has been examined through the use of the Sustainable Livelihoods Framework (Chambers, 1987; Scoones, 1998). The framework is now commonly used to help understand how rural livelihoods are diversified as part of a strategy to cope with shocks (Ellis, 1998). For example, livelihood diversification

includes diversification of income sources from farm to non-farm income (Paavola, 2008), agricultural diversification including the use of better suited crop varieties (Deressa *et al.*, 2009) and migration, often to provide remittances (Konseiga, 2006).

Farmers reported using a variety of coping strategies to deal with food insecurity. When farmers experience food shortages, they respond by eating smaller meals, eating fewer times a day, changing their diet or supplementing their food supplies by harvesting wild yams (Harvey *et al.*, 2014) whilst some supplement their food supplies by purchasing rice from market and routinely sell household assets (particularly chickens) or send household members to get outside employment (as an agricultural labourers on another farm) to obtain income to buy food (Oksonya *et al.*, 2013). Subsets of farmers also rely heavily on wild foods from communal forests to supplement their diets. Studies of smallholder farmers elsewhere have reported a similar set of coping strategies (Morton, 2007). Coping strategies towards extreme effects of large scale land acquisition included storing food, income diversification and digging drainage channels. Other strategies were; high-yielding, early-maturing, disease and pest-resistant varieties; planting at onset of rains; increased pesticide or fungicide application among others (Oksonya *et al.*, 2013; Manhandle *et al.*, 2013).

Whilst livelihood diversifications are considered planned changes made in response to stress, coping strategies are widely understood as impromptu responses to sudden shocks (Ellis, 1998). Therefore short-term adjustments to a households' livelihood portfolio or drawing on available capital assets to minimise the effects of sudden shocks are common place. For example, drawing on savings, consuming food stocks, and selling livestock amongst other strategies are undertaken depending on the context of both the shock and household (Oyekale and Gideon, 2012; Thornton *et al.*,

2007; Chukka and Okayed, 2009). Investigations into coping and adaptation are often differentiated between risk management approaches focuses on hazard-coping strategies and adaptation considering the impacts of large scale land acquisition (Agrawal, 2001). For example, selling assets may be a strategy adopted by a household to cope with a low output, whereas they may adopt more high yielding crops as means to adapt to an increasing effects of large scale land acquisition (Birdman, 2011). Although the focus of this section is on coping strategies to largescale land acquisition for plantation development, very little of such coping strategies is mentioned as the cause of large-scale land acquisition. It is indeed clear that, such information is missing in empirical literature. As a result, we present a review of coping strategies in a broader perspective. This is to help us have a fair idea on the subject matter and do triangulation during data collection.

Relocation of affected people to areas where there is available land for farming either by company arrangement or individual choices is common among plantations across the globe. Often times, affected people (especially rural farmers) feel indifferent about decisions over relocation since they already practice bush fallowing (Boamah, 2010). The challenge however remains that relocated land areas are many a time not at par with acquired land in terms of fertility, crop type supported as well as their diversity (Boamah, 2010, Boamah and Overa, 2016). Not only that, farmers also have to travel far to access land for farming and also access other economic and educational facilities (Petrick, 2014). Danso (2015), indicated in a study on the impact of household's loss of land to jatropha plantations in Northern Ghana that land accessibility was not the issue with farmers but rather accessing land that is close to their homes. In addition to farming, households, mostly women face a herculean task of crossing over longer distances to access water (ActionAid International, 2014 and Hamenoo, 2014).

Regardless of the inconveniences associated with such relocations, the bottom line is that affected households must survive.

Influenced by the urban myth of flourishing cities and poor rural areas (Kulbekova, 2007) and the limited options available to them, affected people migrate to urban areas in search for better and alternative livelihoods (Kaleb, 2010). The effects of rural migration as a result of large scale land acquisition is well known; urban overcrowding, increase crime rate, increase urban unemployment and poverty among others especially in an era where poverty is urbanizing (Devas *et al.*, 2001). GeuderJilg (2014) was even more emphatic; he observed that large scale land acquisition does not only dispossess the land owners but also create competition for land in the urban areas. The likelihood of conflicts and worsening conditions of living in such conditions are high.

Mahonge (2012), found out that there is often a great pressure on the environment for survival after affected people have lost their primary source of livelihood. Affected people from large scale land acquisition for jatropha plantations in Kisarawe district in Tanzania resorted to charcoal burning in order to obtain a livelihood (Mahonge, 2012). Similarly, a study by Schoneveld (2011), in the Brong-Ahafo Region of Ghana reported that affected people relied on products such as beans from the locust bean tree (fermented into —dawa dawall), nuts from the shea tree, charcoal production, medicinal plants, mushrooms, and small game for incomes and a livelihood. Inherently, the over-reliance on firewood and charcoal as alternative livelihoods only compounds the already fast degrading forest reserves in rural areas due to the high dependence on firewood and charcoal for domestic energy in cooking (Hamenoo, 2014). Firewood and charcoal however remain the most environmentally unfriendly alternatives. The others even though considered environmentally sustainable, shows a

relative reduction in livelihood opportunities since these (Shea harvesting, mushroom, medicinal plants etc.) are often supporting the primary livelihood sources (usually food crop farming). This was noted by Schoneveld (2011), who observed that some households engaged in forestry activities prior to the land acquisition but only intensified the activities after the land dispossession.

Over the years, changes in the farming systems used, reduction in farm sizes and changes in crop diversity have been adopted to cope with loss of farming land emanating from large scale land acquisition. Studies in the Brong-Ahafo Region of Ghana on the Kiminic Estates Limited (KEL) and the jatropha plantation in Pru District Assembly by Williams *et al.*, (2012) and Schoneveld (2011) respectively revealed that affected farmers had less land to farm on compared to the preacquisition condition. The effect was even more diverse in the KEL as farmers who were not even affected by the plantations shared their land with affected members. Others depended on marginal or degraded land for farming. In the second instance, affected farmers reported to have engaged in shifting cultivation and land rotation returned prematurely to land under fallow. Apart from its effect on farming systems as indicated by Schoneveld (2011), the diversity of crops which serve as a buffer for farmers against the vagaries of climate change and unfriendly weather conditions are also affected (Ariza-Montobbio and Lele, 2010). Due to the varied soil conditions farmers are most likely not to get the land that would support the diversity of crops cultivated in pre-jatropha. Ariza-Montobbio and Lele (2010) cited a case in Tamil Nadu, India where farmers basically reduced their diversity of crops grown in pre-jatropha.

Coping strategies or mechanisms are often knee jerk, geared towards immediate survival and usually degrades the environment (Care, 2009). In simple terms they are not sustainable. As a result, more sustainable and environmentally preferred

mechanisms are habitually suggested by scholars and espoused by affected people of large scale land acquisition. One of such measures is the engagement in employment opportunities created by the Plantations by affected populations. In many instances of jatropha plantations, such as in Yendi in the Northern Ghana (Boamah, 2010 and ActionAid International, 2014), the Scan farm project (Williams, Gyampoh, Kizito, and Namara, 2012), and the Kiminic project in the Brong-Ahafo region of Ghana (Boamah and Overa, 2016), employment opportunities were opened to affected people. The suitability of the employment opportunities offered and conditions of service have remained moot. Boamah and Overa (2016) explained that necessary measures were laid to ensure that affected people from the Kiminic project had diversity of livelihood sources through paid employment and farming within the jatropha plantations as well as welfare schemes to support their lives. On the contrary, Williams *et al.*, (2012) and Richards (2013) found out that employment opportunities were poorly remunerated, had poor service conditions and sometimes went to outsiders. In the latter, one could argue that low literacy and the low level of skills which mostly limit farmers to casual farm work caused the poor work conditions (Richards, 2013). Essentially, the difference lies on the project and the ability of the community leaders to selflessly negotiate for better conditions for their members.

Osogo (2010), contended that livelihoods in jatropha plantations affected areas are often diversified. His assertion comes in the wake of diverse income opportunities including employment opportunities from plantations, engaging in farming activities and small scale commercial activities (Boamah, 2010b). In Yendi of Northern Ghana, affected people especially women were reported to have widened their sources of income (Boamah, 2010). He noted that women who initially engaged in firewood, charcoal and shea nut business, gained extra capital from employment in the jatropha plantations to venture into other businesses such as selling of provisions and food. Not

only that, the employment opportunities offered by jatropha plantations do not limit farmers. Williams *et al.*, (2012), indicated that employees of jatropha plantations engaged in livestock rearing, crop farming, intercropping within jatropha and other non-farm activities to support their incomes. This in no doubt leads to improvement in livelihoods and poverty alleviation. Evidence gathered from Tamil Nadu, India showcases livelihood diversification in large scale land acquisition to be more sustainable. One-third of the affected households re-counted increasing their off-farm activities as wage labourers during the period of jatropha cultivation (ArizaMontobbio and Lela, 2010).

In some instances, jatropha plantations fold up as a result of poor market (Petrick, 2014) or inadequate funding or sponsorship (Boamah, 2010) leading to worker layoffs. Patrick (2014) however outlined that affected people in Zambia, after initially struggling under the job losses finally found a sustainable way of using the byproducts of jatropha to their advantage. Farmers (both out growers and employees) developed a market for the product; harvesting and using jatropha oil to produce marginal products such as soap, mosquito repellent, lamp oil, candles and organic fertilizer (Patrick, 2014). The success story is attributed to the activities of a Dutch NGO (SNV) that helped farmers acquire relevant skills and knowledge in the use of the Jatropha crop. The major challenge remains enhancing the ability of farmers to make use of the product as done by SNV in Zambia.

As farmers lose land to jatropha plantations, attention is shifted to increasing output with the available land. According to the Food and Agriculture Organisation (FAO, 2000) improving output comes with improved farm technologies. He established that the inception of jatropha did not affect food security for households which adopted agro-chemical use since output levels generally improved. Nonetheless, expenditure

on agrochemicals also increased putting additional burden on households. Even though concerns have been raised about the appropriateness in the use of agrochemicals. Quaracson (2014) recommended that extension services should be provided for affected communities in order to improve output and maintain the environment. In the Pru District, smallholder farmers cope and adapt to the effect of large scale land acquisition as to keep their livelihood in a balance. They cope and adapt to the effects through various means such keeping back yard gardens, applying fertilizers, digging bore hole and others.

2.11 Conceptual Framework for the Study

The conceptual framework guiding the study aims at establishing a linkage between vulnerability of smallholder farming households to large scale land acquisition and capability, through the livelihood strategies to livelihood outcomes of smallholder farming households. Thus, the conceptual framework situates more within the DFID livelihood framework which has been modified for the purpose of this study. This framework provides a holistic and integrated view of the processes by which smallholder farmers households achieve (or fail to achieve) better livelihoods. It shows how farming households are vulnerable to the different drivers of large scale land acquisition (policy setting, politics, history, agro ecology and socio-economic conditions); the effect of large scale land acquisition on the various livelihood resources or ‘_capitals’ (such as natural, economic, human and social capitals); and how farming households cope with and adapt to the negative or positive effects of large scale land acquisition which are combined to pursuing various livelihood strategies. The final part of the framework analyses the effects of large scale land acquisition on the various livelihood outcomes of smallholder householder in terms of employment, income, food security, healthcare and nutrition. The key elements of the framework are shown in Figure 2.3, 2.4 and 2.5.

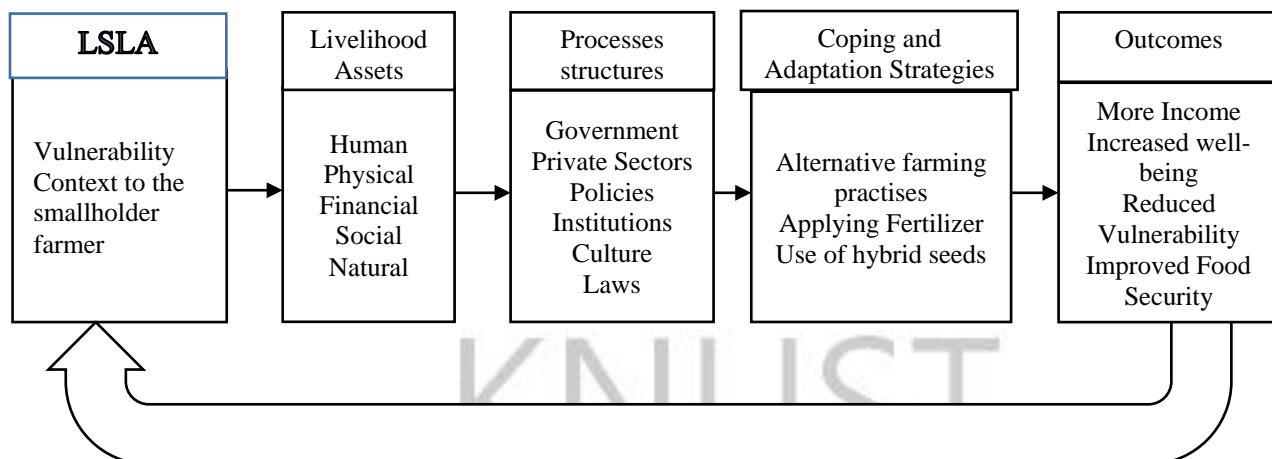


Figure 2.4: Adopted DFID Framework on Sustainable Livelihood

Source: DFID, 1999.

The increasing demand for bio-fuel and agro-fuel products across the globe in recent times calls for increased production of these products to satisfy the high demand by the multi-national industries which require these products as raw materials for further processing.

The quest for greater developments and better livelihoods for its citizenry, governments of developing nations including Ghana have formulated policies aimed at attracting Foreign Direct Investment (FDI) especially in the agricultural sector where there is vast idle of fertile lands with low technological levels of farming enterprises which account for the low productivity in the sectors and the high poverty levels of people engaged in the sector. The government therefore gives community lands to large scale land investors with the aim of generating employment and development to the communities of which their lands have been acquired. This renders smallholder farming households vulnerable to large scale land acquisition deals because such policies often result in the loss of farm lands to foreign large scale land investors which is the main capital assets to small holder farming households for livelihoods. Small holder farmers households in the Brong-Ahafo Region of Ghana are particularly

vulnerable to large scale land acquisition because it has the most fertile land in Ghana conducive to support the growth of such bio-fuel and agro-fuel products as jatropha, cashew and mangoes and thus, attract most of the foreign investors intending to engage in large scale land investment in Ghana.

Lands acquired which are above 1000 ha are classified as large scale land. Large scale land can be arable and marginal but each has socio and economic uses that are likely to favour humans. The rationale of giving investors large scale land for plantation are; for employment, development such as infrastructure, income development and to pave way for maximum use of other idle lands. Contrary, the inability to fulfil their promises, damage to the environment and others, hence large scale land acquisition can be positive or negative. Large scale land acquisition to a large extent can be attributed to varied factors. There have been other tangible factors which brought about the effects. The international communities (European Union) target of protecting the environment and reducing the effects of climate change on man and the environment, hence the introduction of Bio-fuel which requires large tracts of land. Also, most of the developed countries have migrated to these developing countries such as Ghana - Pru District Assembly due to the weak regulatory framework of acquiring large tracts of land.

Again, lands in Africa are very easy to acquire due to the abundant land both arable and marginal lands. Large scale land acquisition has adverse effect, the effect on nontimber products such as herbs for foods and for medicinal purpose are also limited by the investors' activities. These have led to crop-output reduction from small scale farmers as a result of reduction in farmland size. In another development there is also total reduction of access to land size by the small scale farmers. All these are likely to affect the livelihood of the individual as a whole.

The next aspect of the conceptual framework explains the effects of the influx of large scale land acquisition on the livelihood assets or capitals of smallholder farming households such as physical, financial, human, natural and social capital or resource endowments. The effects of large scale land acquisition on livelihood assets of farming households in Brong-Ahafo can be described as multiple effects of which it can be either positive or negative. For instance, given that the main source of livelihood to farming households in the Brong-Ahafo Region is farming and land is their main capital asset, losing farms through large scale land acquisition will reduce their natural capital (land) to produce enough food for their households and sell surplus for income. The implication is that the financial capital of the households is hindered through reduced incomes from farming which contributes to the migration of the youth especially in search for alternative sources of livelihood in other regions especially when the new companies are unable to employ the youth in their operations. This affects the human capital of the host communities. In some cases, lands reserved by the local communities for performing certain traditional practices are confiscated by land investors and host communities are denied access to such lands. This has often resulted in conflict and other tensions between communities and land investors especially where (usufructs or those who have usufructuary right to lands) occupants of leased lands were not consulted in the land deal process and also have no land title documents to prove their ownership of the land.

In the interim, farming households adopt coping strategies to withstand the effects of large scale land acquisition after losing their farm lands. In the long-run however, farming households adopt permanent measures to fully adapt to the impact of large scale land acquisition. Farming households may cope with or adapt to the effects of large scale land acquisition by engaging in off-farm activities, relocating their farms, establishing backyard gardens, share-cropping, contract farming, migrating to other

communities in search for other economic opportunities, etc. The coping and adaptation strategies are also known as the livelihood strategies.

The last stage of the conceptual framework outlines the effects of large scale land acquisition on the livelihood outcomes of smallholder farming households. The livelihood outcomes of farming households considered by this study are employment, healthcare, nutrition, food security and income levels. In terms of the effect of large scale land acquisition on employment, knowing that farming is the main employment avenue for farming households, losing their farm lands to land deals deprives them of their livelihood engagement. Unless they are employed by the large scale land investment companies, farming households will be rendered unemployed. Also, the main source of food to households in the host communities in the Brong-Ahafo Region is farming. Therefore, losing farm land through land deals implies reduced production and low food availability. In the literature, it is established that the output of large scale land companies are exported to the foreign market rather than satisfying the food needs of host communities. The implication is that large scale land acquisition may result in food insecurity in the communities of their operations. If farming households are employed by the companies (directly or indirectly), depending on the type of employment (casual labourer workers, field or technical officers, sellers of new products to company's workers, etc.), the amounts of remuneration received by farming households will influence their income levels either positively or negatively. As part of corporate responsibility, some large scale land investors provide infrastructure such as building of health centres, construction of roads, schools, etc. for host communities.

2.12 Summary of Literature Review and Gaps Identified

Whiles this review may lack accuracy and absoluteness, it indeed provides strong basis for comparativeness of the effects of large-scale land acquisition for plantations in Ghana given the stake of claims on the —no effects of large-scale land acquisition for jatropha development on marginal lands by some authors (as already presented in chapter one and this chapter). Therefore, the study seek to find out the effect of large scale land acquisition on the livelihood of the smallholder farmer.

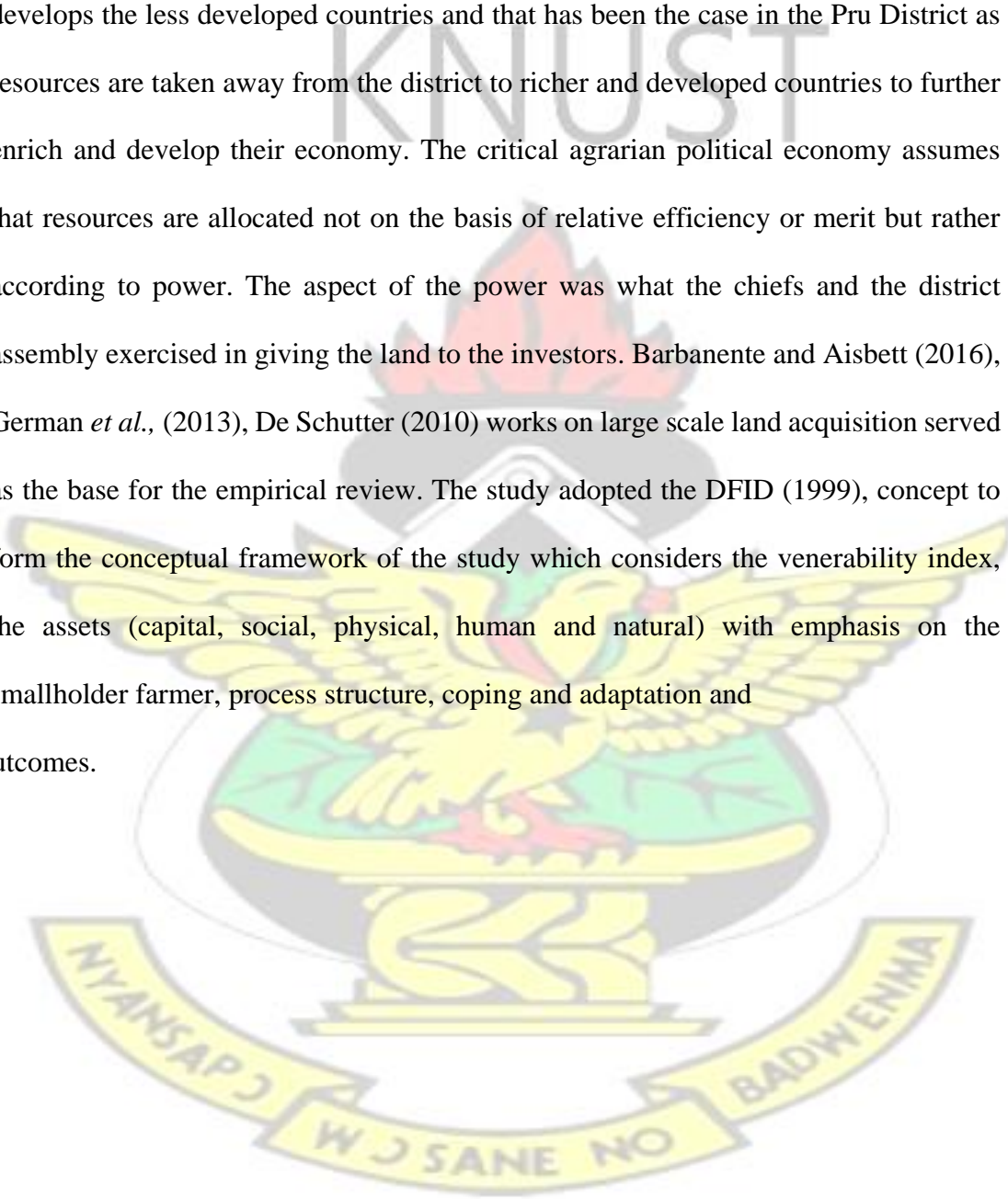
The gap identified in literature was lack of exclusive studies on the coping strategies adopted by the affected smallholder farmers as a result of the large-scale land acquisition for jatropha plantation. However, most studies concentrate on establishing relationships between large scale land acquisition and farmers' livelihoods with efforts tailored towards measuring how the farmers' livelihood is affected by large scale land activities. This study, therefore focused on establishing the relationship between large scale land investment and farmers' livelihoods to provide an advanced knowledge that befalls farming households' livelihood as a result of large scale land acquisitions.

Whiles several effects of the subject of large-scale land acquisition for plantation development have been reported on smallholder livelihoods (Cotula *et al.*, 2008; 2009; Poulton *et al.*, 2008; Tauli-Corpuz and Tamang, 2007; Knight, 2010; World Bank, 2010), researchers appeared to have paid no or little attention to coping strategies to such effects. This however, has become a knowledge gap in literature which this study seeks to fill.

2.13 Chapter Summary

The chapter two reviewed literature supporting the objectives of the study. The study considered literature on coping and adaptation strategies, drivers of large scale land

acquisition, trends in large scale land acquisition and the theories underpinning the study. The study sits on the critical agrarian political economy (Bernstein and Byres, 2001) and modern world system theory (Immanuel Wallenstein: 71, Gilpin 1987, 1974, 2004). The modern world system theory argues that the world capitalist system underdevelops the less developed countries and that has been the case in the Pru District as resources are taken away from the district to richer and developed countries to further enrich and develop their economy. The critical agrarian political economy assumes that resources are allocated not on the basis of relative efficiency or merit but rather according to power. The aspect of the power was what the chiefs and the district assembly exercised in giving the land to the investors. Barbanente and Aisbett (2016), German *et al.*, (2013), De Schutter (2010) works on large scale land acquisition served as the base for the empirical review. The study adopted the DFID (1999), concept to form the conceptual framework of the study which considers the venerability index, the assets (capital, social, physical, human and natural) with emphasis on the smallholder farmer, process structure, coping and adaptation and outcomes.



CHAPTER THREE

STUDY AREA AND RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter reviewed literature supporting the study, the concept of the study as well as the conceptual framework of the study. The study further discussed the theories of the study and empirical and methodological review of the study. This chapter of the thesis describes the methodology adopted for the study. The research design, research approach and study population are presented in sections 3.2, 3.3 and 3.4 respectively. Section 3.5 presents the sample frame and sample size determination while section 3.6 outlines the data sources and collection methods with section 3.7 presenting the reliability and validity of data. Data analysis methods and research ethical issues are presented in sections 3.8 and 3.9 respectively.

3.2. Profile of Study Area

3.2.1 Historical Background

The Pru District Assembly was created on the 18th of February, 2004 under Legislative Instrument 1778 of 2004. Pru District was created out of the then Atebubu District. The physical, economic and socio-cultural conditions have shaped and influenced lives in the Pru District. It is therefore relevant to put these issues into perspective to enable a fair appreciation of the current state of the district. There are core natural and anthropogenic factors that have influenced economic production, consumption, reproduction, health, sanitation and the overall welfare of the people in the district. Figure 3.1 shows the location of the Pru District in the national and regional contexts, and figure 2 shows the map of the district indicating the study communities (Kobre, Kadue, Abease, Prang and Adwentura) chosen for the survey.



Plate 3.1: Mango Plantations in the Pru District

Source: Field survey, 2016



Plate 3.2: Jatropha Plantation in the Pru District

Source: Field survey, 2016



Plate 3.3: Coconut Plantation in the Pru District

Source: Field survey, 2016

3.2.2 Political and Administrative Structures

The District Assembly is the highest political, administrative and planning authority at the district level that is responsible for the overall governance and development per the Local Government Act (Act 462). The District Chief Executive (DCE) performs both administrative and political functions and ably supported by the District Coordinating Director and other staff.

The District Assembly is subdivided into six area councils (Kadue Area Council, Abease Area Council, Konkoma Area Council, Labun Area Council, Adjaraja/Beposo Area Council, and Cherepo/Ayimaye Area Council), two town councils (Prang and Parambo-Sawaba Town Council) and one urban council (Yeji Urban Council). The District Assembly has 40 Assembly members, made up of 25 elected members and 15 other members appointed by Government in line with the Local Government Act 462.

The District has two constituencies, (Pru East and West) which are divided into 29 electoral areas, which are further subdivided into 111 polling stations. The Pru District Assembly is responsible for the socio economic development of the people. These include schools, health, sanitation, land allocation to local and foreigners for the total development of the district. The readiness of the traditional leaders to offer large tracks of land for investors has also contributed to the influx of large scale land acquisition investors in the Pru District. The traditional agreement of lease such as —Abusa or Abunull does not exist in the district, but rather the long lease of land which ranges from 25yrs-50yrs which is more suitable for large scale land acquisition.

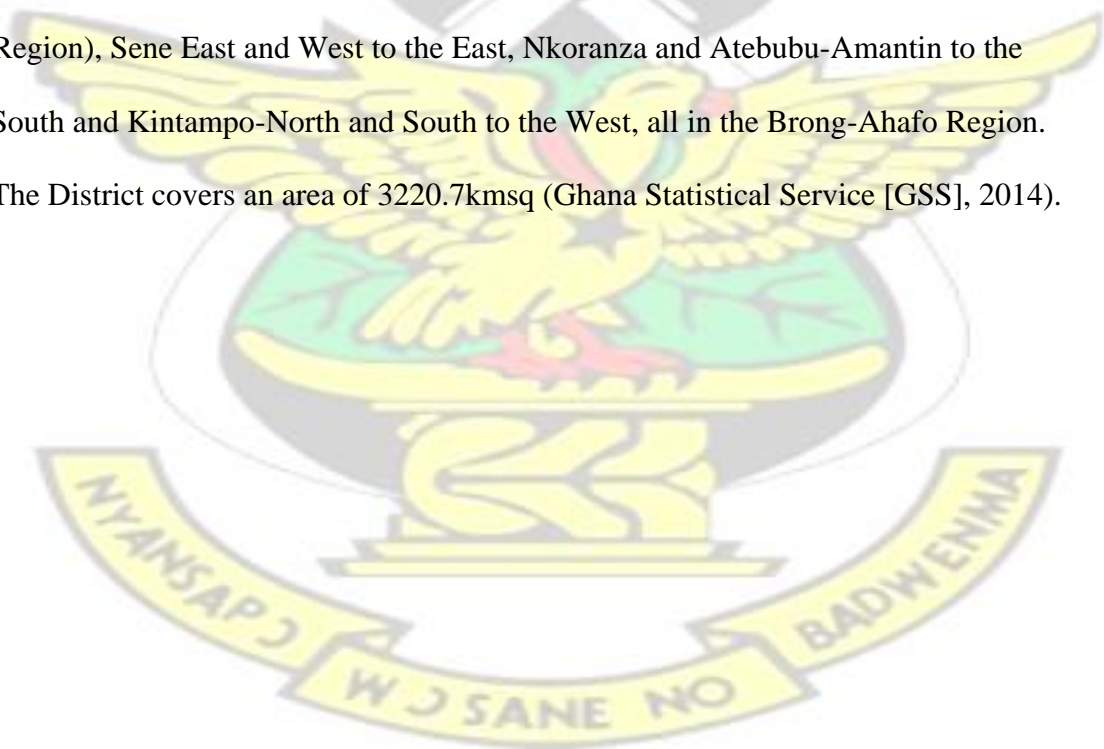


Plate 3.4: Orange Plantation in the Pru District

Source: Field survey, 2016

3.2.3 Location and Size

This section examines the geographical features in the Pru District which interact to define the present situation of the study area. It further unearths the socio-economic and institutional arrangements as situated in the district. This gives an appreciation of the potentials and constraints to development in that geographical setting chosen for the study relative to the land grab and its adverse effects on the smallholder farmers who have lost their livelihoods, especially land to large scale investors. The main source of data for this section was secondary material from the Physical Planning Department of the Pru Assembly, District Administration, Traditional Authority, Land Commission and other relevant sources on the background and prevailing circumstances of the Pru District Assembly. The Pru District Assembly lies between Longitudes 00 30 W and 01 26 W and Latitudes 07 50 N and 08 22 N. It shares boundaries with seven other districts, namely East Gonja to the North (Northern Region), Sene East and West to the East, Nkoranza and Atebubu-Amantin to the South and Kintampo-North and South to the West, all in the Brong-Ahafo Region. The District covers an area of 3220.7kmsq (Ghana Statistical Service [GSS], 2014).



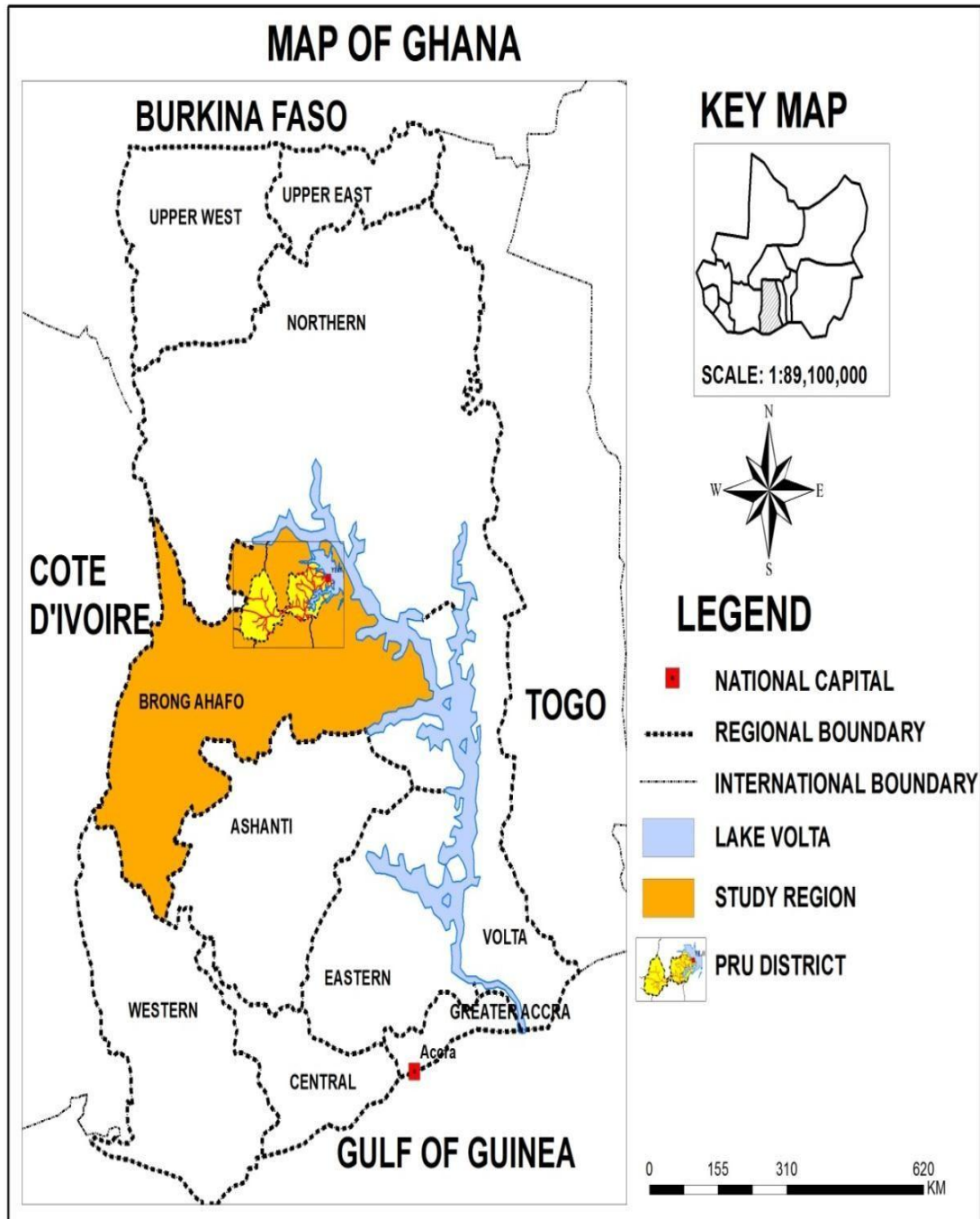


Figure 3.1: Map of Ghana Showing the location of Brong-Ahafo Region

Source: GSS, 2014

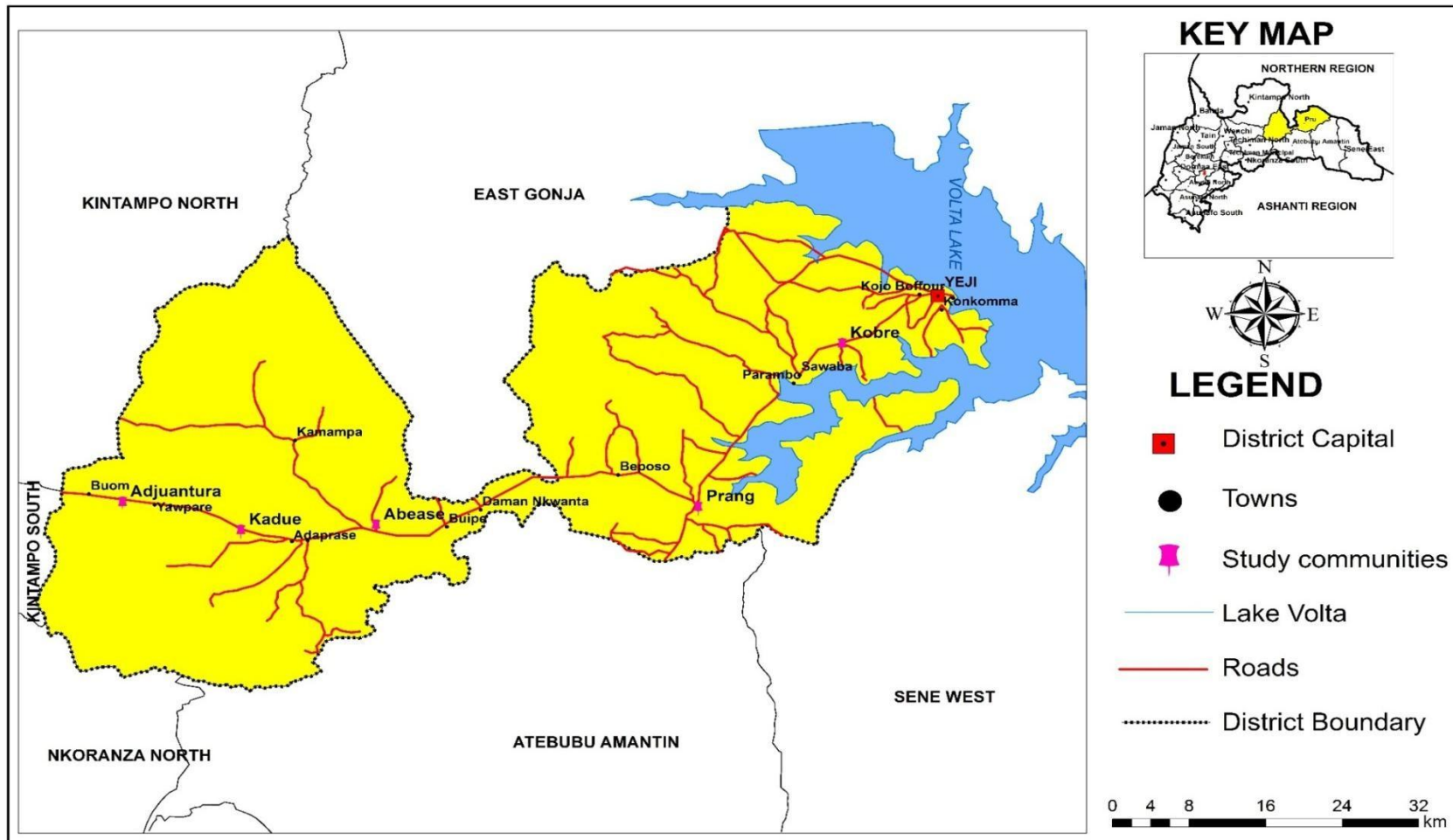


Figure 3.2: Map of Pru District Showing Study communities

Source: GSS, 2014

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3.2.4 Relief and Drainage

The topography of the Pru District is generally flat with undulating land surface of an elevation between 60 – 300 meters above sea level (GSS, 2014). The most prominent feature in the district is the Pru River, which is a tributary to the Volta Lake flows across the northern part of the district. The Volta Lake and the Pru River flow through the district. The sluggish flow of the river permits the deposit of alluvial soils on the river beds and along their banks. The fertile nature of alluvial soil is a great potential for increased food production in the district. Other streams in the district are; Kpantwi, Gyebresi, Bonfra, Malakepo, Tanfi, Bumfari, Wansan, Pranbon, Bolepoase, Wotrewotre, Sele, Kefoose, Kalekya, Pre and Nyelase.

The topography of the District makes it possible for the people to cultivate variety of crops along the river bank due to the fertile deposited alluvial silt. Further to the district physical characteristics, most of the land has been taken over by these large scale investors affecting the livelihoods of smallholder farmers. As a result of this the choice of farmer's activities have been limited to a considerable reduction of their incomes through small scale farming activities. The problems become exacerbating when lack of credit facilities for farm inputs (e.g. agrochemicals) and overdependence on rainfall for farming, make it more challenging for farmers in the district to embark on small-scale farming activities in their communities. This makes it impossible for farmers in the district to raise adequate income from their farming activities to satisfy their basic needs.

3.2.5 Vegetation and Climate

The district experiences Tropical Continental or Interior Savannah type of climate with mean annual temperature ranging between 26.50 C and 27.20 C (GSS, 2014). In

extreme cases temperatures rise to about 40 °C. It also has double maxima rainfall pattern with annual rainfall ranging between 800mm-1200mm (GSS, 2014). Rainfall is indispensable in the district when it comes to the development of agriculture. The first rainy season begins in June while the second rainy season begins in September or October. The district falls within the Interior Savannah Woodland; grasses in this vegetation grow in tussocks and can reach a height of 10 feet or more. However, due to the transitional nature of the vegetation, the area does not exhibit typical savannah conditions. Common tree species found include, baobab, dawadawa, acacia, shea trees, and mahogany which have adapted to this environment. These contribute to the attraction of investors who can have access to large tracts of land for plantation purposes and other large scale land acquisition activities.

3.2.6 Soils and Agricultural Land Use

The soils found in the Pru District can be grouped under the geological formation from which they were developed. About 61.8 percent of households in the district are engaged in agriculture. In both rural and urban localities, about one third (36.4 percent) of households are engaged in agriculture. Most households in the district (92.3 percent) are involved in crop farming. Poultry (chicken) is the dominant animal reared in the district accounting for 33.6 percent. The land is suitable for the cultivation of a number of food crops such as plantain, cocoyam, cassava, maize, legumes and as vegetables thrive very well on the land. Cash crops such as oil palm, mangoes, citrus and pear are also cultivated on the land. It is also imperative to mention that with proper water management, the valley bottom soils can significantly support rice, vegetables and sugar cane cultivation. A number of people engage in agricultural activities, including the cultivation of crops or tree planting, rearing of livestock or breeding of fish for sale

or family consumption. The nature of the land in the Pru District of Brong Ahafo region has motivated investors to acquire large scale land for plantation.

3.2.7 Demographic Characteristics and the Built Environment

The population of Pru District according to the 2010 Population and Housing Census is 129,248 representing 5.6 percent of the region's total population. Males constitute 50.9 percent and females represent 49.1 percent. About 63.1 percent of the population reside in rural localities (GSS, 2014). The district has a sex ratio (number males per 100 females) of 103.8. The youthful population (population less than 15 years) in the district accounts for 44.5 percent of the population given, depicting a broad population pyramid which tapers off with a small number of elderly persons (population aged 60 years and older) (GSS, 2014). The total age dependency ratio (dependent population to population in the working age) for the district is 92.04. The age dependency ratio for males is higher (96.27) than that of females (87.84) (GSS, 2014).

The Pru District Total Fertility Rate (TFR) is 3.4. The General Fertility Rate (GFR) is 98.5 births per 1000 women aged 15-49 years which is the fifth lowest for the region. The Crude Birth Rate (CBR) is 23.1 per 1000 population (GSS, 2014). The Crude Death Rate (CDR) for the district is 2.72 per 1000. Accident/violence/homicide/suicide accounted for 6.3 percent of all deaths while other causes constitute 93.7 percent of deaths in the district. Majority of migrants (79.5 percent) living in the district were born in different regions in Ghana. Statistically, those born in Northern (32.6 percent) form the majority followed by Volta (18.3 percent) and Upper West (11.2 percent) regions (GSS, 2014).

The district has a population of 129,248 with a total number of 22,579 households. The average household size in the district is 6 persons. Children constitute the largest

proportion of household members representing 49.6 percent of the population. Spouses form about 10.3 percent of households. Nuclear households (head, spouse (s) and children) constitute 31.7 percent of the total number of households in the district (GSS, 2014).

The people in the Pru District Assembly and the composition by sex and age are vital in assessing the manpower requirements and subsequent planning of various services and their spatial distribution. Based on the 2000 national population census, the district population was estimated at 108,273 and the density estimated at 79 persons per sq. km. at a growth rate of 1.5 percent between 1984 and 2000 (GSS, 2014). Though the population density is comparatively lower than that of the region and national estimate of 127 and 212 persons per sq. km. respectively, the dispersed nature of settlements with low population density makes access to basic services difficult and expensive (GSS, 2014).

3.2.8 Economic and Social Activities

According to the district population and housing census 2010, 50.4 percent are literate and 49.6 percent are illiterate. The proportion of literate males is higher (56.8 percent) than that of females (43.2 percent). About six out of ten people (55.7 percent) indicated they could read and write both English and a Ghanaian language (s). Of the population aged 3 years and above (49047) in the district, 43.1 percent have never attended school, 41.5 percent are currently attending and 15.3 percent have attended school in the past (GSS, 2014).

Access to education in the district is very difficult. A little over two fifths of the population (42.0 percent) aged six and older, have never been to school. The proportion of the population that has attained primary (22.3 percent) and middle/JSS (23.3 percent)

is almost the same; only 11.2 per cent have attained a level above the middle/JSS. The education attainment is the same for males and females at the preschool level (1.2 percent each) and the primary school level, (22.5 percent males and 22.0 percent females) (GSS, 2014). Above these two attainment levels, male attainment is higher than that of females at each subsequent level. This low attainment level for females has implication for the economic characteristics of the population as well as fertility behaviour.

It is important to highlight that majority of the people particularly in the hinterland do not have access to the existing health facilities and hence, mostly rely on quack drug peddlers and traditional medicine. The health status of the people most often deteriorates before seeking medical attention from orthodox health care. The health systems and health problems in the district reveal the level of development of the district. The conditions of some of the health infrastructure are in a bad state and need renovation. Most of the clinics lack facilities such as laboratories, staff and office accommodation. This affects coordination and communication, hence impacts the performance of the District Health Management Team adversely.

In spite of the efforts made by government and some NGO'S in providing potable water for rural communities, access to potable water is a major problem for several communities in the district. The major sources of water for majority of the people in the district are rivers and streams, hand dug wells, boreholes and pipe borne water.

About 71.7 percent of the population aged 15 years and older are economically active while 28.3 percent are economically not active. Of the economically active population, 97.6 percent are employed while 2.4 percent are unemployed. For those who are economically inactive, a larger percentage of them are students (64.5.1 percent), 18.1

percent perform household duties and 3.9 percent are disabled or too sick to work. Six out of ten (61.1 percent) unemployed are seeking work for the first time (GSS, 2014).

The Pru District has the following statistics of employed population: about 66 percent are engaged as skilled agricultural, forestry and fishery workers; 11.7 percent in service and sales; 14.1 percent in craft and related trade, and 4.3 percent are engaged as managers, professionals, and technicians (GSS, 2014).

People who are aged 15 years and above are self-employed and constitute the highest proportion of employment category in the district. Within this category, males account for 65.3 percent while their female counterparts contribute 62.2 percent. Overall, men constitute the highest proportion in each employment category except in apprenticeship. The private informal sector is the largest employer in the district, employing 95.1 percent of the population followed by the public sector with 4.5 percent (GSS, 2014).

The District has one major referral hospital, two health centres and eight (8) CHPS compounds that attend to the health needs of the people. There are also various herbal and bone setting centres in the district. The District has five (5) second cycle institutions and 87 public basic schools (GSS, 2014).

The principal mode of transportation in the Pru District is road. The District has a total road length of 480 kilometres of which 68 kilometres forms the highway road which runs from Atebubu to Yeji, the district capital. The remaining 420kms form the feeder roads. Out of the 420kms of feeder roads, only 180km representing 24.1 percent can be described as good with the rest being in either fair or bad condition.

Water as a means of transport also plays a significant role in the transport system of the district. The use of ferries, boats and canoes to convey people and goods on the Volta Lake is very significant and serves as a major link between the district and the Northern Region. Another important means of transport is the Akosombo Queen (Ferry). It docks at Yeji every Tuesday and serves as a major link between the district and other parts of Ghana. The presence of Volta Lake has helped people to trade along the river and improved movement of goods and services, which has affected the livelihood of fisher men and women who trade around.

The district has many untapped tourism potentials. The vast lands along the Volta Lake can be developed in areas of aesthetic and scenic beauty. For instance, the low lying lands near Blenkente and Vutideke could be used as beaches for recreational activities. The largest island on the lake Accra-Town is also worth viewing. The caves at Benin which house the rare Rosina bats and the waterfalls on the Wansan River are all areas of attractive sites which are worth visiting.

The Pru District population have various religious groups and denominations. A little over half (54 percent) of the population are Christians with Pentecostal/Charismatic being the dominant denomination accounting for 19.7 percent of the population. There are more female Christians (56 percent) than male Christians (52.2 percent) in the district, with 20.8 percent of the females being Pentecostal/Charismatic. Islam is the second largest religious group representing 21.7 percent of the population (GSS, 2014).

Other people in the district are adherents of African Traditional religions constituting 12.6 percent of the population with a higher proportion of males (13.4 percent) than females (11.9 percent). However, 11.2 percent of the population are atheist, and 0.3

percent represents other minor religious groups (GSS, 2014). These various religious beliefs have influenced the general behaviour morally of the people as a whole.

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Coconut Plantation



Oil Plantation



Cashew Plantation

**Plate 3.5 Some Plantations in the Pru District
Field Survey, 2016**

Table 3.1: Large Scale Land Investment Companies in Brong-Ahafo Region

Location	Name of acquiring body	Feedstock	Year of Entry	Size of land acquired (ha)	Production Status
Kadue, Makomanya	Smart Oil Ghana Limited (USA)	Jatropha and Cashew	2009	2,500	Collapsed and now back into operation
Adwentura, Prang	Natural African Diesel Ghana Limited	Jatropha and Cashew	2008	2,200	Collapsed and now back into operation
Fawoman	Kirminic Estates Limited (Canada/Ghana)	Jatropha and Mango	2007	1,500	Collapsed and now back into operation
Kobre, Abease	Jatropha Africa (UK/Ghana)	Jatropha and Mango	2007	1,500	Collapsed and now back into operation
Bredie	Kirminic Estates Limited (Canada/Ghana)	Jatropha and Mango	2007	1,140	Collapsed and now back into operation
Chewanche, NigriJeto	Kirminic Estates Limited (Canada/Ghana)	Jatropha and Mango	2010	2,500	Collapsed and now back into operation

Source: Pru District Agricultural Development Unit Report, 2015



Plate 3.6 Some Plantations in Pru District

Field Survey, 2016

3.3. Philosophy of the Study

Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems (Creswell and Clark, 2007). The study employed mixed method approach. The study therefore used a combination of quantitative and qualitative methods to answer the research questions.

Paradigmatic Issues

A paradigm consists of the following components: ontology, epistemology and methodology. Every paradigm is based upon its own ontological and epistemological assumptions. Since all assumptions are conjecture, the philosophical underpinnings of each paradigm can never be empirically proven or disproven. Different paradigms inherently contain differing ontological and epistemological views; therefore, having different assumptions of reality and knowledge which underpin the research approach.

Ontology

It is a philosophical study of the nature of reality and worldview. Ontological assumptions are concerned with what constitutes reality, in other words what is. Researchers need to take a position regarding their perceptions of how things really are and how things really work (Crafty, 1998). Large scale land acquisition is attributed to the convergence of global crises (financial, environmental, energy, food). In recent years, there has been a dramatic reappraisal of the desire or need and rush to acquire land by investors or individual, especially land located in the global South.

The ontological position of positivism is one of realism. Realism is the view that objects have an existence independent of the knower (Cohen *et al.*, 2007). Thus, a discoverable reality exists independently of the researcher (Pring, 2000a). Most positivists assume that reality is not mediated by our senses. Language fulfils a representational role as it is connected to the world by some designative function; consequently, words owe their meaning to the objects which they name or designate (Frowe, 2001). The effect of large scale large acquisition in the Pru District is independent from the researcher conducting the study which will help guide stakeholders to formulate specific policies to mitigate the rising effects on the livelihoods of smallholder farming households in the Pru District.

Epistemology

Epistemology is concerned with the nature and forms of knowledge. Epistemological assumptions are concerned with how knowledge can be created, acquired and communicated. In other words, it means —to knowl (Cohen *et al.*, 2007). Guba and Lincon (1994) explain that epistemology asks the question; what is the nature of the relationship between the would-be knower and what can be known and Philosophy/theory about the nature and scope of knowledge. It questions what knowledge is and how it can be acquired and the extent of its validity and limits. In adding to knowledge the study seeks to answer these questions; How do large scale investors acquire land in the Pru District Assembly of Brong-Ahafo Region?; To what extent has large scale land acquisitions affected the livelihood outcomes of smallholder farmers in the Pru District Assembly?; What factors influence the effects of large scale land acquisition on the livelihoods of smallholder farmers?; To what extent factors influencing large scale land acquisitions has affected the livelihood of smallholder

farmers in the Pru District Assembly?; How do smallholder farmers cope with and adapt to the effects of large scale land acquisitions on their livelihoods?

The positivist epistemology is one of objectivism. Positivists go forth into the world impartially, discovering absolute knowledge about a reality. The researcher and the research are independent entities. Meaning solely resides in objects, not in the conscience of the researcher, and it is the aim of the researcher to obtain this meaning (Crotty, 1998). Thus, phenomena have an independent existence which can be discovered via research- effect of large scale land acquisition on the livelihood of smallholder farmers in the Pru District. Positivistic statements are descriptive and factual. The scientific paradigm is foundational as scientific propositions are founded on data and facts. This discoverable knowledge acquired in the study is considered to be absolute and value free from bias moreover, not situated in a political or historic context.

Positivist methodology is directed at explaining relationships thus, large scale land acquisition and livelihood outcomes, factor influencing the extent of LSLA and livelihood outcomes. Positivists attempt to identify factors which influence outcomes for example how large scale land acquisition affect coping and adaptation strategies of local communities. These aid in formulating laws, thus yielding a basis for prediction and generalization of the study finding. Post-positivists seek to understand causal relationships; thus, experimentation and correlational were used to answer the hypotheses of the study as the researcher formulated 8 null hypotheses.

3.4 Research Methodology

3.4.1 Research Design

The study has been designed as a cross-sectional survey. This involves observation of the entire population, or a representative subset, at one specific point in time. It mostly aims at describing the pattern of relations before any causal inference is made. In this design, a researcher examines the relationship between the dependent and independent variables under investigation. Researchers such as Olsen and Diane (2004) and Malhotra *et al.*, (2006) argue that cross-sectional surveys are easy and faster to undertake. They further argue that the cross-sectional survey provides a better approach for descriptive analyses and formulation of hypotheses; was suitable approach to measure the prevalence of all factors under study and also a suitable design to study multiple outcomes and exposures. According to Mann (2003) and Levin (2006), studies designed as cross-sectional survey can be helpful in determining how respondents are affected by a condition and whether the frequency of the occurrence varies across groups or population characteristics. In this study, smallholder farmers who have been affected by large scale land acquisition were sampled to assess the effects of large scale land acquisition for jatropha investment and other plantation projects (mango and cashew). The study took a snapshot of the process of large scale land acquisition, the effects of the intervention on affected communities and smallholder farmers; their livelihood assets, outcomes and strategies; as well as the strategies that have been put in place to cope with and adapt to the situation, at a point in time without making reference to —past situations or conditions. The generalizability of such studies is good, because they are representative of given populations (e.g. when data has been collected systematically, and some probability sampling technique has been employed).

A survey is a method of collecting data in a consistent way. The survey approach is useful for documenting existing community conditions, characteristics of a population, comparing groups and community opinion, among others. The survey strategy was

considered to be most appropriate research approach to provide the required quantitative and qualitative descriptions of the effects of large scale land acquisition on affected smallholder farmers and the strategies the affected smallholders adopt in coping and adapting to the effects of large scale land acquisition in the Pru District.

According to Morse and Field (1996), qualitative researches are inductive, holistic, subjective and process-oriented studies used to understand, interpret, describe and develop theory on a phenomenon or setting. To ensure internal validity, qualitative techniques were applied to elicit responses from respondents (smallholder farmers) in the sample communities. The responses the smallholder farmers and the groups centred on the effects of the acquisition of their lands for plantation, the strategies put in place to cope and adapt to the situation.

The research process started with a preliminary review of literature. The literature review identified sustainable livelihood frameworks by the United Nations Development Programme (UNDP), Department for International Development (DFID) and Cooperative for Assistance and Relief Everywhere (CARE) International. Further review on theories that attempt to discuss the effects of the large scale land acquisition on livelihoods was done.

To address the knowledge gap, series of research objectives and questions were designed to gather relevant information. The research objectives, questions and hypotheses were addressed through the application of an appropriate research methodology. The data that were collected were informed by the objectives of the study. These were collected from both primary and secondary sources using a combination of qualitative and quantitative approaches. The data were analysed using

various analytical methods to achieve the research objectives. The conclusions from the study have therefore been based on the research objectives.

3.5 The Study Variables

This section outlines the variables that were used for the analysing of the issues and addressing the research questions of the study. Measurement and analyses of these variables helped to establish the effects of large-scale land acquisition on the livelihoods of smallholder famers in the study communities. The variables used for the study are described in Table 3.5.



Table 3.5: Variables Used for the Study

Variable	Description/ Operational definitions	Measurement Constructs	Scale
1. To Access the Process of which large scale land is acquired in the Pru –District of Brong Ahafo Region			
Awareness of the land acquisition process	Awareness of the land acquisition process is a prerequisite for land acquisition for jatropha investment. Awareness of stakeholders about the land acquisition process (yes/no) was assessed.	1 = Aware 0 = Not aware Respondents who indicated ‘yes’ were further asked to provide details of the process(es) involved in the land acquisition for jatropha investments	Categorical (Dichotomous)
Involvement/Participation in the land acquisition process	The involvement and form of participation in the land acquisition process for large scale jatropha investment Involvement/participation of stakeholders in the land acquisition process is a prerequisite for land acquisition for jatropha investment. Involvement (yes/no) and form of stakeholders about the land acquisition process was assessed.	1 = Induced 2= Coerced 3 = Spontaneous	Categorical (Nominal)
2. To assess the effects of large scale land acquisition on the livelihood assets of affected small holder farmers			
Human Asset	Human capital represents the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives.	This was measured as high, indifferent/neutral or low. The parameters used were: - 1 = low; 0 = neutral; or 1 = high. Affected smallholder farmers were further made to give a comprehensive description of the effects of the phenomenon and their reason for the score	Ordinal
Social Asset	The social resources upon which people draw in pursuit of their livelihood objectives. These include networks for cooperation, mutual trust, and support, reciprocity and exchanges that facilitate co-operation, reduce transaction costs and may provide the basis for informal safety nets amongst the poor.	This was measured as high, indifferent/neutral or low. The parameters used were: - 1= low; 0 = neutral; or 1 = high. Affected smallholder farmers were further made to give a comprehensive description of the effects of the phenomenon and their reason for the score	Ordinal
Natural Asset	Represents the natural resource stocks from which resource flow and services (e.g. nutrient cycling, erosion protection) useful for livelihoods are derived. These include land, farm sizes, forests, water, air quality, erosion protection, biodiversity degree and rate of change; For all these, it is important to consider access and quality, and how both are changing.	This was measured as high, indifferent/neutral or low. The parameters used were: - 1 = low; 0 = neutral; or 1 = high. Affected smallholder farmers were further made to give a comprehensive description of the effects of the phenomenon and their reason for the score	Ordinal

Physical Asset	Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods. Infrastructure consists of changes to the physical environment that help people to meet their basic needs, and to be more productive. Producer goods are the tools and equipment that people use to function more productively.	This was measured as available and not available. The parameters used were: - 1=low; 0 = neutral; or 1 = high. Affected smallholder farmers were further made to give a comprehensive description of the effects of the phenomenon and their reason for the score	Categorical Nominal
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Cont' Table 3.5: Variables Used for the Study

Variable	Description	Measurement	Scale
Financial Asset	Financial capital denotes the financial resources that famers would use to achieve their livelihood objectives. It has been adopted to try to capture an important livelihood building block, namely the availability of cash or equivalent that enables affected smallholder farmers to adopt different livelihood strategies. The explanatory variables include savings, credit/debt, remittances, pensions, wages	This was measured as available and not available. The parameters used were: - 1=not available; 0 = neutral; or 1 = available. Affected smallholder farmers were further made to give a comprehensive description of the effects of the phenomenon and their reason for the score	Categorical (ordinal)
3. To assess the effects of large scale jatropha investments on the livelihood strategies of the affected small-holder farmers in the Pru District			
Shocks	This represents the exposure of households (smallholder farmers) to shock (which includes environmental, conflicted-related) as a result of the large scale acquisition. The effect of exposure of smallholder farmers to shocks as result of large scale land acquisition for jatropha investment was assessed.	This was first measured as a dichotomous variable with 'highly exposed', 'partially exposed' and 'not exposed' responses to identify smallholder farmers' exposure to shocks as a result of large scale land acquisition for jatropha investments. These were then assessed using descriptive statistics to ascertain the proportion of smallholder farmers who as a result of the land grabbing where exposed to shocks or otherwise A three-point Likert scale was further used determine the degree of exposure to shocks. The parameters used were: - -1=not exposed; 0 = partially; or 1 = highly exposed.	Categorical (Dichotomous) Categorical (Ordinal)

Trends	This represents the exposure of households (smallholder farmers) to changing trends such as resources, technology (which includes environmental, conflictedrelated) as a result of the large scale acquisition. The effect of exposure of smallholder farmers to trends as result of large scale land acquisition for jatropha investment was assessed.	This was first measured as a dichotomous variable with 'yes' and 'no' responses to identify smallholder farmers' exposure to trends as a result of large scale land acquisition for jatropha investments. Yes response was equivalent to being exposed to trends whereas 'no' response was interpreted as not being exposed to trends. These were then assessed using descriptive statistics to ascertain the proportion of smallholder farmers who as a result of the land grabbing where exposed to trends or otherwise A three-point Likert scale was further used determine the degree of exposure to trends. The parameters used were: - 1=low (negative); 0 = neutral; or 1 = high (positive)	Categorical (Dichotomous) Categorical (Ordinal)
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Cont' Table 3.5: Variables Used for the Study

Variable	Description	Measurement	Scale
Seasonality	This represents the exposure of households (smallholder farmers) to seasonality conditions such as price fluctuations, employment opportunities, as a result of the large scale acquisition. The effect of exposure of smallholder farmers to seasonality as result of large scale land acquisition for jatropha investment was assessed.	This was first measured as a dichotomous variable with 'yes' and 'no' responses to identify smallholder farmers' exposure to seasonality as a result of large scale land acquisition for jatropha investments. Yes response was equivalent to being exposed to seasonality whereas 'no' response was interpreted as not being exposed to seasonality. These were then assessed using descriptive statistics to ascertain the proportion of smallholder farmers who as a result of the land grabbing where exposed to seasonality or otherwise A three-point Likert scale was used to determine the degree of exposure to seasonality. The parameters used were: - 1=low (negative); 0 = neutral; or 1 = high (positive)	Categorical (Dichotomous) Categorical (Ordinal)

To determine that effects of large scale jatropha investments on the livelihood outcomes of affected small holder farmers

Income	The total income of smallholder farmers before and after the land acquisition was estimated to better ascertain the effects of large scale land acquisition for jatropha investments	The total annual revenue derived from economic activity was estimated by multiplying the total annual output by its farmgate price. The products were summed up to obtain the total revenue earned by the farmer per annum.	Continuous (Interval)
Food security	The total farm output of smallholder farmers before and after the land acquisition was estimated to better ascertain the effects of large scale land acquisition for jatropha investments	This was measured in bags of the farm crop per acre	Continuous (Interval)
Employment	The economic activities (if not on the jatropha farms) affected smallholders are currently engaged as a result of the land acquisition	This was first measured as a dichotomous variable with 'yes' (affected my employment situation) and 'no' (has not affected my employment situation) responses to the effects of large scale land acquisition on the employment status of smallholder farmers. These were then analysed using descriptive statistics.	Categorical (Dichotomous)

Cont' Table 3.5: Variables Used for the Study

Variable	Description	Measurement	Scale
To determine the strategies the affected smallholder farmers use to cope with and adapt to the effects of the large scale jatropha plantations			
Change in use of livelihood resources	Affected smallholder farmers	Yes =changed use of livelihood resources No = have not changed use of livelihood resources	Categorical (Dichotomous)
Change in livelihood activities	It was anticipated that affected smallholder farmers would change their livelihood activities as a strategy to cope with and adapt to the large scale land acquisition for jatropha investments	Yes =changed livelihood activities No = have not changed livelihood activities	Categorical (Dichotomous)
Change in location	It was anticipated that affected smallholder farmers would change their locations (place of abode) as a strategy to cope with and adapt to the large scale land acquisition for jatropha investments	Yes =changed location No = have not changed location	Categorical (Dichotomous)
Change in household consumption	It was anticipated that affected smallholder farmers would change their household consumption patterns as a strategy to cope with and adapt to the large scale land acquisition for jatropha investments	Yes =changed household consumption No = have not changed household consumption	Categorical (Dichotomous)

Change in farming systems	It was anticipated that affected smallholder farmers would change their farming systems as a strategy to cope with and adapt to the large scale land acquisition for jatropha investments	Yes =changed farming systems No = have not changed farming systems	Categorical (Dichotomous)
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Source: Author's Construct, 2016



3.6 Sources of Data

Data gathering according to Burns and Groove (2003) is the precise, systematic collection of information relevant to the research sub-problems, using methods such as interviews, participant observation, focus group discussion, narratives and case histories. A combination of primary and secondary data were collected and were used to address the research questions. The secondary information was obtained from published and unpublished documents, international reports, magazines, bulletins, journals, articles and conference proceedings and the Internet. The secondary sources of information formed the conceptual and theoretical base of the study. The primary data were gathered through interviews with the use of structured questionnaires from smallholder farmers, house heads and others. The population included all the selected affected and unaffected smallholder farmers and stakeholders in the Pru District. The population and units of enquiry for the study have been organised under the three methods for the collection of data in the study; cross-sectional survey, focus group discussion and key informant interviews.

3.6.1 Secondary Sources of Information

The Secondary data were obtained from the review of related literature in journals, conference proceedings, book chapters, magazines and newspapers. The other sources of secondary data were published and unpublished documents such as books, project reports, government policy documents and unpublished documents (such as project reports, District Assemblies' Development Plans and students' thesis).

The secondary data were again gathered with the aid of a checklist which was prepared to cover the following areas: Drivers for Large Scale Land Acquisition for

Plantations; Regions of Attraction of Plantation Investments; Concepts of Livelihoods; Land acquisition processes and practices in Ghana; and Measures used by affected individuals to cope with and adapt to the adverse effects of large scale land acquisition for investments in Ghana.

3.6.2 Primary Data Sources

Primary data were gathered through a systematic process of interview schedule design through pre-testing to the administration of interview schedules and interviewer-administered questionnaires. Key informant interviews and focus group discussions were also used to obtain data from experts and the relevant associations/institutions respectively. The primary data were thus obtained from key informants such as the

Customary Land Secretariat, Office of the Administrator of Stool Lands, District Assembly Development Unit, District Assemblies, and Lands Commission (see Table 3.2). The other respondents that gave primary data included farmers in the communities, Traditional Authorities, and the selected companies engaged in the jatropha plantations. The primary data were obtained from field surveys using interview guides, semi-structured questionnaires and direct observation (with observational checklist).

Table 3.2: Data Collection Tools and Sources

Data Type	Collection tools	Data Sources
Qualitative: Primary/ Secondary	Observation Interviews Focus Groups Discussions Key informant interviews	Household heads Institutions [District Assembly, District Agriculture Development Unit, Customary Land Secretariat, Office of the Administrator of Stool Lands, Forestry Commission, Land Commission and Traditional Authorities] Jatropha companies

Quantitative:	Questionnaires	Household heads
Primary/ Secondary	Key informant interviews	

Source: Field survey, 2015,

3.7 Approach for Data Collection

The mixed method approach was used for the study. The study therefore used a combination of quantitative and qualitative methods to answer the research questions. The methodological eclecticism inherent in the mixed research design results in superior results (Johnson and Onwuegbuzie, 2009). The strength of this strategy is that the weakness of one is overcome by the other (Bryan, 2008 cited in Alatinga and Fielmua, 2011). The qualitative methods, mainly content review of literature of the large scale land acquisition for investments and the effects it has on affected communities and supplemented with key informant interviews were used to understand the effects of large scale land acquisition for jatropha investment and other plantations on affected smallholder farmers. Focus group discussion was also used to obtain qualitative data from smallholder farmer-based associations in the Pru District. The quantitative data were obtained through a cross-sectional survey from smallholder farmers in the study communities in the Pru District.

3.8.1 Study Population

For the purpose of this study the population consisted of smallholder farmers (households) in the five farming communities in the Pru District of the Brong-Ahafo Region of Ghana. A sample frame of the population of farmers in the farming communities in the study district was obtained from the District Agricultural Development Unit (DADU) and compared with the list of farmers provided by the Ghana Statistical Service from the 2010 Population and Housing Census. The number of smallholder farming households in the study areas constituted the sampling frame

with the heads of households being the units of inquiry. The smallholder farmers consisted of affected smallholder farmers of large scale land acquisition for plantation (intervention communities) and smallholder farmers in the same communities who have not lost their lands to the large scale land acquisition for any plantation investments. Farmer-based Organisations in the communities were also covered by the study.

The population comprised all the institutions identified in the Large Scale Land Acquisition for Investments or Plantations as stakeholders for the implementation of Private Partnership Projects (PPPs) of land acquisition for plantation investments.

These comprised: Environmental Protection Agency (EPA), District Assembly (DA), Ministry of Food and Agriculture (MOFA), District Agricultural Development Unit (DADU), Customary Land Secretariat (CLS), Office of the Administrator of Stool Lands (OASL), Forestry Commission (FC), Lands Commission (LC) and Traditional Authorities (TAs). The heads of these groups or institutions were the units of inquiry.

The population for the focus group discussion were all the smallholder farmer-based organisations in the study communities. The units of enquiry, hence, were the members of the associations. Every focus group discussion was made up of ten participant which included 7 males and 3 females. Five focus group discussions were organised in each community as a section was organised for the youths.

Large scale land acquisition for plantation has economic and social manifestation or effects, particularly on affected farmers, as emphasised by some researchers through the review. Some researchers have emphasized that large scale land acquisition for plantation have diverse impacts on structures supporting communities livelihood and socio- economic development of the beneficiaries (Cotulla *et al.*, 2009; Ellen and

Kring, 2012; Hayman, 2010; World Bank, 2010) within the catchment communities and beyond. After the review of literature, it identified two districts; namely Central Gonja District and Pru District, within the Northern Region and Upper part of Brong Ahafo Region respectively. These Districts have experienced large scale land acquisition.

The Pru District was chosen for study due to the larger tract of lands acquired for the plantation. According to Tauli-Corpuz and Tamang (2007), communities affected by large scale land acquisition, experience numerous effects and smallholder farmers are much worse off. Within the study area, Pru District, about five communities were identified to have been affected by large scale land acquisition for other plantations. These include Adwentura, Kobre, Kadue, Prang and Abease. These communities were selected based on the fact that, there were large tracts of land for plantations.

It is generally assumed that once large scale land acquisition for investments takes place, the livelihood assets and outcomes of communities and individuals (households and in this study, smallholder farmers) are affected. This assumption underpins the selection of the five communities for the study.

Table 3.3: Institutions Interviewed

Names of Institutions	Number of People Interviewed
District Assembly	1
District Agriculture Development Unit	1
Customary Land Secretariat	1
Office of the Administrator of Stool Lands	1
Lands Commission	1
Traditional Authorities	1
Smart Oil	1
Natural Africa Diesel Ghana Limited	1
Jatropha Africa	1

Kirminic Estate	1
Total	10

Source: Field Survey, 2015

3.8.2 Sample Size and Frame

Based on the sampling frame of 2,554 households in the communities, a sample size of 435 of which 13 respondents in the processes of answering the questionnaire stopped, hence leaving the researcher to deal with 332 smallholder farmers' household heads comprising of 281 affected household heads and 51 non-affected household heads was used for the study. This was determined from the sampling frames using the Gomez and Jones (2010) formula expressed as:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{2554}{1 + 2554(0.05)^2} = 345$$

Where 'n' is the sample size and the 'N' and 'e' are the sampling frame and error margin respectively. The margin of error was 5 percent with 95 percent confidence level. The use of the formula helped in selecting optimal sample size.

3.8.3 Sampling Technique

The sampling frame has been described under the methods adopted for the study. This is to enhance readability and reproducibility of the study. The process used to determine the minimum number of samples required for the study has been explained in this section of the chapter.

A sample frame of the population of smallholder farmers in the farming communities in the study district was obtained from the District Agricultural Development Unit (DADU) and compared with the list of farmers provided by the Ghana Statistical

Service from the 2010 Population and Housing Census.

The number of farming households in the study areas constituted the sampling frame with the heads of households being the units of inquiry (See Tables 3.4).

Table 3.4: Allocation to the Communities in the Pru District

Community	Total population (HH)	Household size	Affected households	Non-affected households	Sample size
Adwentura	210	5.1	4	23	27
Kadue	435	7.9	9	49	57
Kobre	943	6.6	19	104	123
Prang	630	13.3	12	70	82
Abease	326	10.5	7	35	43
Total	2,554	-	51	281	332

Source: Field Survey, 2015

3.8.4 Sampling Procedure

A multi-stage sampling technique was employed. The Pru District in the BrongAhafo region was purposively selected based on the fact that it is the most affected with activities of large scale land acquisition in Ghana. In sampling, the main focus is to select a portion, of the whole population (Hussey and Hussey, 1997). It is in this respect that representativeness of the population of which a sample forms a part becomes fundamental to sampling. However, certain characteristics of the population of which a sample forms a part becomes fundamental to sampling. Certain characteristics or phenomenon are not distributed randomly or uniformly in a population. In such cases, a representative sample may not at all include a unit typical of the characteristic in question or it may include a unit typical of the characteristics in question, or it may include so few units that their analysis may not be statistically significant. In such case,

it is more appropriate to identify units of the population which satisfy the characteristic of the phenomenon under investigation.

In purposive sampling, the units of the sample are selected not by a random procedure, but they are purposively picked for study because they satisfy certain qualities which are not randomly distributed in the population, but they are typical or they exhibit most of the characteristics of interest to the study. In the Brong Ahafo Region, most of the districts have suffered and affected by LSLA but within the region the Pru District is the most affected. It was the purposively selected because of the number of investors. Thus, in purposive sampling, judgement and knowledge of the characteristics of units of the population as to the object of the study is important. Where it is known that certain individual units, by their very characteristics will provide more and better information on a particular subject than a randomly selected unit and are purposefully picked up for study.

The second stage involved cluster sampling to ensure that all communities affected by large scale land acquisition are represented in the final sample. In Cluster Sampling also known as area sampling, sometimes, the unit of investigation may exist in clusters, a simple random selection of a cluster or a group of clusters will simplify the investigation and reduce cost and at the same time degree of accuracy as a random sample. In a cluster sampling, the units of investigation are grouped into a number of large units or cluster from which a number of clusters not individual units of investigation are selected. The selected cluster constitutes the sample to investigation. In most cluster sampling, every unit in the selected cluster is subjected to investigation. When cluster sampling is considered as a particular type of a two-stage sampling, then units of the selected cluster may be randomly selected for investigation. The Pru

District has been selected as LSLA district and Kobre, Adwentura, Kadue, Prang and Abease were the five communities selected for the study.

The last stage involved simple random sampling technique which was applied to select the smallholder farming households in each cluster (study communities). The simple random sample was employed in such a way that each unit in the population stands an equal chance or probability of being included or excluded in the final sample. This in a simple random sample, each unit was selected and it has the same or an equal chance of inclusion or exclusion as those units actually excluded. The simple random sample is also known as probability sample.

The application of the simple random sampling technique was made possible by the availability of sampling frame which identified the units of inquiry by their names and location. The simple random sampling technique was operationalised through the lottery method. The names of the household heads were written on pieces of paper and put in a box. The papers were drawn without replacement until the required number of each set of the units of inquiry was obtained. The use of the simple random sampling technique was facilitated by the availability of detailed sampling frame, which identified the respondents by their names (or any other form of identification) and locations. They were therefore selected ahead of the interviews.

Nevertheless, the study communities were purposively selected based on:

- i. The Project stakeholders and relevant institutions of the District and Regional office of Brong Ahafo.
- ii. Involvement of the community lands in the acquisition
- iii. Numbers of smallholder farmers on such lands affected

3.8.4.1 Sample Size for the Focus Group Discussion

According to Manoranjitham and Jacob (2007), the ideal number of participants for focus group discussion ranges between eight and ten. The number of participants selected from the associations for the focus group discussions was thus inspired by the work of Manoranjitham and Jacob (2007). Ten members (10) within each of the farmer-based associations were therefore selected. Three participants were the leaders, thus the chairperson, secretary and treasurer of the associations.

Three members in leadership positions (president/chairpersons, secretaries and organisers) of the various associations involved in this study were purposively sampled. The remaining seven were randomly sampled from the members of the associations. Numbers were assigned to members of an association and were first written on pieces of paper. These were then dropped in a box, shuffled and handpicked until the required number of members was obtained. These steps were repeated for the rest of the others that were covered in the focus group discussions.

3.8.4.2 The Key Informant Interviews

The institutions that were covered in the study were purposively selected for the research. Their selection was based on their roles in the formulation or implementation of policies, plans and programmes regarding large scale land acquisition process for plantation investments. Thus, relevant state institutional heads such as the EPA, LC, MOFA, DA, DADU, OASL, FC, TAs, and the officials of the jatropha company (Smart Energy Company and others) giving a total of ten (10) stakeholders sampled for the interview. In addition, fifty (50) farmer-based association member were involved in the focus group discussions.

3.9 Methods of Data Analysis

The process of acquiring large scale land in the Brong-Ahafo Region was

qualitatively analysed using a flow chart and with the assistance of an interpreter. The qualitative speeches were transcribed and analysed thematically. The Livelihood Effect Index (LEI) espoused by Downing (2003) was employed to measure the effect of large scale land acquisition on the livelihood of smallholder farmers in the Pru District of the Brong-Ahafo region.

The Livelihood Effect Indicator is commonly used in assessing effect of a project or risk on the livelihood of a system. The advantage of the LEI is that, it provides a framework that makes it possible to analyse both the essential indicators of livelihood and the contextual factors influencing these indicators. The Livelihood Effect Index assumes equal weights for all major and sub-components of livelihood assets.

The degree of effect of large scale land acquisition on smallholder farmers' livelihoods have been examined at two levels based on the Sustainable Livelihood Framework computing the indices of communities and the district.

The five livelihood indicators used by Downing (2003) are human, social, financial, physical, and natural capitals. Each of the indicators is composed of several subindicators (see Table 3.2) which are measured on different scales. The sub-indicators are first standardised to a common scale using equation (1).

$$Index_s = \frac{S^s - S_{Min}}{S_{Max} - S_{Min}} \quad (1)$$

Where $Index_s$ is the sub-indicators of Livelihood Effect Index, S^s is the observed value for sub-indicator s , S_{Min} and S_{Max} are the minimum and maximum values of the sub-indicator in the combined data.

After standardising the sub-indicators for each of the indicators of the Livelihood Effect Index, the index for each of the indicators was then calculated by averaging the indices of the sub-indicators as given in equation (2)

$$C_i = \frac{\sum_{i=1}^N Index_i}{N} \quad (2)$$

Where C_i is one of the five capital indicators of LEI, N is the number of subindicators constituting the capital indicator.

$$LEI = \frac{\sum_{i=1}^5 W_i C_i}{\sum_{i=1}^5 W_i} \quad (3)$$

Where LEI denotes the Livelihood Effect Index, C_i is the value capital indicator i , W_i is the weight of each capital indicator, determined by the number of sub-indicators which comprised of the LEI is scaled from 0 (least affected) to 1 (most affected).

In determining the effect of large scale land acquisition on the livelihoods of smallholder farming households, the Chi Square statistic, the Product Moment Correlation Coefficient (Karl Pearson's Coefficient) and the Spearman's rank Correlation Coefficient are the parametric techniques that can be used. The Pearson's Correlation Coefficient best suits a data set of two variables measured only quantitatively. On the other hand, the Spearman's Rank Correlation Coefficient is applied on a bi-variate data with both variables being measured quantitatively and appears non-linear; both variables are qualitative in nature or one variable is quantitative and the other is qualitative.

Given that farming households' responses on large scale land acquisition and the livelihood outcomes are qualitative, the study employed the Spearman's Rank Correlation Coefficient (one-tail) to determine the effect of large scale land acquisition on the livelihood outcomes of farming households. The Spearman Rank

Correlation Coefficient is computed using equation (4).

$$r_{xy} = 1 - \frac{6 \sum d^2}{n(n^2 - 1)} \quad (4)$$

r^{xy} is the correlation coefficient for large scale land acquisition and a Where livelihood outcome (employment, food security income, healthcare and nutrition), n is the number of paired observations and d is the difference in each paired ranks.

To test for the statistical significance of the Spearman's Rank Correlation Coefficient, the t -statistic was employed to validate the third set of hypotheses in Chapter One. The t -statistic is computed using equation (5).

$$t = \frac{r_{xy} \sqrt{n-2}}{\sqrt{1-r_{xy}^2}} \quad (5)$$

Where t is the t -calculated, which can be positive correlation or negative correlation, r^{xy} is the computed correlation coefficient for large scale land acquisition and a livelihood outcome (employment, food security income, healthcare and nutrition) and n is the number of observations ($n=332$).

The decision rule is to reject the null hypothesis (H_0) if $t_{cal} > t_{cri}(\text{one tail})$; otherwise, reject the H_0 .

The coping and adaptation strategies used by farming households were identified and analysed using descriptive statistics such as percentage presented in the form of tables.

Table 3.7: Indicators and Sub-Indicators of Livelihood Effect Index

Capital Indicator	Sub-Indicator
Human Capital	HHs having reduction in nutrition
	HHs reporting loss of life, injury or new diseases
	Average age of HHs
	HHs reporting negative effect of large scale land acquisition on their health
	Average food insufficient months
	Inverse of crops diversification index
	HH attributing reduction in average crop output to large scale land acquisition
	HHs where a family members has not taken any kind of vocational training
	HHs reporting negative effect of large scale land acquisition on their education
Natural Capital	Acres lost to large scale land investors
	HHs who were not part of the land acquisition process
	HHs who were not compensated for relinquishing their land to large scale land investors
	Average distance to new farm land
	HH attributing change in farm distance to inception of large scale land investors
	HH who lost their land to large scale land investors
	HHs reporting land related conflict
	HHs using only forest-based energy for cooking purpose
	HHs reporting depletion in their forest products due to large scale land investment
	HHs that collect water directly from natural sources (river, stream, pond)
	HHs without consistent water supply
	HHs reporting depletion in their natural water sources
Social capital	Average HHs size
	HHs where HHH has not attended school
	HHs headed by females

	HHs that have not gone to their local assemblies for any kind of assistance within the past 12 months
	HH's years in community
Financial Capital	Acre owned by HH before large scale land acquisition
	Acres cultivated by HH now
	HHs depending solely on agricultural as source of livelihood
	HHs reporting loss of house or property due to large land acquisition
	HHs who do not have access to financial services
	HHs without any member working in a relatively more developed community/town
	HHs reporting some financial crisis
	Average HH income
	HHs attributing reduced income to large scale land acquisition
Physical Capital	HHs attributing changes in road network to large scale land acquisition
	HHs without access to farm inputs
	Inverse of agricultural livelihood diversification index

Source: Author's Construct, 2015

A simple linear regression was employed to determine the factors influencing large scale land acquisition on the livelihood of smallholder farming households. The general specification of a regression model is given by equation (6).

$$Y_i = \beta_0 + \beta_i X_i + \epsilon_i \quad (6)$$

Where Y_i is the dependent variable, β_0 is a constant, β_i is the coefficients to be estimated from the model, X_i is the array of variables and ϵ_i is the error term.

In this study, the computed LEI was the dependent variable and nine (9) factors were considered as independent variables in the regression model. The empirical model is presented in equation (7). Table 3.5 presents description of variables for the regression model.

$$LEI_i = \beta_0 + \beta_1 Edu + \beta_2 Sex + \beta_3 Off\ farm + \beta_4 Farmsize + \beta_5 Landlost + \beta_6 Decision + \beta_7 Labour + \beta_8 Age + \beta_9 Far\ min\ ginput + \epsilon_i \quad (7)$$

The second set of null hypotheses in Chapter One on the individual independent variables considered in the regression model as factors influencing the effect of large scale land acquisition on the livelihood of farming households were validated using the Z statistic. The Z statistic is given by equation (8).

$$Z_{cal} = \frac{\beta_i(X_i)}{SE(\beta_i)} \quad (8)$$

Decision rule: If $Z_{cal} > Z_{cri}$, then reject H_0 ; otherwise, do not reject H_0 .

Table 3.8: Description of Variables for the Regression Model

Variable	Description	Measurement
LEI	Livelihood Effect Index	$0 \leq LVI \leq 1$
Education	Years of Education of Household head	Years
Sex	Sex of Household Head	Categorical: 1=Male, 0=female
Farm size	Total farm size owned by Household	Acres
Off-farm	Household engagement in off-farm activities	Categorical: 1= yes, 0 = no
Farm land lost	Size of Household land lost to large scale land investors	Acres
Decision	Household participation in decision leading to land acquisition by investors	Categorical 1=yes, 0= no
Labour	Household access to labour	Categorical: 1=yes, 0= no
Training	Trained Households for other sources of livelihood	Categorical: 1=yes, 0= no
Age	Age of Household head	Year
Farm inputs	Household access to other farm inputs (eg, fertilizer, tractor, chemicals)	Categorical: 1=yes, 0= no

3.9.1 Measurement of Variables for Quantitative Analysis

3.8.1.1 Education

The level of education attained by household heads is expected to pose a negative influence on the extent to which the household is affected by large scale land acquisition. In this study, education of household heads is measured in terms of years spent in school. When household heads are educated, they easily understand issues relating to large scale land acquisition and can negotiate for better terms on behalf of his or her household members.

3.9.1.2 Sex of Household Head

The effect of large scale land acquisition on farming households' livelihood varies based on gender. In the literature, the effect of large scale land acquisition on farming households' livelihoods is high for female-headed households than male-headed households. Sex has been measured as a categorical variable with one (1) denoting male-headed household and 0 denoting female-headed household. The *prior* expectation of the study was that, sex will have a negative influence on the effect of large scale land acquisition on farming household's livelihoods.

3.9.1.3 Farm Size

This is the total size of farm land owned and controlled by farming household. Size of farm land is a measure of a household's wealth: the larger the farm size owned by a household, the wealthier the household and the smaller the size of farm land owned by a household, the less wealthy the household. Compared to households with small farm lands, households owning large farm lands may still have enough farm lands for cultivation after losing part of it to large scale land investors. Farm size was measured in acres and the *prior* expectation on the influence of farm size owned by households on the effects of large scale land acquisition on households' livelihoods is negative.

Thus, the larger the farm size owned by a household, the lower the effect of large scale land acquisition on their livelihood and vice versa.

3.9.1.4 Off-farm Activities

Off-farm includes all income generating activities engaged in by farming households other than farming. The off-farm activities included picking and processing of shea nut, fishing, petty trading, palm oil processing, catching of crabs and fish, formal employment, etcetera. Rather than depending on only farming as a source of livelihood, off-farm activities provide households alternative source of income as a way of livelihood diversification. In this study, farming households either engaged in off-farm activities or did not. In the literature, households engaged in off-farm activities are reported to be lowly effected with large scale land acquisition relative to households not engaged in any off-farm activity.

3.9.1.5 Farm Land Lost

Lands acquired by large scale land investors are mostly occupied and cultivated by smallholder farming households as the main source of livelihood. Farm land lost was measured as the total acres of farm land relinquished by farming household to land investors through large scale land deals. Given that the mainstay of people in rural Pru District Assembly is agriculture and land is the major source of livelihood, farming households losing more acres of land to investor *are expected to be highly effected by large scale land acquisition.*

3.9.1.6 Decision Making or Participation

In the literature, households' participation in decisions leading to the acquisition of large scale land by investors reduces the effect on their livelihood. When households are given a stake in the land acquisition process, they are able to negotiate for better

terms of land takeover for such as being allowed enough time to relocate, intercrop within the plantations and also be compensated for losing their farm lands which is their main source of livelihood. Households responded yes or no to participation in decisions leading to the acquisition of land by large scale land investors.

3.9.1.7 Labour

The most important factor of production for small scale agriculture is labour. This is because in the rural areas where agriculture is predominantly small-scale and rain-fed, labour-intensive is the mode of production rather than capital intensive. This suggests that farming households' access to labour is crucial to its productivity. The source of labour to farming households can either be family or hired. In either case, households with access to requisite labour can easily adapt to the effects of large scale land acquisition by employing labour-intensive adaptation strategies relative to households without access to labour.

3.9.1.8 Training

Training is an education on new ways of carrying out an activity. In this study, training was employed to connote new knowledge, expertise or skills given by large scale land investors to smallholder farming households to modernise their farming practices as a way of maximising their agricultural produce from limited farm lands or to enable farming households take up new jobs as an alternative to farming. The measurement for training in this study was 1 (yes) for households who received training and 0 (no) for households who have not received any training. In the literature, it is clear that households who received training are less affected with large scale land takeovers compared to households who do not.

3.9.1.9 Age

The influence of age on the effect of large scale land acquisition on the livelihood of farming households is mixed in the literature. On one hand, some literature report that age of household head has a positive influence on the effect of large scale land acquisition on the livelihoods of farming households. The argument here is that older household heads are more experienced to adapt to the effects of large scale land acquisition than younger household heads. On the other hand, age contributes positively to the effects of large scale land acquisition on farming households' livelihoods; the reason being that aging households lack the physical strength to implement certain adaptation strategies which are labour intensive and require more labour hours. In this study, age has been measured as the number of years of household head since birth and the *prior* expectation was either positive or negative.

3.9.2 Techniques for Quantitative Analysis

The Statistical Package for Social Science (SPSS, version 20) was used to analyse the quantitative data. This was done using descriptive statistics such as the measures of central tendency and dispersion, frequency/percentage distribution tables and relevant statistical diagrams to represent the quantitative data. The *t*-test was also used to test the research hypotheses. The regression and coefficient of determination were employed to establish causal relationships between variables.

3.9.3 Techniques for Qualitative Analysis

The qualitative data was analysed by means of the content approach and grounded theory. These qualitative approaches were used to analyse the views and expressions made by the units of enquiry in the course of interview.

3.9.4 Validation of Data

In making the respondents to understand and sign the consent form (see Appendix 1) to this study, an introductory letter was obtained from the head of the department, Department of Geography and Rural Development, Kwame Nkrumah University of Science and Technology (placed in Appendix 2). Copies of the introductory letter were given to the various stakeholders, key informants, household heads (if requested) and heads of the selected institutions in this study. That being said the interviewees were briefed about the purpose of the study and the time needed to complete the questionnaire/interview guide before they endorsed the consent forms.

The interviewees were assured of the need for confidentiality in the data collection. By these arrangements, the rights of the respondents were respected. The authors of scholarly works which were referred to in writing this thesis were duly acknowledged in both the running texts and the bibliographies of the relevant chapters.

Internal validity according to Tybout *et al.*, (1982) is —how well an experiment is done, with emphasis on whether it avoids confusion (more than one possible independent variable or cause acting at the same time). Thus, it connotes how well a research permits the researcher to choose among alternative explanations. Hence, internal validity was ensured by gathering data from diverse groups (i.e. primary stakeholders and the institutions) to understand the large scale land acquisition process for jatropha and other investments and the effects on affected communities, households and farmers. The data from these multiple sources provided completeness to the study.

External validity is the generalisability of the research, that is, the ability of its conclusions to be validly extended from the specific environment in which the research study is conducted to similar —real world situations. Externally valid research with generalisable conclusions is obviously more valuable than externally invalid research, whose conclusions are restricted to specific research settings. External validity thus

examines whether or not an observed causal relationship should be generalised to and across different measures, persons, settings and times (Tybout, 1982). External validity was also ensured by the choice of a representative sample for the study. The representativeness of the samples with 95 percent confidence level and 5 percent error margin and the appropriateness of the sampling techniques with the varied methods for the data collection make the results appropriate for generalisation.

Validity is the degree to which a test really measures what it claims to measure (Epstein *et al.*, 2004). Reliability on the other hand is the extent to which the test provides consistent results when it is administered to the same people at different times (Drost, 2011).

Now to ensure general validity of the study, the questionnaire was constructed to cover all the research objectives and thus comprehensive enough to be able to obtain the desired information to answer the research questions. The items in the questionnaire were all related to the focus of the study which ensured that it measured what it supposed to measure. Also, the questionnaire was pretested to ensure its practicality and easy administering.

Validity of a study can be internal or external. Internal validity according to Tybout *et al.*, (1982) is how well an experiment is done, with emphasis on whether it avoids confounding. Thus, it connotes how well a research permits the researcher to choose among alternative explanations. The less chance for confounding in a study, the higher its internal validity. Internal validity has been ensured by gathering data from diverse groups (i.e. primary stakeholders and the institutions) to understand the large scale land acquisition process for investments and the effects on affected communities,

households and farmers. The data from these multiple sources provided completeness to the study

A Cronbach's reliability test was conducted using SPSS version 21 to ascertain the degree of reliability of the Likert scale responses of the questionnaire when repeated to measure the same variables with the same sample, but at a different times. The result is presented in Table 3.6. A Cronbach's Alpha value of 0.851 indicates that, the questionnaire is 85 percent reliable and will produce the same results when administered with the same respondents at a different time.

Table 3.6: Results of Reliability Test

Cornbach's Alpha	Standardized Deviation	N ^o of Items
0.851	44.763	74

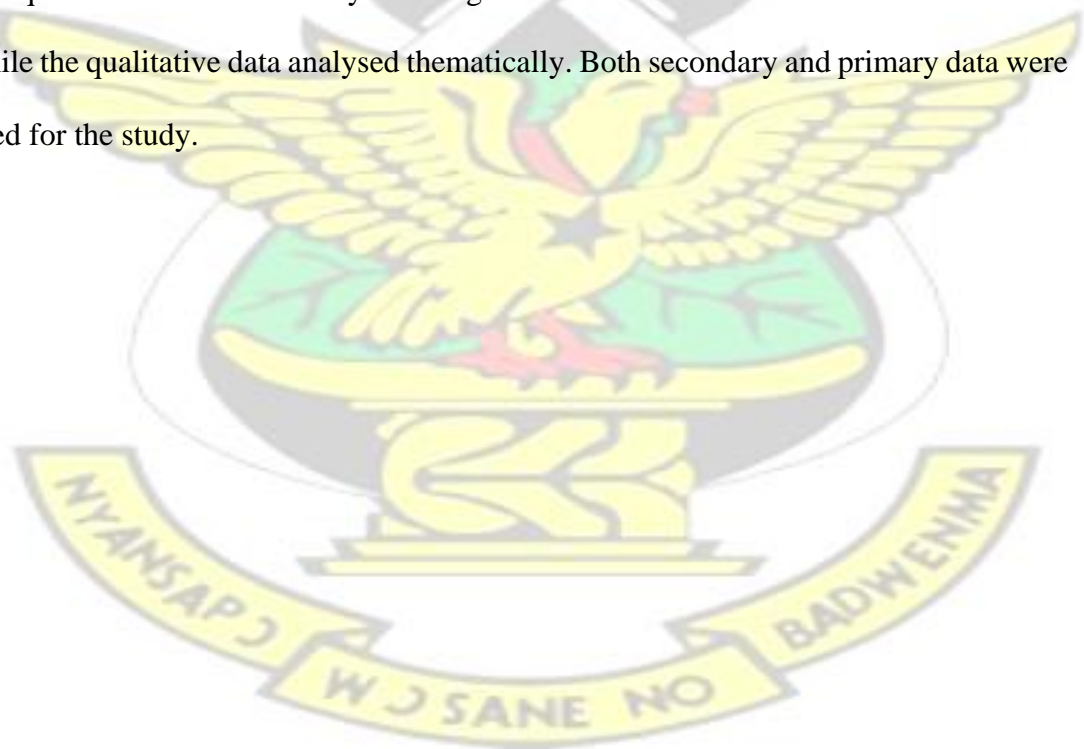
Source: Field Survey, 2016

The trained enumerators tested the survey instruments in two communities in the Pru District. As part of the pre-testing, enumerators were to observe the time taken to administer each interview schedule, the responsiveness of participants and any difficulty experienced in understanding and interpreting the questions in the instruments. The results of the pilot testing helped to fine-tune the instruments before a second pre-test was undertaken. The essence of carrying out the second pre-testing was to ensure that all the relevant feedbacks received from enumerators during the first pre-testing were incorporated in the final instrument and to ensure improvement in the quality of the interview schedules. Having quality assured the interview schedules through the pilot testing, the trained enumerators collected the required data from the five communities selected from the Pru District.

3.10 Chapter Summary

The chapter discussed the study area of the study. The Pru District was chosen for study because of the predominant issue of large scale land acquisition in the district which has received less attention in the area of research. The Pru District Assembly lies between Longitudes 00 30^{oo}W and 10 26^{oo} W and Latitudes 70 50^{oo} N and 80 22^{oo} N. It shares boundaries with seven other districts, namely East Gonja to the North (Northern Region), Sene East and Sene West to the East, Nkoranza and Atebubu-Amantin to the South and Kintampo-North and South to the West, all in the Brong-Ahafo Region. The District covers an area of 3220.7kmsq².

The study employed mixed methods involving both qualitative and quantitative methods. A focus group discussion and interview were conducted to solicit the qualitative data while quantitative data was gathered using structured questionnaires. The quantitative data was analysed using SPSS with the aid of the LEI livelihood index while the qualitative data analysed thematically. Both secondary and primary data were used for the study.



CHAPTER FOUR

SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENTS

4.1 Introduction

The preceding chapter considered the study area with emphasis on the location and the physical characteristics of the study area. It also considered the research methodology used, thus the data collection tools, type of data used for the study, research design, sampling procedure, data analyses, reliability and ethics of the study. The socio-demographic characteristics of farming households determined the magnitude of the effects of large scale land acquisition on their livelihoods and the strategy of coping and adapting to these effects. The socio-demographic characteristics of farming households considered by this study are age of household head, household size, and household income per annum, and total hectares of farm land owned by households, number of hectares of farm land lost by farming households to large scale land investors, sex of household heads and the educational level of household heads (see Table 4.1.).

Table 4.1: Descriptive Statistics of Sampled Smallholder Farmers

Variable	Mean	Std. Dev.	Min	Max
Age of HHH	35.49	1.27	24	58
Household Size	5.40	3.00	1	18
Household income per annum	1700.83	78.04	180.00	3900.00
Land size owned By HH (acres)	8.87	3.92	4	23
Land lost by HH to investors	4.53	3.66	0	13

Source: Field Survey, 2016

4.2 Demographic and Socio-Economic Characteristics

4.2.1 Age and Sex Composition

The youngest household head was 24 years while the oldest household head was 58 years. The average age of household heads in the Pru District was approximately 35 years with a standard deviation of 1.27. This shows that the sampled households

comprise of youthful members who can energetically carry out farming activities. Meanwhile, the minimum and maximum household sizes were 1 and 18 respectively with an average of 5 members. Larger household size is a source of labour for farming activities by a household. The mean annual household income was GHC 1700.83 with a standard deviation of 78.04. The annual minimum and maximum household incomes were GHC 180.00 and GHC 3900.00 respectively.

About 73 percent of sampled households in the data gathered were headed by males while 27 percent were headed by females (Figure 4.1.). The result also shows that Kobre community had the highest number of households headed by males (94) and households headed by females (29) while Adventura community recorded the least number of households headed by males (18) and households headed by females (9) (Figure 4.2). Gender perspective is critical to truly understand the impact of largescale land deals, because women and men have different social roles, rights, and opportunities and will be differentially affected by any major change in tenurial regimes, especially land transfers to foreign investors. Behrman *et al.*, (2012) and Quisumbing (1998) assert that, large scale land acquisition has a disproportionate high effect on the livelihoods of household headed by females than households headed by males. Gender implications of the shift to large-scale commercial agriculture often lead to changes in household dynamics and roles, income-generation activities, and property rights often to the detriment of women. Also, the coping and adaptation strategies adopted by households depend on the sex of the household head.

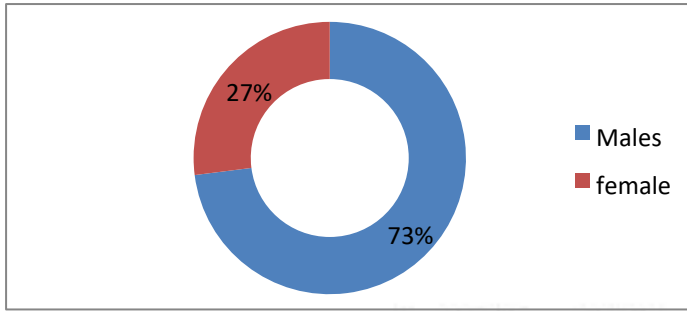


Figure 4.1: Sex Distribution of Household Heads

Source: Field Survey, 2016

Spatially, the age distribution of the respondents did not show any variation across the various communities under investigation (see Table 4.2). In all the communities, the male respondents were the dominant group which may be due to the deficiencies associated with the type of sampling strategy used. For instance, majority of the respondents were males in all the study communities: Adwentura (18), Kadue (43), Kobre (94), Prang (61) and Abease (26) as against the female counterparts with frequencies of 9, 14, 29, 21 and 17 respectively.

Table 4.2 Sex Distribution of Household Heads by Community

Sex	Adwentura	Kadue	Kobre	Prang	Abease	Total
Male	18	43	94	61	26	242
Female	9	14	29	21	17	90
Total	27	57	123	82	43	332

Source: Fieldwork, 2016

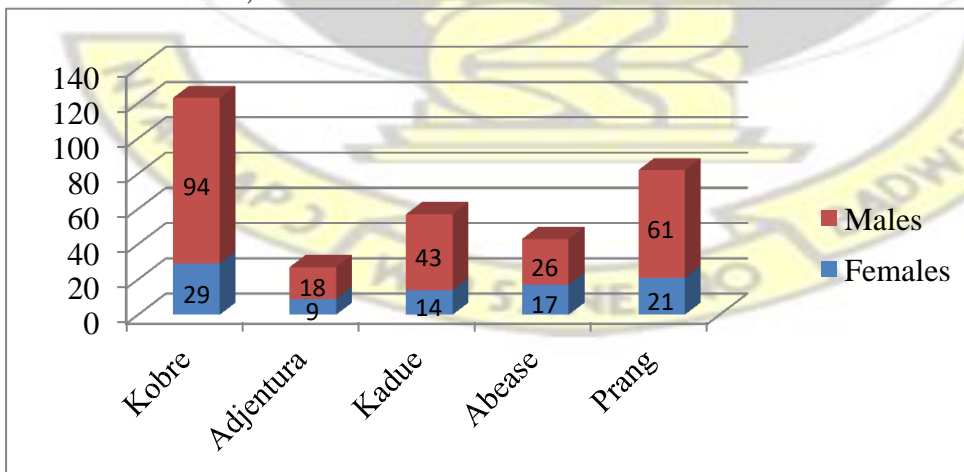


Figure 4.2 Sex Distribution of Household Heads by Community

Source; Fieldwork, 2016

Table 4.3: Affected and Unaffected Smallholder Farmers

Communities	Smallholder farmers who lost their lands	Smallholder farmers who did not lose their lands
Adwentura	4 (14.81%)	23 (85.19%)
Kadue	9 (15.52%)	49 (84.48%)
Kobre	19 (15.45%)	104 (84.55%)
Prang	12 (14.63%)	70 (85.37%)
Abease	7 (16.67%)	35 (83.33%)
Total	51(15.36%)	281(84.64%)

Source: Fieldwork, 2016

Considering the five communities for this study, 51 household heads' respondents have lost their land to large scale land acquisition while 281 of the respondents did not lose their lands to large scale land acquisition in the Pru District. Majority of the respondents did not lose their lands suggesting that only few smallholder farmers in the Pru District lost their land to large scale land acquisition yet the effects of large scale land acquired have repercussion on their livelihoods. In Adwentura 4 household heads (14.81 percent) lost their lands to investors as 23 household heads (85.19 percent) did not lose their lands. Kobre with the highest number of respondents who lost their lands to investor in the Pru District had 19 household heads (15.45 percent) losing their lands while 104 household heads (84.55 percent) did not lose their lands to investors. Respondents from Prang who lost their land were 12 household heads while those who did not lose their land to investors were 70 households (85.37 percent). Abease had 7 household heads (16.67 percent) losing their lands to investors in the Pru District while 35 household heads (83.33 percent) did not lose any land. Considering the respondents from Kadue 49 household heads (84.48 percent) did not lose their lands while (9) household heads (15.4 percent) of the respondents lost their lands to large scale land acquisition.

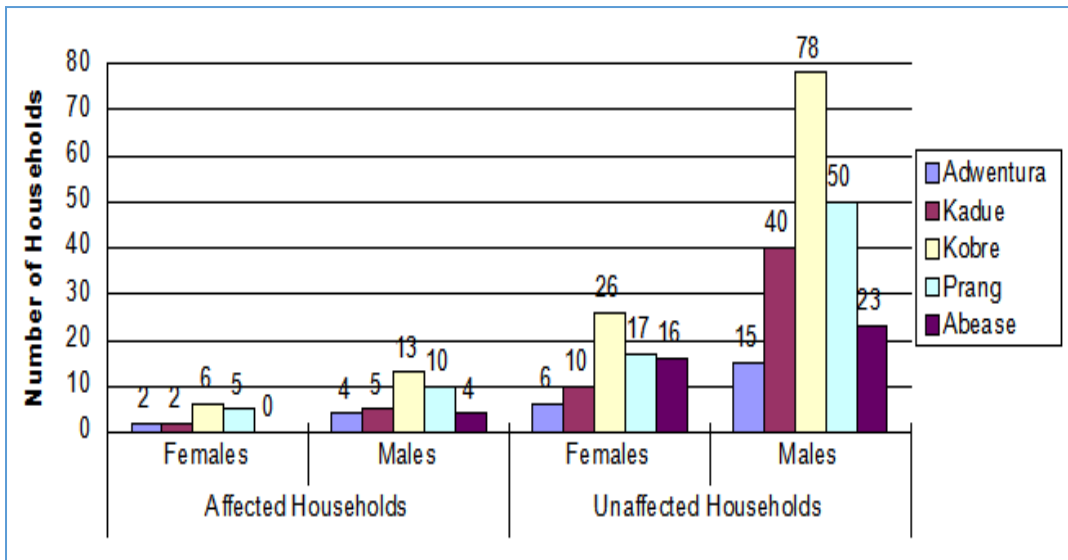


Figure 4.3: Affected and Unaffected Households by Gender of Respondents

Source: fieldwork, 2016

Out of the total respondents of fifty one (51) of the affected household heads fifteen (15) were females and thirty six (36) were males. Kobre had the highest number of females who lost their lands to large scale land acquisition with (6) being female respondents. Respondents from Prang who lost their lands were (5), Kadue and Adventura had (2) females each who lost their lands while no female respondents from Abease lost a land. The total respondents of males who lost their lands to large scale land acquisition were (36) with Kobre recording the highest number of males who lost their lands with 13 of the respondents losing their lands to large scale land acquisition. Prang had (13) male respondents who lost their land to large scale land acquisition while Abease had (4) male respondents losing their lands. Kadue had (5) male respondents losing their lands and Adventura had 4 male losing their lands to large scale land acquisition. There were a lot of smallholder farmers who lost their land and as result have migrated to other regions and district to engage in other farming activities. However, though not all smallholder farmers in the selected communities

lost their land to large scale land acquisition but the effects was not limited to only those who lost their lands.

4.2.2 Economic Activities

The size of farm land owned by a household also determines the extent to which households' livelihoods are adversely affected by large scale land acquisition since there will still be enough farm land for cultivation by the household after relinquishing part of their lands to large scale land investors. The minimum and maximum farm land owned by sampled households was 4 hectares and 23 hectares respectively while the average farm land owned by households was 8.87 hectares with a standard deviation of 3.92 hectares. This reflects a typical smallholder farmer in Ghana. Similarly, the number of hectares of land lost by farming households to large scale land investors influences the magnitude of effects on households' livelihoods. The minimum and maximum size of land lost by households to large scale land investors were 0 and 13 respectively. Averagely, each household lost 4.53 hectares of land through large scale land acquisition.

4.2.3 Education

The level of education of household heads also determines his/her ability to read and understand issues influencing livelihoods including large scale land acquisition. Figure 4.3 shows that about 53 percent of sampled households in the combined data have had no formal education. The constituents of this percentage of no education by community as presented in Figure 4.4 include 15.9 percent from Prang, 5.3 percent from Abease, 10.6 percent from Kadue, 2.7 percent from Adwentura and Kobre with the highest percentage of 18.6 percent. There was none and No household head who have attained education to the tertiary level in all the study communities. Indeed, 17 percent of the

household heads have received secondary school education in the combined data as shown in Figure 8.3, majority of such household heads were from Kobre community 6 percent as shown in Figure 4.4. with higher level of education smallholder farmers might have learnt much of agricultural practises which will have improved yield and also might have engage in other off farm activities which will have fetch them extra income, hence cushion them again the effect of large scale land acquisition.

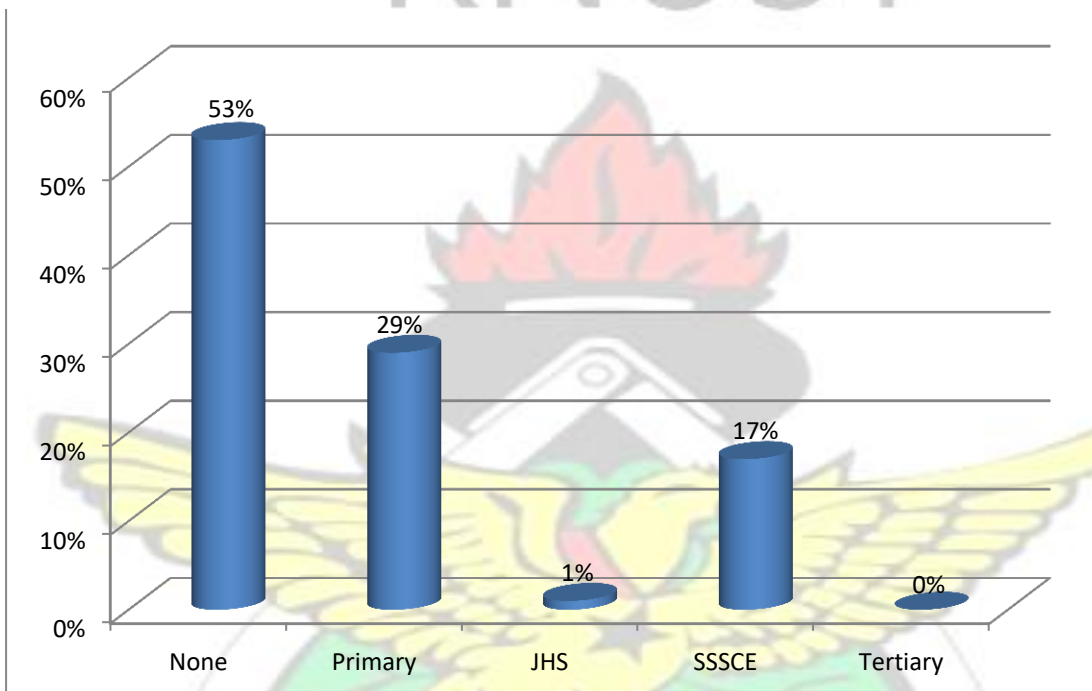


Figure 4.4: Educational Levels of Household Heads

Source: Field Survey, 2016

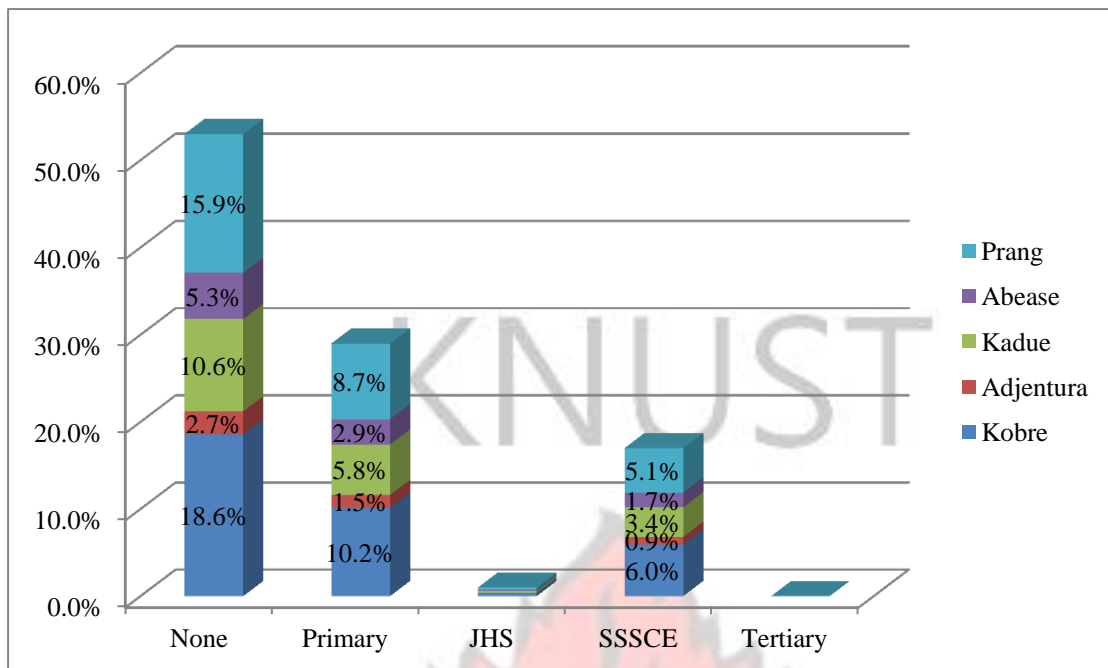


Figure 4.5: Educational Levels of Household Heads by Community

Source: Field Survey, 2016

4.3 Summary

The study revealed that (73) percent of sampled household respondents in the data were headed by males while (27) percent were headed by females. It was evident that (53) percent of sampled household respondents had no formal education and no household head is educated to the tertiary level in all the study communities.

The study found out that out of the total respondents of the affected households of 51, out of which 15 were females, and 36 were males. Kobre had the highest number of females who lost their lands to large scale land acquisition while no female respondent from Abease community farm land was affected by large scale land acquisition.

The minimum and maximum size of land lost by households to large scale land investors were 0 and 13 acres respectively. Averagely, each household lost 4.53 hectares of land through large scale land acquisition. The minimum and maximum

household sizes were 1 and 18 respectively with an average of 5 members per household. Larger household size is a source of labour for farming activities by a household. The mean household income was GHC 1,700.83 with a standard deviation of GHC 78.04.

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CHAPTER FIVE

THE PROCESSES OF ACQUIRING LAND BY POTENTIAL INVESTORS

5.1 Introduction

This chapter employs qualitative analyses and discussion of data on the process involved in large scale land acquisition by investors in the Pru District and the drivers for large scale land acquisition. A total of 332 respondents were sampled from five communities in the Pru District (Adwentura, Prang, Kobre, Kadue and Abease). Focus group discussions and in depth interviews were the methods and tools used for data collection. The qualitative data was transcribed and analysed based on the themes that emerged from the literature.

5.2 Process of Acquiring Large Tracts of Land by Investors

The acquisition of large scale lands in Pru District Assembly Ghana, involves a laid down process. The stakeholders for commercial land acquisition were interviewed using a structured interview guide. These stakeholders included the traditional authorities of the communities who are the custodians of the land; officials of the Land Commission who are privy to the plan of land use in the district; officials at the planning unit of the Pru District Assembly who manage public or government lands for social, economic and political interest of the people in the district and five of the large scale land investment companies in the district. In interviews with the traditional authorities in Yeji one of them said:

—The availability of idle and fallow lands made stakeholders of the Pru District to give the lands out for 25 years lease to investors to create more developments socially and

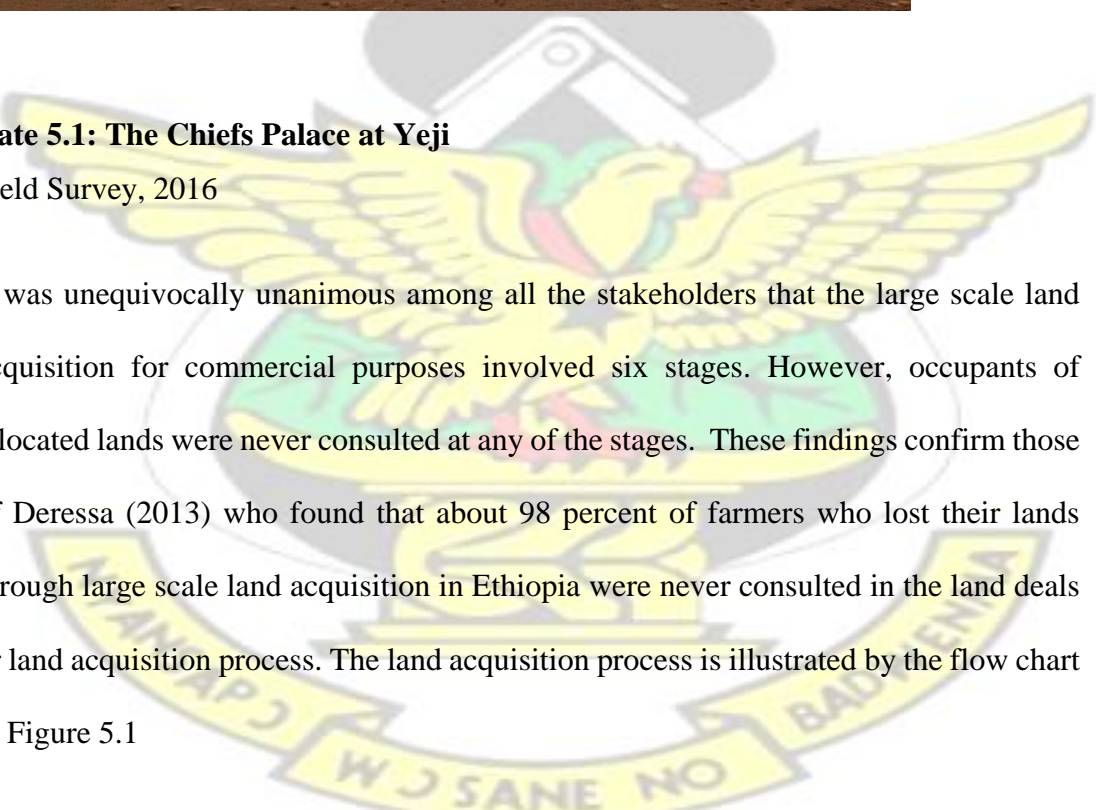
economically. This was done after a careful deliberation with the natives of the land in consideration” (Chief Linguist at Yeji, 2016).



Plate 5.1: The Chiefs Palace at Yeji

Field Survey, 2016

It was unequivocally unanimous among all the stakeholders that the large scale land acquisition for commercial purposes involved six stages. However, occupants of allocated lands were never consulted at any of the stages. These findings confirm those of Deressa (2013) who found that about 98 percent of farmers who lost their lands through large scale land acquisition in Ethiopia were never consulted in the land deals or land acquisition process. The land acquisition process is illustrated by the flow chart in Figure 5.1

- 
1. Identification of vacant vast lands 2. Deciding to lease vacant lands *Chief and DAs*
DAs and Chiefs, the land

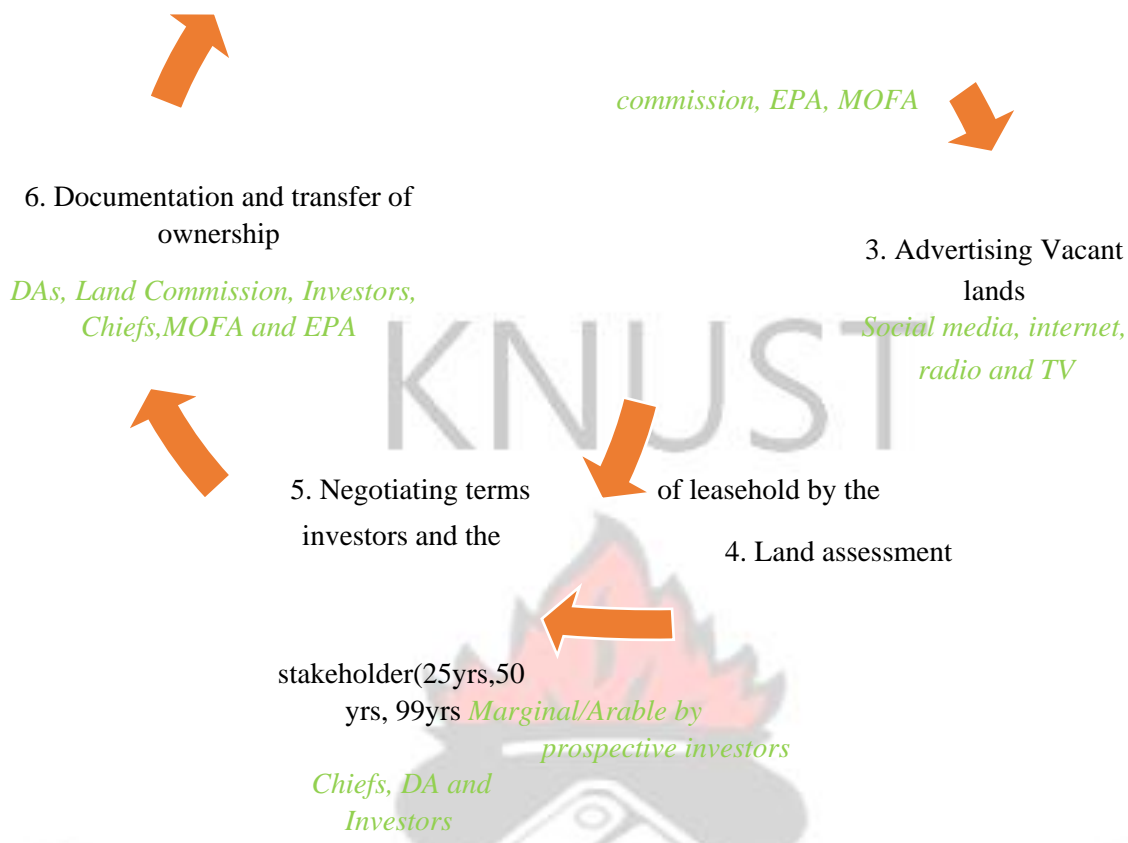


Figure 5.1: Flow Chart Showing the Process of Large Scale Land Acquisition

Source: Author's Construct, 2016

5.2.1 Identification of Vacant Vast Lands

The first stage in acquiring large tracts of land for commercial use is the identification of idle or vacant land in the district. This is done primarily by the District Assembly and the chiefs. The District Assembly and the chiefs at this stage are charged with the responsibility of searching for suitable idle lands within its jurisdiction which can attract investors. Given that the Assembly and chiefs have in their possession the Master Plan of the district lands showing the various land uses and their location, it is easy for the Assembly and chiefs to identify lands which are available for commercial purposes by taking a physical and technical assessment of lands. The fertility of land, natural resources contained in the land and the general land scape are identified at this

stage. In an interview with an official from the District Assembly, a planning officer said:

“We thought the presence of investors were going to bring development and employment as well as exposing our community to the outside world. We are leasing and selling our lands meant for farming to them; our intention was that our ideal lands to investors would improve the general socioeconomic wellbeing of the Pru District, hence facilitating the processes involved in the land acquisition.” (District Planning Officer-Pru District, 2016)

In most cases, the assembly and chiefs with experts (surveyors and family heads) visit the purported idle lands to confirm the availability of lands for lease. A farmer at Prang had this to say:

—We don’t have anything to say as the chiefs are the custodians and owners of the lands. We wish the investors could consider our plight and provide us some form of employment and also places to live, stay, and settle. This could have been seen and considered if we were part and involved during the negotiation process” (Focus Group Discussion - Prang, 2016).

5.2.2 Deciding to Lease Vacant Lands

Once reserved lands are identified by the district assembly and the chiefs, the next stage is to take a decision on leasing out the lands. In most developing countries, fertile lands abound and are not fully utilised by the smallholder farmers (Deininger, 2003). Meanwhile, the inhabitants of such lands are poor with limited access to social amenities such as hospital, schools, pipe borne water, sanitation and roads. The gap in the livelihood of people necessitates the need for foreign investments with the requisite capital and technologies to exploit the available fertile lands to the benefit of both themselves and the rural dwellers. Therefore, the quest for development of the district takes centre stage in the decision to lease identified idle lands to investors. Thus, the dilemma is to consider either leasing the vast lands for the socio-economic development of the community and improved livelihoods of citizens or retain ownership of the lands for future use. This decision is taken by the district assembly in consultation with the traditional authorities (chiefs) of the communities. Whereas the smallholder farmers complained of not being consulted in the process, it was a collective decision of the two stakeholders (District Assembly and Traditional authorities). At Abease, during a focus group discussion, this was what a farmer (community secretary) had to say:

—Looking at our present living conditions, even the school our children attend can tell that we are living in poverty. The chiefs and decision makers did not see it important to consult and consider us when the investors came. Also we were not recognised as owners and care takers of the land and so we were not involved in the acquisition process after which the land were taken away from us after a short

notice, hence our low standard.” (Focus Group Discussion-Abease, 2016).

It was established that the traditional authorities are the custodians of the land and exercise control over the use of the land, but cannot lease out to investors without approval from the district assembly. In a focus group discussion with farmers in Adventura, the chief farmer had this to say:

—Money was not exchanged for the land but customary drinks were given, thus we did not have any legal ownership to the land. We could pay for it but pleaded that we would be given some parcels of the lands to farm on. The giving of the drinks indicated our request. The chiefs and the District Assembly should consider and make them part of the acquisition process, thus given us the opportunity and time to decide to return to our home towns”
(Focus Group Discussion-Adventura, 2016).



Plate 5.2: Discussions with the Community Leaders

Field Survey, 2016.

This assertion is similar to what happened in Mozambique where community consultations included land occupation in the absence of consent, including prime agricultural land; promises of benefits that are either vague or not time-bound; poor or biased documentation of deliberations (unenforceable, biased in favour of investors' interests or lacking in sanctions for noncompliance); failure to provide affected persons copies of consultation records; and failure of investors to comply with agreements (Manuel and Salomon, 2009; Nhantumbo and Salomon, 2010; Overbeek, 2010; Ribera and Matavel, 2009).

5.2.3 Advertising Vacant Lands

If a decision is reached to lease out the idle vast land to large scale land investors, then, the identified idle land is advertised by the district assembly for the general public to subscribe. In an interview with an official from the District Assembly Planning unit of the Pru District Assembly, it was revealed that the assembly advertises idle lands to

catch the attention of investors (local and foreign) chiefly via the internet, radio, television and social media. The adverts usually contain the location, size and resource endowment of the land, the proposed use of the land (plantation, factory establishments or other developmental projects) and the target investors. In some cases, the district assembly can write to specific investors to express interest in the advertised idle land especially when such investors are into the intended use of the land. During a focus group discussion at Kobre the community sanitary organiser had this account to give:

—Due to illiteracy, we had no idea on the terms of agreements, the stakeholders (chiefs and the District Assembly) gave out the land without reserving some for us to serve as a means of livelihood and also getting money to attend to our financial commitments towards our families survival” (Focus Group Discussion-Kobre, 2016).

Recognising opportunities for agricultural development and attraction of investment capital at the national level, the governments of many African countries with high agricultural potential, like their peers in Asia and South America, are actively seeking to attract both foreign and domestic investors into large scale land deals for plantations (Vermeulen and Cotula, 2010).

5.2.4 Land Assessments

Upon seeing the advertisement of idle lands, prospective investors interested in large scale land investment (both local and foreign) visit the sites and conduct an assessment of the land with permission from the district assembly and the local authorities. In assessing the suitability of the land, investors examine the available lands, the fertility and soil texture of the land (for plantation projects), sources of raw materials,

availability of utilities (electricity and water), labour accessibility (in the case of factories), and the community's readiness to welcome large scale land investment. In an interview with an investor, this was the narration given:

—The presence of large tracts of land in Africa, West Africa, Ghana, and Brong-Ahafo in the Pru District was seen on the internet, contact were made known by the chiefs and the officials of the District Assembly and other major stakeholders. After assessing the suitability of the land for our project and the socio-economic and political situation of the area, negotiations were entered into with all the bodies and stakeholders and the land was acquired on lease for 25 years” (Project Coordinator, Smart Energy Company, 2016).

Prospective investors can also ask for site plan of land from the district assembly. It is particularly essential for investors to assess the fertility of the land if the intended use for the land is to establish a plantation. Deressa (2013) and Arezki *et al.*, (2011) argued that the decision about where to acquire investment land depends on a set of several factors and include resource endowments, particularly agro-ecological characteristics of the target countries. In this regard, characteristics such as ‘yield gap’ and availability of land are major determinants and they are used to provide typology of target countries such as Ghana, Tanzania and Ethiopia. According to Deininger and Byerlee (2011) the underlying assumption in terms of the yield gap is that farmland is underused compared to the potential yields and that such land can be improved to increase its market value through additional inputs (such as water, fertilizers, seeds, infrastructure, and others)

and ‘land availability’ are major determinants and they are used to provide typology of target countries

When prospective investors are satisfied with the suitability of vacant lands for their intended projects, they proceed to negotiate with the district assembly and traditional authorities on the terms and conditions surrounding the release of ownership from the District Assembly to the investors. One of the farmers in a focus group discussion at Kadue retorted that:

—Our nearby fertile lands utilised for cultivation has been obtained and acquired by the investors for the development of cash crops (jatropha and mango) to the detriment of our subsistence farming. The chiefs and the district assembly considered the money they would benefit from the investors, and did not consider or anticipate. The challenges they were creating for us (small holders) but did everything possible to please the investors, so that they could get their money (proceed) hence giving them all the fertile lands and its long time effects on us now.”

(Focus Group Discussion-Kadue, 2016).

5.2.5 Negotiation of Leasehold Terms

Therefore, the fifth step in the large scale land acquisition process is the negotiation of leasehold terms. In negotiating the terms of lease, stakeholders (Chiefs and D/A officials and others) discussed the number of years (25yrs, 50yrs and 99yrs) for which the land will be leased, the amount to be paid by the investor and the form or mode of payment, the compensation packages for occupants of the lands who depend on the

land for source of livelihood, social or corporate responsibilities of investors to the community, local content in the operation such as employing community members. Among others local elites and vested interest groups are often able to manipulate the opportunities created through decentralization to their own benefit (Oyono, 2005; Tacconi, 2007). The agreed terms are documented and each party signs to show approval. This document serves as the contract document to be abided by all stakeholders (Chiefs and D/A officials). In the end, it is the discretion of the District Assembly with the consultation of the elders to select one investor if many prospective investors expressed interest and availed themselves for negotiations.

5.2.6 Documentation and Transfer of Ownership

The final stage in acquiring large tracts of land is the documentation and transfer of land ownership or entitlement. When prospective investors are able to pay for the agreed leased price for the land to the traditional authority and district assembly and meet all other conditions specified in the land lease agreement, the assembly facilitates the transfer of land ownership to the investors through the Lands Commission. The role of the Lands Commission at this stage is to ensure a transfer of ownership of the land from the government to the investors. The land entitlement transfer document (tenancy document) contains the years of leasehold and the name of the new owner. When the tenancy period of the investor expires, the district assembly and traditional authorities identify such land as idle lands and decide to renew the tenancy, call for new leased contract or stop further lease. This makes the large scale land acquisition process cyclical as illustrated above.

The study findings on the process of land acquisition by investors differ from that reported by Gobena (2010) in Ethiopia. According to Gobena (2010), the Agricultural Investment Support Directorate of the Ministry of Agriculture administers acquisition

of land size of 5000 ha or more in Ethiopia follows a systematic procedure: the directorate conducted an assessment of land to ensure availability of free land. On behalf of the regional government, a contract is then signed by the directorate with the investors and a letter was issued to the regional states to demarcate the proposed land. Finally, a leased document was issued to the investor to confirm transfer of ownership as right to use the land for the prescribed project. In the case of Tanzania land acquisition process, it is left in the hands of the Tanzania investment centre. Thus the process is in three stages; (i) identification of vacant lands by the Tanzania investment centre; (ii) negotiating access to foreign investors; and (iii) Transfer of land (Vermeulen and Cotula, 2010). This study revealed that in all the stages of the large scale land acquisition, the occupants of these lands who are mostly smallholder farming households do not have a stake in decisions regarding the release of their farm lands to either local or foreign investors. The study finding agrees with Gobena (2010), who reported the non-participation of local occupants of leased lands in TakoTibe community in any of the consultation processes of large scale land acquisition in Worde, Ethiopia.

5.3 Linkages of the Study Findings to Theoretical and Conceptual Frameworks

Large scale land acquisition is a form of investments aimed at improving the infrastructural and socio-economic development of deprived areas. Rural Ghana, including the Pru District in the Brong-Ahafo Region of Ghana is endowed with vast fertile lands which are under-utilised in meeting the needs of the inhabitants. Thus, large scale land acquisition in the Pru District is targeted at enhancing livelihood of the rural dwellers through the provision of jobs, roads, better health care, increased incomes, improved production and access to other social amenities. According to the principles of the core-periphery theory (Friedman,1966), the increasing demand for

bio-energy and agro-fuel products such as jatropha, mango and cashew at the global market as raw materials for industries in the developed world calls for increased production of such products. The theory is based on how economic development and settlement systems or spatial structure evolved. The study found that the motive for giving the land to the investor was to bring development to the Pru District which coincide with corresponding structure of space economy and it transcends to the simple notion of growth pole and growth centre as key principle of the core-periphery theory. The Pru District Assembly is endowed with large tracts of lands which serve as the attractive and driving force to bring the investors to the district. However, the arrival of the investors goes beyond the vast land available. This principle is similar to that of the core-periphery theory where distribution of resources which the growth pole assertion tried to address to encompass real problems of regional development in geographic space. Indeed, to expand production, more land is acquired and Africa is one of the continents with the most fertile vast lands conducive for the growth of these products.

The conceptual framework did not give a direct overview of the process of LSLA. The small holder absence makes them vulnerable in their operation thus farming activities. The smallholder vulnerability affected their capitals (social, natural, physical, human and capital). The absence of the smallholder farmers in the acquisition process has rendered them vulnerable.

5.4 Summary

The Pru District is one of the newly created districts in Ghana. It is also one of the districts which is said to be under developed. The infrastructure facilities are woefully inadequate compared to other districts in Ghana. Hence the District Assembly, the traditional leaders and other stakeholders planned of developing the district socially,

economically and politically. The district has a vast arable and marginal land which has not been fully developed. The stakeholders decided to inform the public both local and foreigners investors to invest in the idle lands in order to improve the social, economic and political development of the local people and the entire district at large.

Land acquisition differs from place to place. In the Pru District land acquisition entails six processes before an investor can acquire a land for investment.

Firstly, the identification of idle or vacant land in the district is done primarily by the district assembly and the chiefs. The next stage is to take a decision on leasing out the lands. This decision is taken by the district assembly in consultation with the traditional authorities (chiefs) of the communities. The smallholder farmers complained of not being consulted in the process. If a decision is reached to lease out the idle vast land to large scale land investors, the district assembly advertised for the general public to subscribe. It was revealed that the assembly advertises idle lands to catch the attention of investors (local and foreign) chiefly via the internet, radio, television and social media. Upon seeing the advertisement of idle lands, prospective investors interested in large scale land investment (both local and foreign) visit the sites and conduct an assessment of the land with permission from the district assembly and the local authorities.

The fifth step in the large scale land acquisition process is the negotiation of leasehold terms. In negotiating the terms of lease, stakeholders (Chiefs and D/A officials) discuss the number of years (25yrs, 50yrs and 99yrs) for which the land will be leased, the amount to be paid by the investor and the form or mode of payment, the compensation packages for occupants of the lands who depend on the land for source of livelihood, social or corporate responsibilities of investors to the community. The final stage in

acquiring large tracts of land is the documentation and transfer of land ownership or entitlement. When prospective investors are able to pay for the agreed lease price for the land to the traditional authority and district assembly and meets all other conditions specified in the land lease agreement, the assembly facilitates the transfer of land ownership to the investors through the Land Commission. It was established that the traditional authorities are the custodians of the land and exercise control over the use of the land, but cannot lease out to investors without approval from the district assembly.

CHAPTER SIX EFFECTS OF LARGE SCALE LAND ACQUISITION ON LIVELIHOOD

ASSETS AND OUTCOMES

6.1 Introduction

This chapter considers the effects of large scale land acquisition on the livelihood of smallholder farmers in the Pru District. The study employed the Livelihood Effect Index which examines the assets of smallholder farmers in the five study communities. The chapter employed both quantitative and qualitative methods of analyses. The quantitative data was analysed using SPSS software version 20.0 and spearman correlation result was utilised to establish the correlation between large scale land acquisition and the livelihoods asset on the smallholder farmers. Thematic analysis was used to achieve the results of the qualitative data. This section also involves the testing of the hypotheses to establish the effects of large scale land acquisition on the livelihood assets of smallholder farmers

6.2 Livelihood Outcomes

This research used five indicators of the Livelihood Effect Index (LEI) espoused by Downing (2003) to determine the effects of large scale land acquisition on the livelihood of smallholder farming households. The indicators of the LEI are human, natural, social, financial and physical capitals. Each of the indicators consists of several sub-indicators. The computed sub-indicator and major indicator indices for each of the communities and the Pru District are presented in Tables 6.1 and 6.2 respectively.

Based on the FANRPAN (2011) classification of Human Vulnerability Index (HVI), the computed LEI was used to categorise households into three categories: lowly affected, moderately affected and highly affected households. Households with LEI range of 0 to 0.47 experience low effect of large scale land acquisition on their livelihood. Households with computed LEI of 0.471 to 0.64 have their livelihood being moderately affected by the large scale land acquisition while households with LEI of 0.641 to 1.00 suggests high effect of large scale land acquisition on their livelihoods. This is presented in Table 6.1. This categorisation forms the basis for discussion status or magnitude of effect of large scale land acquisition on farming household livelihoods. One of the traditional authorities said that:

“The activities of the investors have in no way improved the livelihood of the smallholder farmer because all the promises made by the investors have not been fulfilled- employment for the local people, developing our schools, roads, improve health and sanitation” (Chief Linguist of Yeji, 2016)

Table 6.1: Households’ Status to the Effects of Large Scale Land Acquisition

Status of Effect	Range of LEI
Lowly Affected	0 – 0.47

Moderately Affected	0.471 – 0.64
Highly Affected	0.641 – 1.00

Source: FANRPAN (2011)

6.3 The Effects of LSLA on the Livelihood Assets.

The effects of large scale land acquisition on the livelihood of smallholder farming households are analysed using the LEI. The sub-indicators and major indicators indices as well as the LEI for each community was computed and is presented in table 6.2

Table 6.2: Indices of Livelihood Effect Index

Livelihood Indicator	Sub-indicator	Kobre	Adwentura	Kadue	Abease	Prang	Pru District
Human capital	HHs having reduction in nutrition	0.88	0.80	0.84	0.76	0.82	0.83
	HHs reporting loss of life, injury or new diseases	0.96	0.20	1.00	0.30	0.51	0.60
	Average age of HHs	0.35	0.45	0.39	0.38	0.47	0.39
	HHs reporting negative effect of large scale land acquisition on their health	0.88	0.80	0.84	0.80	0.78	0.83
	Average food insufficient months	0.27	0.33	0.44	0.38	0.30	0.38
	Inverse of crops diversification index	0.50	0.56	0.35	0.49	0.60	0.49
	HH attributing reduction in average crop output to large scale land acquisition	0.96	1.00	1.00	0.52	0.76	0.99
	HHs where a family members has not taken any kind of vocational training	0.20	0.08	0.20	0.20	0.30	0.17
	HHs reporting negative effect of large scale land acquisition on their education	0.88	0.80	0.84	0.72	0.78	0.83
Natural Capital	Acres lost to large scale land investors	0.43	0.26	0.36	0.34	0.40	0.35
	HHs who were not part of the land acquisition process	0.12	0.24	0.28	0.18	0.30	0.22

HHs who were not compensated for relinquishing their land to large scale land investors	0.12	0.20	0.16	0.20	0.18	0.17
Average distance to new farm land	0.28	0.13	0.19	0.23	0.32	0.18
HH attributing change in farm distance to inception of large scale land investors	0.88	0.76	0.84	0.70	0.78	0.80
HH who lost their land to large scale land investors	0.84	0.68	0.80	0.84	0.86	0.79
HHs reporting land related conflict	0.52	0.40	0.36	0.26	0.43	0.41
HHs using only forestbased energy for cooking purpose	1.00	0.80	0.96	0.88	0.64	0.98

Con't Table 6.2: Computed Sub-Indicator Indices of Livelihood Effect Index

Livelihood Indicator	Sub-indicator	Kobre	Adventura	Kadue	Abease	Prang	Pru District
	HHs reporting depletion in their forest products due to large scale land investment	1.00	1.00	0.76	0.24	0.86	0.77
	HHs that collect water directly from natural sources (river, stream, pond)	1.00	0.90	0.90	0.85	0.91	0.93
	HHs without consistent water supply	0.60	0.50	0.70	0.80	0.65	0.75
	HHs reporting depletion in their natural water sources	0.96	0.84	0.88	0.92	0.80	0.90
Social Capital	Average HHs size	0.24	0.26	0.34	0.28	0.30	0.26
	HHs where HHH has not attended school	0.64	0.40	0.56	0.52	0.58	0.53
	HHs headed by females	0.12	0.32	0.24	0.40	0.10	0.27
	HHs that have not gone to their local assemblies for any kind of assistance within the past 12 months	0.04	0.00	0.08	0.13	0.16	0.07
	HH's years in community	0.38	0.48	0.37	0.34	0.52	0.39
Financial capital	Acre owned by HH before large scale land acquisition	0.63	0.61	0.62	0.64	0.66	0.63

	Acres cultivated by HH now	0.56	0.68	0.60	0.58	0.54	0.60
	HHs depending solely on agricultural as source of livelihood	1.00	0.98	0.90	0.82	0.78	0.87
	HHs reporting loss of house or property due to large land acquisition	0.48	0.56	0.60	0.72	0.57	0.63
	HHs who do not have access to financial services	1.00	0.90	0.85	1.00	0.88	0.93
	HHs without any member working in a relatively more developed community/town	0.80	0.92	0.80	0.84	0.80	0.86
	HHs reporting some financial crisis	1.00	0.80	0.95	0.85	0.82	0.90
	Average HH income	0.38	0.38	0.44	0.36	0.30	0.39
	HHs attributing reduced income to large scale land acquisition	0.96	1.00	0.80	0.56	0.62	0.79

Cont. Table 6.2: Computed Sub-Indicator Indices of Livelihood Effect Index

Livelihood Indicator	Sub-indicator	Kobre	Adwentura	Kadue	Abease	Prang	Pru District
Physical Capital	HHs attributing changes in road network to large scale land acquisition	0.00	0.00	0.10	0.14	0.02	0.13
	HHs without access to farm inputs	0.52	0.68	0.58	0.50	0.53	0.56
	Inverse of agricultural livelihood diversification index	0.34	0.35	0.30	0.40	0.45	0.35

Source: Field Survey, 2016

6.3.1 Effects of LSLA on Human Asset in the Pru District

The first indicator of the LEI considered in this research is the human capital. This indicator bothers on the effect of large scale land acquisition on the demographic structure, health and food security which affects the overall human capacity of the household. The human indicator consists of nine sub-indicators which were computed for each community at the district. Kobre community with sub-indicator index of 0.88

suggests that households in the community suffer the highest effect of large scale land acquisition on their nutrition than the other four communities whiles, the index of 0.83 for the district implies that averagely, the effect of large scale land acquisition on the nutritional level of farming households is high. All farming households in the Kadue community reported loss of lives through accidents on the Volta Lake, injuries through conflict with locals and investors or new disease outbreak associated with large scale land acquisition. In terms of the district, the index of 0.60 suggests that the effect of large scale land acquisition on loss of lives, injuries and/or new disease outbreak among farming households is moderate.

Age is another factor that determines the extent to which a household suffers the effect of large scale land acquisition. On the other hand, older household heads are more experienced to smoothly adjust to the effect of large scale land acquisition than younger households. Older household heads have used the lands and enjoyed higher output which they have invested in their children who are now adults and other businesses, with the loss of the land older household heads rely on their investments while younger households' heads are now tilling the land to begin investing. Contrary, younger household can engage in other sources of livelihood and are also energetic to regularly visit new farm lands which may be far from home. The effect of large scale land acquisition on farming households in the district depending on the age of household head is low (0.39).

The activities of some companies that acquire large tracts of land such as application of chemicals pollute the water and environment which tend to be injurious and harmful to the health of the inhabitants of the operating community. It may result in new epidemics due to land, water and air pollution emanating from the activities of the company. The computed indices revealed high effect of large scale land acquisition on

the livelihood of farming households in all the communities and for the district (0.83).

The District Assembly's planning officer in one of the interview sessions said:

“Our motive of leasing out the land was to bring socio-economic development to improve the standard of living of the members of the community, through employment which was to be given by the investors to the people. Unfortunately, none of these materialised aside the construction of the feeder road linking Adventura to Kadue and Abease to Prang” (The District Planning Officer, 2016).



Plate 6.1: The Pru District Assembly
Field Survey, 2016

The study finding is contrary to Behrman *et al*'s., (2012) assertion that large scale land acquisition investors invest in schools, hospitals, clinics, or other local public

infrastructure that will not directly improve productive capabilities or export processes but will benefit local populations. Investments in schools located closer to home might encourage girls to attend. Investment in medical care facilities are also valuable for the community because they reduce maternal mortality simply because women are often responsible for a wide range of household activities not only childcare but also caring for sick members of the household (Behrman *et al.*, 2012).

Farming households depend on their farm as a major source of food and when a portion of their farm lands are lost to large scale land investors, it reduces the food available to the household from self-production. The effect of large scale land acquisition on food security of farming households was low for all the five communities and for the combined Pru District index (0.38). In terms of crops diversification, the Prang community with an index of 0.60 is the most affected community.

In an interview with an official of the Lands Commission, this was how he gave an account, concerning the effect of large scale land acquisition on the livelihood assets of smallholder farmers. The Lands Commissioner in Pru District gave this account;

“There has been the realisation that, there are large tracts of defunct lands which smallholder farmers for apparent reasons cannot cultivate thus affecting their livelihood. These defunct lands are as a result of investors not being able to sustain their operations, thus reducing their operational capacity or abandoning the projects. For such lands, it is hoped that it will be given back to the smallholder

farmers to help their livelihood and general standard of living” (Lands Commissioner Pru District, 2016).

The combined Pru District Assembly index of 0.49 suggests a moderate effect of large scale land acquisition on the livelihood of farming households. Farming households with high crop diversification experience less effect of large scale land acquisition on their livelihood than households with low crop diversification. All farming households in Adventura communities attributed the reduction in crops output to large scale land investments. In an interview with an investor, this was what the investor said;

“Some of the land we acquired through the lease included farm lands of the smallholder farmers. This made them to lose their farm lands on which their livelihood depended and contributing to a reduction in farm output, fuelling the conflicts between the investors and smallholder farmers”

(Investor from Jatropha Africa, 2016)

On vocational training, most farming households reported that members acquiring skills to undertake other source of livelihoods and thus, are lowly affected by the large scale land acquisition. Large scale land acquisition has a high effect (0.83) on the education of farming households in the Pru District with the Kobre community being the hardest hit (0.88). It was revealed in the community focus group discussions that children of school going age are engaged in large scale land activities of the companies leading to their drop out of school. Also, some households reported that the main source of income to finance the education of pupils in the study communities has been farming. Taking over of households’ farm lands by large scale land investors undoubtedly

hinders the ability of such households to continue to finance the education of their members due to reduced incomes resulting from reduced output attributable to large farm lands acquired by investors.

6.3.2 Effect of LSLA on Natural Asset

The second indicator of the LEI is the natural capital. The natural capital indicator included water, land, forest and other natural resources which contribute to the livelihood of farming households. The natural capital indicator consists of twelve subindicators. Minority of the sampled farming households reported losing more acres of their farm lands to large scale land investors and thus, large scale land acquisition exerts low effect on the size of farm lands of farming households in the Pru District as shown by the computed index (0.35). Kobre community is reported to have lost the highest size of farm lands by farming households losing farm lands to large scale land investors in Pru District. Prang community has the highest farming households who were not part of the land acquisition process in the district.

The computed index of 0.22 for the Pru District implies a low effect of large scale land acquisition on the livelihood of farming households in the district considering household head participation in the land acquisition process. The next sub-indicator is the percentage of farming households who never participated in decisions leading to the acquisition of their lands by large scale land investors. The computed indices revealed that whereas there is low effect of large scale land acquisition on the compensation of farming households, Adwventura and Abease communities reported the highest percentage of households who were not compensated by large scale land investors for losing their farm lands. Instances where farm lands of farming households are acquired by large scale land investors, the smallholder farmers relocate to far locations to cultivate new lands. The computed indices indicate that farming

households in the Prang community travel to far locations for farming activities than households in the other communities. However, the combined index of 0.18 for the Pru District suggests low effect of large scale land acquisition on distance to farms of households.

Majority of farming households in all the study communities attributed changes in the distance to their farms to large scale land acquisition and the computed index for the Pru District (0.80) indicates that large scale land acquisition poses a high effect on the distance to farm sites of farming households. The results also revealed that most farming households in all the study communities lost farm lands to large scale land investors. The computed index of 0.79 indicates that large scale land acquisition has a high effect on the percentage of farming households losing their farm lands in the Pru District. Farming households who lost more acres of their farm lands to large scale land investors and have relocated to new distance farm lands have to reduce their cultivated farm sizes and even the number of days they visit the farms. They have negatively impacted on their livelihoods especially when they were not compensated by investors for losing their farm lands. Apart from farming households in the Kobre community who reported moderate land related conflicts among households (0.52); households in all other communities including the combined Pru District index (0.41) revealed a low effect of large scale land acquisition on land related conflicts among farming households. Conflict is a social disintegrative factor and hinders peaceful coexistence and cohesion of households.

All farming households in Kobre community depend on only forest-based energy such as charcoal and fire wood for cooking. This suggests that households in the Kobre community are the worst affected with large scale land acquisition. The computed index for the Pru District (0.98) implies a high effect of large scale land acquisition on

farming households' source of forest-based products for cooking. In an interview with an official from the forestry commission (FC), this was the account given:

“Most of the projects by investors have destroyed non-forest products which were of great benefit to the livelihood of the smallholder farmers such as rats, grass cutters, snails, mushroom and other nonforest products, which are gifts of nature. All these non-forest products have been destroyed as a result of large scale land acquisition” (Guide Technical Officer-FC, 2016).

When lands are acquired by investors, households are banned from felling trees on such land for firewood and charcoal burning which they use for domestic cooking. Again, all farming households in the Kobre and Adwentura communities reported depletion in their forest products due to large scale land acquisition by investors. The computed combined index of 0.77 for the Pru District suggests that large scale land acquisition has a high effect on the depletion of forest products in the district. Yet, the computed index for the Pru District (0.93) shows a high effect of large scale land acquisition on farming households collecting water from natural sources such as streams, rain, rivers and ponds. Kobre community had all farming households collecting water from natural sources and hence, is the most affected by large scale land acquisition on natural water sources. Turning to households without consistent water supply, the Abease community recorded the highest percentage of farming households without regular water supply. The computed index of 0.75 for the Pru District suggests that large scale land acquisition has high effect on consistent water supply to farming households in the district. The findings also revealed that almost all farming households in the Kobre

community reported depletion in natural water sources. The index of 0.90 computed for the Pru District suggests high effects of large scale land acquisition on natural water sources in the district. Land, forest and water are the main natural resources available to farming households in the Pru District. Losing ownership of these natural resources to other investors is synonymous with losing entitlement to, control of and benefit derived from these resources, thereby rendering farming households' livelihood more precarious. Mutopo *et al.*, (2015) found that in Mwenezi, Zimbabwe Bio Energy company used a fence to ensure its exclusive access to water because the company assumed legal exclusive ownership of the natural resources (e.g. land) including water bodies. Neighbouring communities were therefore restricted from accessing water resources within this vicinity.

6.3.3 Effect of LSLA on the Social Assets in the Pru District

The third indicator of the Livelihood Effect Index is social capital which refers to the demographic characteristics and network or relations of farming households. Five sub-indicators constitute the social capital indicator. Though Kadue community has the highest average household size, the computed indices suggest that large scale land acquisition has a low effect on the average household size of all the study communities and the combined Pru District Assembly (0.26). Kobre community has the highest percentage of households where household heads have not attended school. The computed district index of 0.53 implies that large scale land acquisition has a moderate effect on the livelihood of farming household as a result of household heads not attending school. Uneducated household heads have inadequate understanding of certain issues that affect the livelihood of their households. In a typical Ghanaian society, women are marginalised in vital decision making and also resource distribution which adversely impacts on their livelihoods. Abease reported the highest percentage

of households headed by females. But, the computed index for the district (0.27) suggests that large scale land acquisition has a low effect on households headed by women in the district. Some farming households resort to their local assemblies, chiefs and Members of Parliaments for assistance to advertise the effect of losing their farm lands to investors. Abease reported the highest percentage of households (13 percent) not going to their local assemblies for help for the past twelve months. However, the computed indices showed that farming households in all the study communities and the Pru District (0.07) as a whole experience low effect of large scale land acquisition on households who report not going to their local assemblies for assistance. Prang has farming households staying in the community relatively longer than farming households in other communities. Farming households who have stayed in their current communities for a long period of time are deemed to have more associations with other households who can assist them to easily adjust to the loss of their farm lands relative to farming households with short stay in their communities. The computed district index (0.39) showed that large scale land acquisition has a low effect on household heads who had stayed in the community for more years.

6.3.4 Effect of LSLA on the Financial Assets in the Pru District

Financial capital is the fourth indicator of the Livelihood Effect Index and refers to the assets ownership and financial capacities of households. The financial indicator consists of nine sub-indicators. Size of farm land owned by a household is a proxy for the wealth level of the household. Farming households in Prang held the highest average farm size owned by households. The computed district index for farm size ownership revealed that large scale land acquisition has a high effect on households' farm land ownership. Adventura is the community with farming households cultivating the highest average acres of farm land in the Pru District. The computed district index

of 0.60 suggests that large scale land acquisition posts moderate effect on the size of farm lands cultivated by farming households in the district. The computed district index of 0.87 implies that large scale land acquisition has a high effect on farming households depending solely on agriculture as a source of livelihood. The next sub-indicator of the financial indicator is the percentage of households reporting loss of house or property due to large scale land acquisition and Abease community had the highest percentage of households attributing loss of property to large scale land acquisition. The index of 0.63 reveals moderate effect of large scale land acquisition on farming households' loss of houses or property. The value of the assets (farm lands, houses, economic trees, etc.) owned by a household determines its level of livelihood.

The research finding also revealed that all farming households in Kobre and Abease communities do not have access to financial services. The computed district LEI index (0.93) showed that large scale land acquisition has a high effect on households without access to financial services. Adwentura community has the highest percentage of households without any household member working outside their communities. The index of 0.86 computed for the Pru District indicates that large scale land acquisition has a high effect on the livelihood of farming households without any member working in a city. Households with members working in other communities/towns may receive remittance or transfer payments to support themselves especially when their farm lands are taken over by investors. Large scale land acquisition posts high effect on the livelihoods of farming households reporting financial crisis as indicated by the computed district index (0.90). Kobre community recorded the highest percentage (100 percent) of households reporting financial crisis. However, the computed district index of 0.39 portrays low effect of large scale land acquisition on the average incomes of farming households. All households in Adwentura attributed reduction in their incomes

to large scale land acquisition by investors. The computed index for the district (0.79) revealed that large scale land acquisition has a high effect on the livelihood of farming households attributing reduced incomes to large scale land acquisition. Households that have more networks and relations including access to financial services and household members working in different communities were the least to feel the effect of large scale land acquisition on their livelihoods.

6.3.5 Effects of LSLA on Physical Assets in the Pru District

The fifth indicator of the Livelihood Effect Index is the physical capital and includes households' basic needs and access to basic physical amenities. Three sub-indicators comprise the physical capital indicator. The first sub-indicator is the percentage of households attributing changes in their road network to large scale land investment and almost all households in all the study communities did not attribute the changes in the road conditions in their communities to large scale land investments. The computed district index of 0.13 indicates that large scale land investment has low effect on the road network of farming communities in the Pru District. Adventura recorded the highest percentage of farming households without access to farming inputs. The computed district index of 0.56 shows that large scale land acquisition has moderate effect on farmers' access to farming inputs. Finally, agricultural livelihood diversification is crucial in ensuring good livelihood of farming households. Households in Prang community are the most affected community on the effect of large scale land acquisition on agricultural diversification. The computed district index of 0.35 shows that large scale land investment has low effect on the agricultural livelihood diversification of farming households in the Pru District.

6.4 Relative Effects of LSLA on Livelihood of Communities

The indices for the indicators of the Livelihood Effect Index were computed by averaging the sub-indicators indices constituting each of the indicators. This is presented in Table 6.3.

Table 6.3: Indices of LEI of the Study Communities

Indicator	Kobre	Adwentura	Kadue	Abease	Prang	Pru District
Human	0.65	0.56	0.66	0.50	0.59	0.61
Natural	0.65	0.56	0.60	0.54	0.59	0.62
Social	0.28	0.29	0.32	0.33	0.31	0.30
Financial	0.76	0.76	0.73	0.71	0.68	0.73
Physical	0.29	0.34	0.33	0.35	0.33	0.33
LEI	0.52	0.50	0.53	0.49	0.50	0.51

Source: Field Survey, 2016

The computed indicator indices showed that farming households in the Kadue community (0.66) are more affected with the effect of large scale land acquisition than households in the other communities in terms of human capital. This is shown in Figure 6.6. The computed district index of 0.61 suggests that large scale land acquisition has a high effect on the human capital of farming households in the Pru District.

On natural capital, Kobre community with an index of 0.65 showed that farming households in the community experienced the highest effect of large scale land acquisition on natural capital than farming households in the other study communities. The computed district indicator index for the natural capital indicates that large scale land acquisition has a moderate effect on the natural capital of farming households in the Pru District. This finding is consistent with Gobena's (2010) findings who reported increased natural resources degradation resulting from deforestation and land conflicts attributable to the influx of foreign land deals in Bako-Tibe Woreda in Ethiopia.

The effect of large scale land acquisition on the social capital of farming households in the Pru District is low (0.30) with households in the Abease community (0.33) being

the most affected in terms of natural capital. The findings of this study is similar to Gobena (2010), who reported a negative implication of farmers of Kebele dispossession of farm lands to Indian investors in Ethiopia on their social livelihoods especially when the investors disregarded the social values of the native farmers by clearing trees at locations designated for the performance of their traditional practices.

The computed financial indicator of 0.73 implies that large scale land acquisition has a high effect on the financial capital of farming households in the district with farming households in Kobre and Adwentura communities (0.76) being the most affected. A physical capital index of 0.33 for the Pru District reveals that large scale land acquisition has resulted to low effect on the physical capital of farming households in the Pru District and Abease with an index of 0.35 is the most affected community.

This is presented in Figure 6.1.

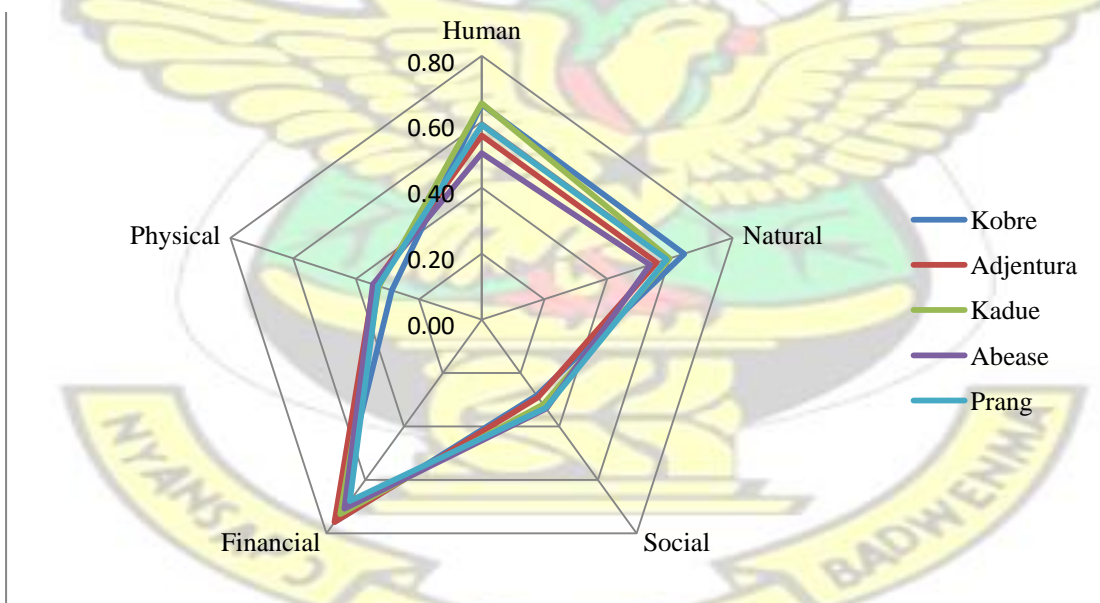


Figure 6.1: Radar Diagram Showing the Study Communities' LEI Indicators

Source: Field survey, 2016

Averaging the five indicators of the Livelihood Effect Index showed that the Kobre and Kadue communities with an LEI of 0.53 suggests that livelihoods of farming

households in these two communities are the most affected with large scale land acquisition. This is presented in Figure 6.1. The computed LEI for the Pru District is 0.51 which shows that the effect of large scale land acquisition on the livelihood assets of smallholder farmers household is moderately affected considering financial capital. Similar findings were reported by Williams *et al.*, (2012) who found that large scale lands acquired for jatropha plantations in the Yendi Municipal and Nkoranza districts had significant negative effects on the livelihood of farmers because displaced young farmers could neither get employment with the company nor access to fertile farm land for cultivation.

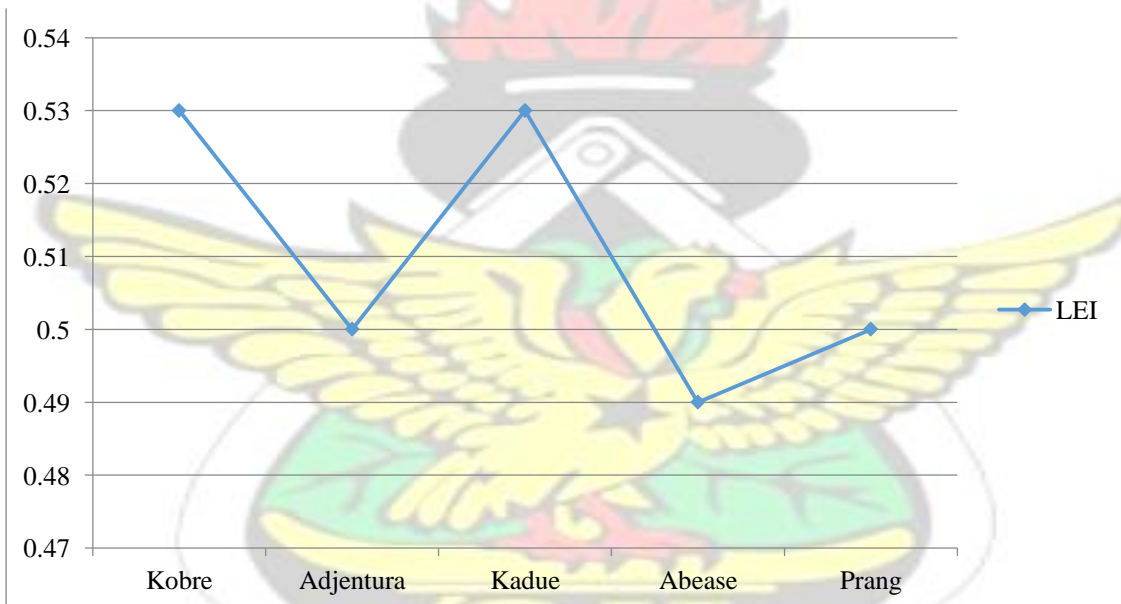


Figure 6.2: Line Graph Showing Livelihood Effect Indices of Study Communities

Source: Field survey, 2016

To test for the statistical significance of the effect of large scale land acquisition on the livelihood assets of farming households, the computed household's LEIs were correlated with households' responses on whether they have lost any land to large scale land investors. The correlation results presented in Table 6.4 indicated that the Spearman correlation coefficient (0.305) is significant at 5 percent. This means that

large scale land acquisition has a significant effect on the livelihood of farming households. The null hypothesis is therefore rejected which states —large scale land acquisition has no significant effect on the livelihood assets of smallholder farming householdl.

Table 6.4: Effects of Land Investment on Households' Livelihood

Spearman Correlation coefficient	№ of respondents	Significance.	Decision
0.305	332	0.023	Reject H

Source: Field survey, 2016

6.5 Effects of Large Scale Land Acquisition on Households' Livelihoods:

Affected Households versus Unaffected Households

The effects of large scale land acquisition on the livelihood of affected and unaffected farming households are also analysed on community basis and is presented in Table 6.5.

The computed indices showed that the effects of large scale land acquisition on the human capital of affected farming households are more than unaffected farming households in all communities but Kadue community. Also, affected farming households reported higher effect of large scale land acquisition on the natural resources than unaffected farming households in all study communities. However, this is not the same with social capital indicator. The computed community indices on natural capital major indicator revealed that apart from Kadue and Prang communities, all remaining communities reported higher LEI on the natural resources.

Also, the computed community indices revealed that the effect of large scale land acquisition on the financial capital of affected farming households is higher than unaffected farming households in Kobre, Kadue, Abease and Prang. However, in Adventura community, large scale land acquisition exerts more effects on the financial

capitals of unaffected farming households than affected farming households as some of the affected households have to depend on the unaffected households. The computed community indices showed that the effect of large scale land acquisition on the physical capitals of affected farming households exceeds that of unaffected farming households in all communities.

The computed LEI for the study community revealed that the overall effect of large scale land acquisition on the livelihood of affected farming households is more than unaffected farming households in all communities. This is presented in Table 6.5.

Table 6.5: Effects of Large Scale Land Acquisition on the Livelihood of Affected and Unaffected Households

Livelihood Indicator	Kobre		Adwentura		Kadue		Abease		Prang	
	Affected HH	Unaffected HH	Affected HH	Unaffected HH	Affected HH	Unaffected HH	Affected HH	Unaffected HH	Affected HH	Unaffected HH
Human	0.70	0.60	0.58	0.54	0.64	0.68	0.54	0.46	0.60	0.58
Natural	0.72	0.58	0.60	0.52	0.65	0.55	0.56	0.52	0.63	0.55
Social	0.24	0.32	0.28	0.30	0.33	0.31	0.31	0.35	0.32	0.30
Financial	0.81	0.71	0.70	0.82	0.74	0.72	0.74	0.68	0.73	0.63
Physical	0.34	0.24	0.36	0.32	0.35	0.31	0.40	0.30	0.34	0.32
LEI	0.56	0.49	0.51	0.50	0.54	0.51	0.51	0.46	0.52	0.48

Source: Field Survey, 2017

In the combined data, the human capital of affected farming households (0.68) are more detrimentally affected by large scale land acquisition than unaffected farming households (0.54). Thus, many affected farming households reported reduction in nutrition, loss of life or injury as a result of large scale land acquisition, food insufficiency, negative effect of large scale land acquisition on their health, low crop diversification, reduction in crop yields and negative effect of large scale land acquisition on education than unaffected farming households. This is presented in Figure 6.3 and 6.4.

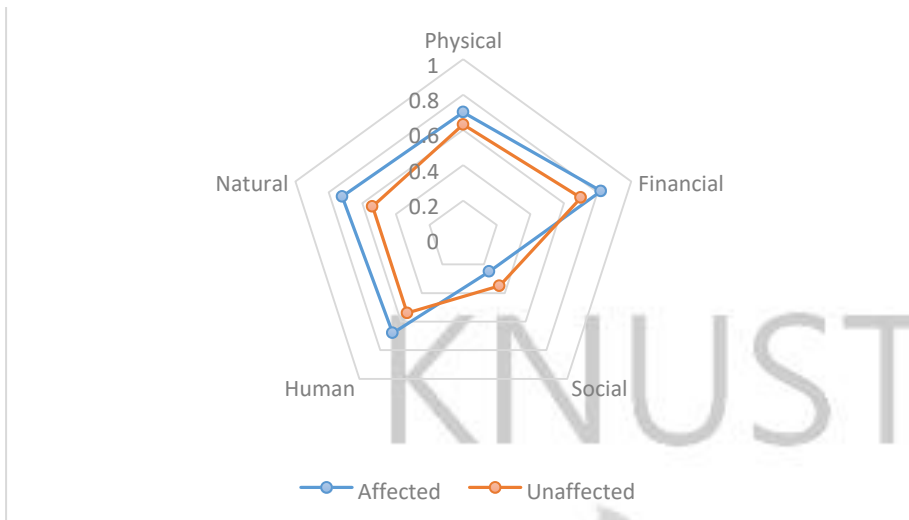


Figure 6.3: Radar Diagram Showing the Effects of Large Scale Land Acquisition on Livelihoods of Affected and Unaffected Households

Source: Field survey, 2016

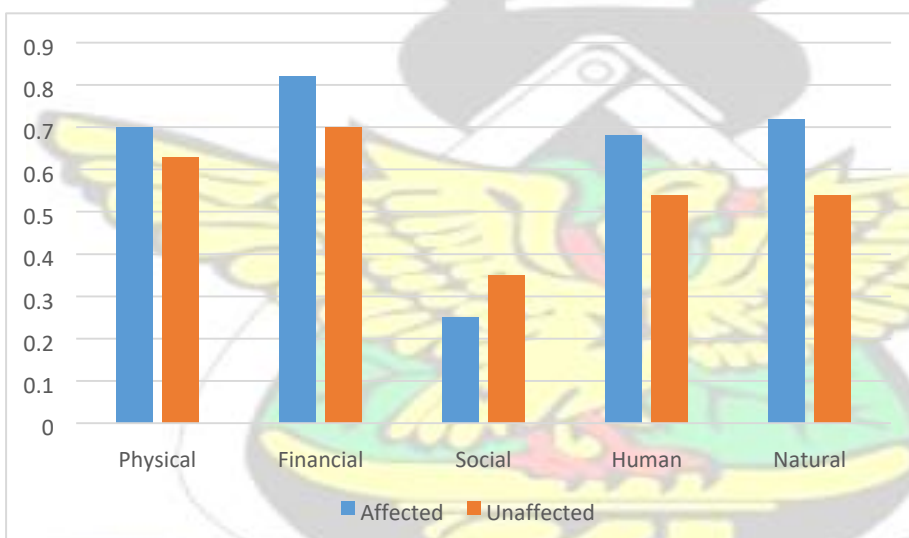


Figure 6.4: The Effects of Large Scale Land Acquisition on Livelihoods of Affected and Unaffected Households

Source: Field survey, 2016

The computed indices for the natural capital major livelihood indicator also showed that the effect of large scale land acquisition on the natural capital of affected households (0.72) is more than the unaffected farming households (0.52). The implication is that farming households which lost their lands to large scale land

investors have not been compensated, travel for longer distance to their newly relocated farm sites, engage in land related conflicts, rely more on forest-based energy sources which have been depleted by large scale land acquisition activities and also report depletion in their natural water resources.

The social major indicator indices revealed that large scale land acquisition poses more detrimental effects on the social livelihoods of unaffected farming households (0.35) than affected farming households (0.25). The reason is that the unaffected farming households assist the affected farming households by way of sharing their farm lands and farm produce for feeding with the affected farming households. This over-stretches the ability of the unaffected households.

The computed financial livelihood indicator indices for affected households and unaffected households are 0.82 and 0.70 respectively. The findings revealed that most affected farming households reported experiencing financial crisis, not accessing financial credit, depending solely on agriculture as a source of livelihood, reduced average income, and low livelihood diversification.

In terms of physical capital indicators, affected farming households experienced higher effects (0.70) of large scale land acquisition than unaffected farming households (0.63). Thus, most affected farming households reported inaccessibility of farming inputs and low agricultural diversification than unaffected farming households within the study area.

6.6 Livelihood Outcomes

The factors influencing large scale land acquisition on the livelihood of farmers were determined using a simple linear regression model. The computed Livelihood Effect

Index (LEI) was used as the dependent variable in the model with socio-economic and demographic characteristics of households being independent variables.

The regression results showed that the computed F statistic (9.497) was significant at one (1) percent. This justifies the suitability of the simple regression model in determining the factors influencing the effect of large scale land acquisition on the livelihood of farmers. The R² value of 0.273 implies that about 27.3 percent of the effect of large scale land acquisition on farmers' livelihood has been explained by the independent variables considered in the model.

The regression results revealed that with the exception of age of household heads and households' access to other farming inputs, all the other independent variables considered in the model had a significant effect on the livelihood assets. This study discussed only the factors with significant influence on the livelihood effect of farmers. The result of the regression is presented in Table 6.6.

Table 6.6: Regression Results of Factors Influencing Farmers' Livelihood Due to Large Scale Land Acquisition

Explanatory Variable	Coefficient	Std. Error
Constant	0.566***	0.008
Education	-0.246***	0.001
Sex of HHH	-0.183***	0.002
Farm size lost	0.160**	0.000
Access to labour	-0.193***	0.003
Off-farm activities	-0.226***	0.002
Age of HHH	-0.065	0.000
Access to other farming inputs	0.029	0.001
No Of Observations. = 332 F = 9.497 df = 10 P-Value = 0.000 R square = 0.273 Adjusted R square = 0.244		

Note: *, ** and *** denotes statistically significant at 10%, 5% and 1% respectively.

Source: Field Survey, 2016

The regression results revealed a significant negative relationship between a household head's years of education and the effect of large scale land acquisition on the household. In effect, every additional year of a household head's education leads to a reduction in the effects of large scale land acquisition on the household by 24.6 percent. This suggests that the higher the level of education of a household head, the lesser the household suffers the adverse effects of losing their farm land to large scale land investors. The empirical results indicate that about 53 percent of interviewed household heads have never been to school. Thus, majority of the sampled households are severely affected by large scale land acquisition by investors as a result of their heads not being educated.

“The investor”'s action has brought conflict between the district assembly, the traditional leaders and the smallholder farmers for their non-participation during the documentation. The total low output of crops, income, size of acres, and distance to farm has brought internal conflicts among state institutions and stakeholders. Conflict at Adwentura between the company workers and the local farmers brought about serious injuries “hence the main motive was not achieved by all the stakeholders in the Pru District. (Chief linguist- Pru Traditional Council, 2016).

Also, the sex of a household's head significantly determines the effect of large scale land acquisition on the livelihood of a household. Given that the sex variable was dummy with 1 representing male household head, the regression result on sex implies that households headed by males significantly reduce the effect of large scale land investment on their households by 18.3 percent. About 73 percent of sampled households are headed by males and this suggests that most households are capable of significantly reducing the effect of large scale land acquisition on their households by 18.3 percent. According to Maputo *et al.*, (2015), women farmers in Mwenezi of Zimbabwe felt the impact of large scale land acquisition most because they have additional responsibility of caring for children, preparing food for the household, searching for water and attending to other household chores.

“The topography of our lands at Pru District has proved to be fertile for cash and food crops. When the investors assessed the suitability of the land, they were convinced to acquire the land for the plantation” (The Chief linguist- Pru Traditional Council, 2016).

The size of the households' farm land lost to large scale land investors equally influences the magnitude of effect on a household's livelihood. The regression results showed that the size of a household's farm land relinquished through large scale land acquisition has a significant positive effect on the adverse effect that befalls on the household's livelihood as a result of the investors' activities. The empirical results indicate that the effect of large scale land acquisition on households' livelihood increases by 16 percent for each acre of farm land lost by the household to large scale

land investors. The results of this study supported the findings of Gobena (2010), who found that, loss of land holding by smallholder farmers in Kebele to Indian investors had considerable negative effect on their livelihoods since land is a natural capital and the main source of livelihood to majority of farmers in Ethiopia

“The government policy of creating enabling environment and conditions for investment has proved that, the basic provision of feeder roads, electricity, portable water, good sanitation and tax exemptions for import production equipment as well as security and cooperation has motivated most investors to acquire large tracts of land for plantations” (The District Planning Officer, 2016)

Access to labour by farming households has a significant negative influence on large scale land acquisition on the livelihood of farming households. Households with access to labour averts the effects of large scale land acquisition on their livelihood by 19.3 percent. Households that have access to labour (family or hired) for their farming activities at newly relocated farm sites which are far from their homes maximise outputs than households without access to labour.

“The investor”s approach of payments and other promises made, did not manifest to the people and authorities of the varying agreements and documentation signed. Our entire livelihood has been affected negatively by the investor”s acquisition and activities. Our

expectation of the changes in our social, economic and political life, has not been felt at all. Meanwhile they now hold documents to control our own lands and the total life of smallholder farmers” (The District Assembly, 2016).

Off-farm activities have a significant negative influence on large scale land acquisition on households’ livelihoods. The empirical results showed that farming households engaged in other off-farm activities such as agro-processing, carpentry, mason works, food vending, and call credit vending reduce the effects of large scale land acquisition on its livelihood by 22.6 percent.

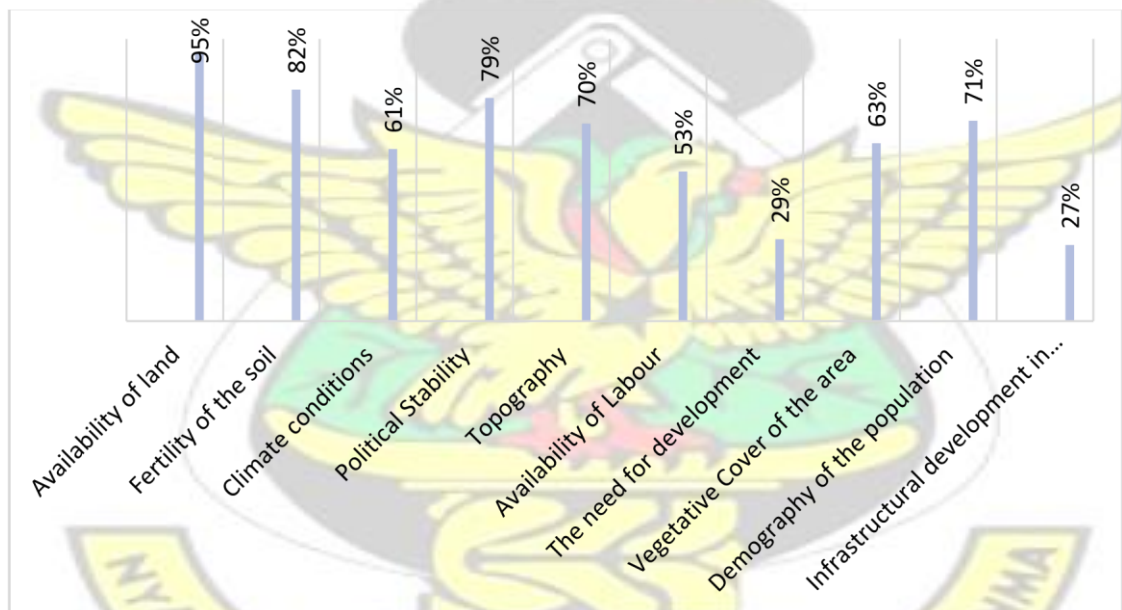


Figure 6.5: Factors Influencing Large Scale Land Acquisition

Source: Fieldwork, 2016

6.7 Factors Influencing Large Scale Land Acquisition

Respondents from the study communities were to indicate some of the factors that have influenced large scale land acquisition by investors in the Pru District, 95 percent of the respondents attributed the influx of LSLA investors to the district. As a result of

availability of land for the cultivation of their plantations and 82 percent of the respondents also indicate that the soil fertility in the district which is very good for cash crops might have influenced LSLA investors in the district.

The district falls within the Interior Savannah Woodland. Grasses in this vegetation grow in tussocks and can reach a height of 10 feet or more. However, due to the transitional nature of the vegetation, the area does not exhibit savannah conditions (GSS, 2010). The respondents affirmed that climate was a factor that contributed to the existence of LSLA in the Pru District as it was indicated by 60 percent of the respondents. However, considering topography as well as the nature of the land, 70 percent of the respondents indicated that it is one of the factors that have influenced large scale land acquisition in the Pru District. In deed, 60 percent of the respondents also affirmed that the vegetative cover and its characteristic's moisture retention in the soil of the district was a major factor for the influx of LSLA investors in the District. Foreign investors perceive Africa as the best destination for land investments, because it is where land can be obtained at cheaper price, without any problem on documentation, hence the motivations and decisions to secure large scale land for Plantation by investors (Ahab and Kring 2012). In further assessing the effect of large scale land acquisition in the Pru District the researcher inquired if political stability, the need for development, infrastructural development in the area, availability of labour and the demography of the population were also factors which have influenced the activities of large scale land acquisition in the district. The responses gathered proved that these factors have contributed for the influx of investors as 20 percent attributed it to the need for development; 70 percent to the demography of the population, the district boost of youths which will serve as source of labour for their planation; 80 percent indicated the political stability of the district as investors will have freedom and

peace to go about their business as well as good tax exemptions and conducive atmosphere to operate in such an environment thus Pru District.

Availability of labour was also a factor for the concentration of the activities of LSLA investors in the Pru District, in another development , 50 percent of the respondents affirmed that availability of labour has influenced large scale land acquisition activities in the Pru District. This confirms Deininger *et al.*, (2011) assertion that, land acquisitions are to encourage country advancement by expanding profitability, and enhancing market development in the local community. Investors always consider supporting services in locating their activities as the respondents were asked if the infrastructural development of the district was a factor which influence the investors choice, 20 percent of the respondents indicated that investors have move to the Pru District because of it infrastructural development in the district. In contrary, the Pru District has been characterised with inadequate facilities.

6.8 Effects of Large Scale Land Acquisition on the Livelihood Outcomes

The respondents were asked on the effect of large scale land acquisition on the livelihood outcome and it was measured based on their livelihood outcomes thus natural, financial, physical, and social and capital assets of smallholder farmers in the Pru District.

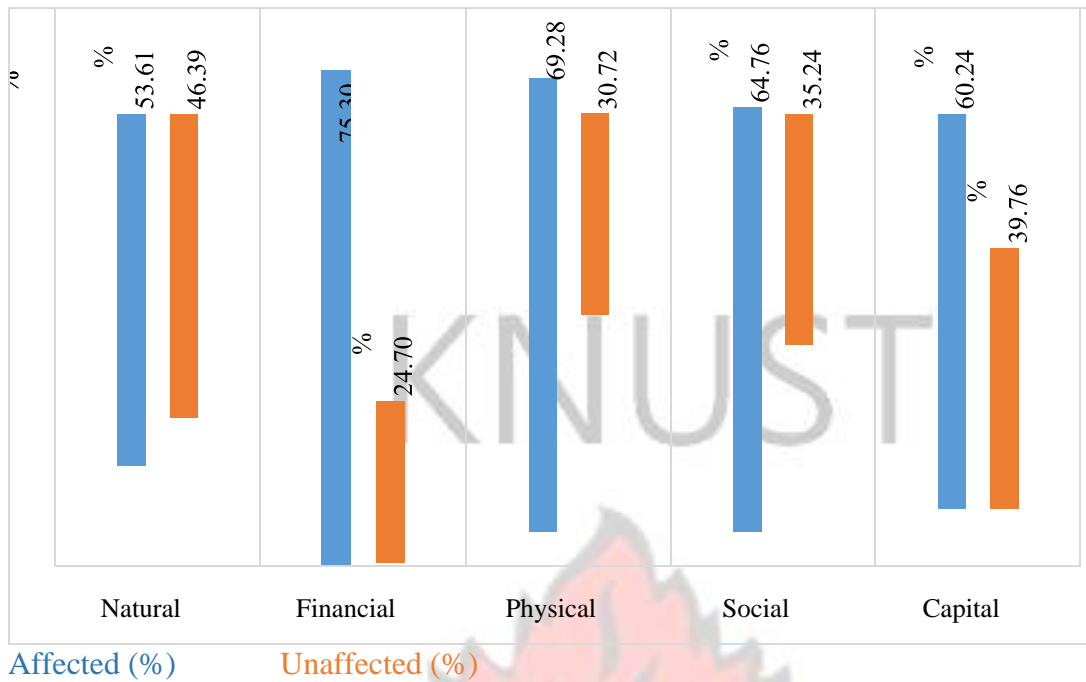


Figure 6.6 Effect of LSLA on Livelihood Outcomes

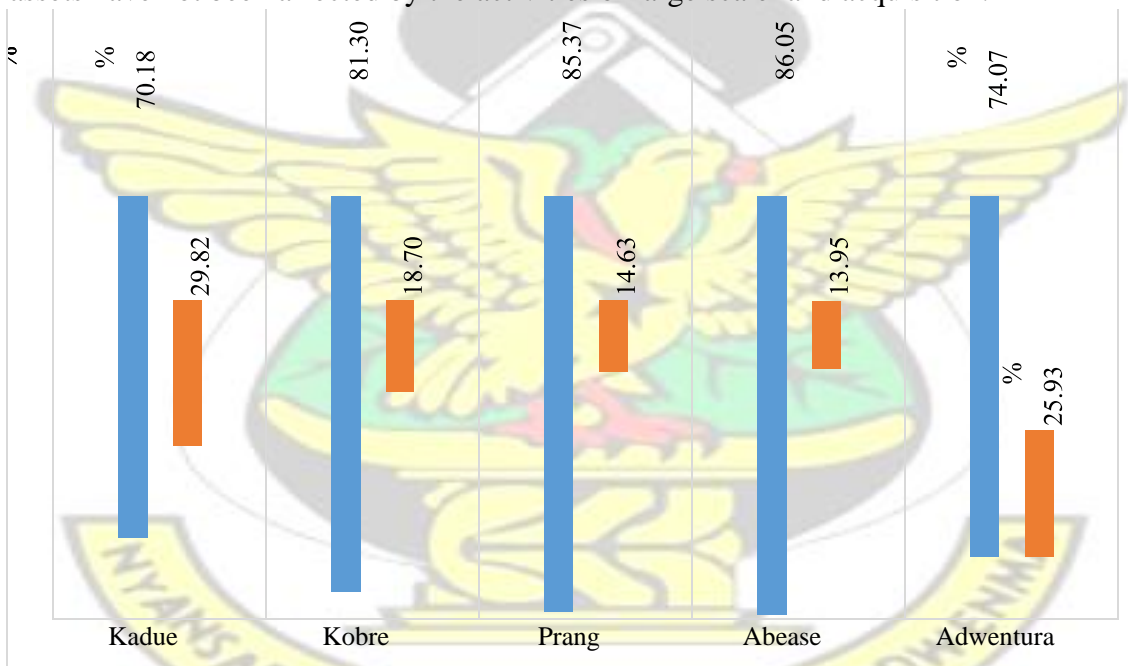
Source: Field survey, 2016

In a computed data for the study communities, 53.61 percent of the respondents indicated that their natural assets have been affected by the activities of large scale land acquisition while 46.39 percent also indicated that the activities of large scale land acquisition have no effect on their activities in the Pru District. The financial assets of the smallholder farmer was the most affected by the activities of large scale land acquisition in the Pru District this could be attributed to the loss of their lands of which they derive their livelihood. As 75.3 percent of the respondents indicated they have been financially affected by large scale land acquisition while 24.7 percent of the respondents indicating that their financial asset has not been affected by the activities of large scale land acquisition. Considering the physical, social and capital assets of the smallholder farmers in the Pru District, 69.28 percent of the respondents indicated that their physical assets have been affected by LSLA, more so 64.76 percent and 60.24 percent indicated that their social and capital assets have been affected by large scale

land acquisition respectively. However, 35.24 percent of the respondents indicated that, their social assets have not been affected by LSLA as 39.76 percent of the respondents indicated their capital assets have not been affected by the activities of large scale land acquisition in the Pru District. This finding is contrary to, Vermeulen *et al.*, (2010) that stress on a case in Mali where the company had provided technical assistance to farmers in order to enable them improve on their agricultural activities

6.8.1 Financial Livelihood

In examining the effects of large scale land acquisition on livelihood outcomes on smallholder farmers in the Pru District, the financial livelihood outcome was assessed based on each study community. In assessing the effects of LSLA on financial assets, 70.18 percent of the respondents from Kadue indicated that, their financial assets have been affected whiles 29.82 percent of the respondents also indicated that, their financial assets have not been affected by the activities of large scale land acquisition.



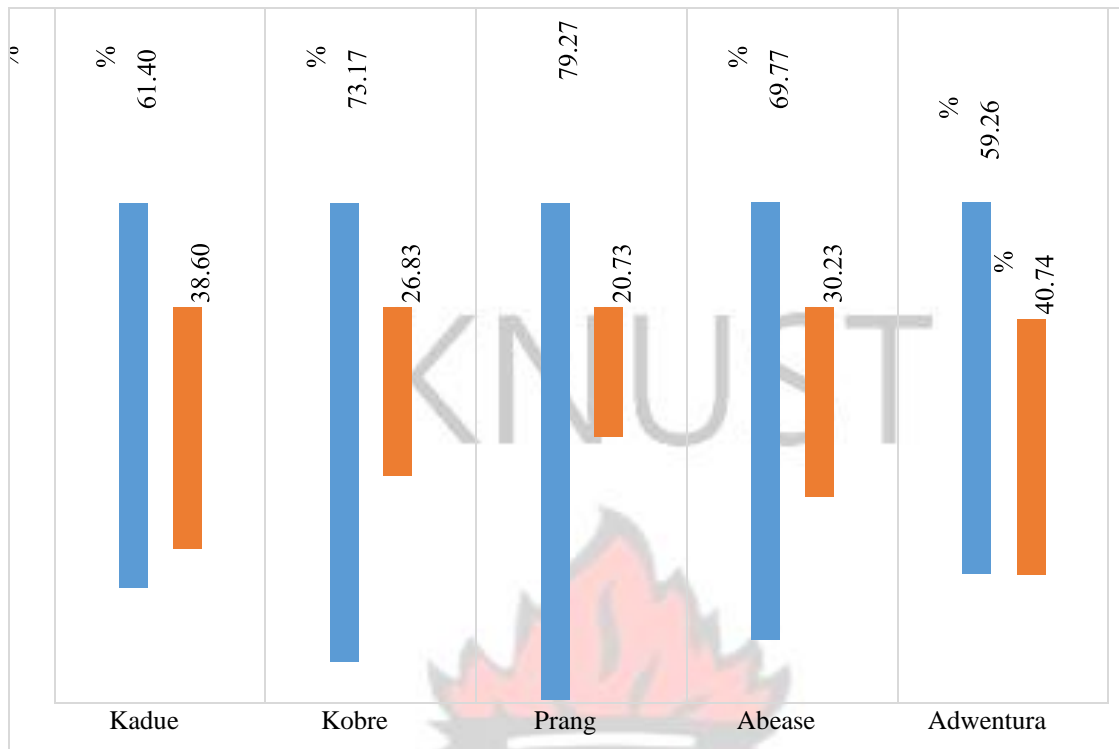
Source: Field survey, 2016

In Kobre, 81.30 percent indicated that their financial assets have been affected by large scale land acquisition activities whiles 18.70 percent of the respondents also indicated their financial assets have not been affected. Responses from Prang indicated that 85.37 percent of the respondents' financial assets have been affected by large scale land acquisition activities whiles 14.63 percent of the respondents also indicated that their

financial assets have not been affected by large scale land acquisition. Considering the financial assets outcomes from Abease and Adwentura, 86.05 percent and 74.07 percent respectively indicated that their financial assets have been affected by the activities of large scale land acquisition while 13.95 percent of the respondents from Abease indicated that their financial activities have not been affected as 25.93 percent of respondents from the Adwentura indicated their financial assets have not been affected by the activities of large scale land acquisition. The study findings were contrary to Wujenja and Wonani (2012) who upon studying found out that large scale land acquisition projects had contributed to improvement of long term public revenues.

6.8.2 Social Livelihood

In examining the effects of large scale land acquisition on livelihood outcomes on smallholder farmers in the Pru District, the Social livelihood outcome was assessed based on each study community. In assessing the effect of LSLA on social assets, 61.40 percent of the respondents from Kadue indicated that, their social assets have been affected while 38.60 percent of the respondents also indicated their social assets have not been affected by the activities of large scale land acquisition. In Kobre, 73.17 percent indicated that their social asset have been affected by large scale land acquisition activities while 26.83 percent of the respondents also indicated their social assets have not been affected.



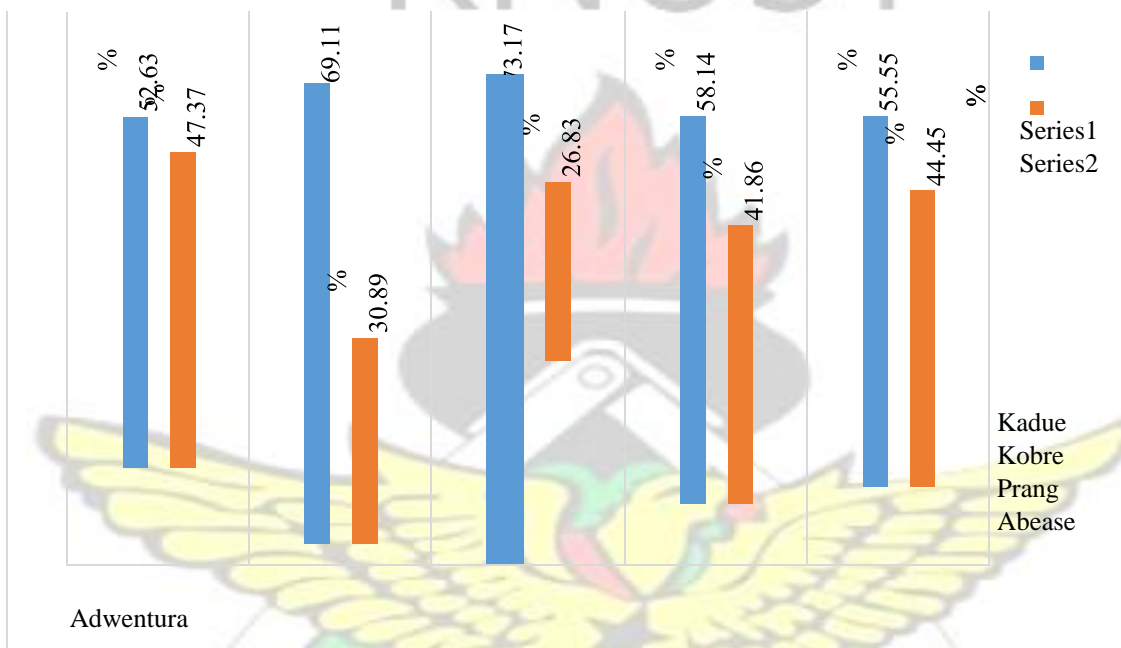
Source: Field Survey, 2016

Responses from Prang indicated that 79.27 percent of the respondents' social assets have been affected by large scale land acquisition activities while 26.83 percent of the respondents also indicated that their social assets have not been affected by large scale land acquisition. Considering the social assets outcomes from Abease and Adwentura, 69.77 percent and 59.26 percent respectively indicated that their social assets have been affected by the activities of large scale land acquisition while 30.23 percent of the respondents from Abease indicated that their social activities have not been affected as 40.74 percent of respondents from the Adwentura indicated their social assets have not been affected by the activities of large scale land acquisition.

6.8.3 Natural Livelihood Outcomes

In assessing the effects of large scale land acquisition on livelihood outcomes on smallholder farmers in the Pru District, the natural livelihood outcomes were assessed based on each study community. In assessing the effects of LSLA on natural outcomes,

52.63 percent of the respondents from Kadue indicated that their natural assets have been affected while 47.37 percent of the respondents also indicated their natural assets have not been affected by the activities of large scale land acquisition. In Kobre, 69.11 percent indicated that their natural assets have been affected by large scale land acquisition activities while 30.89 percent of the respondents also indicated that theirs were not been affected.



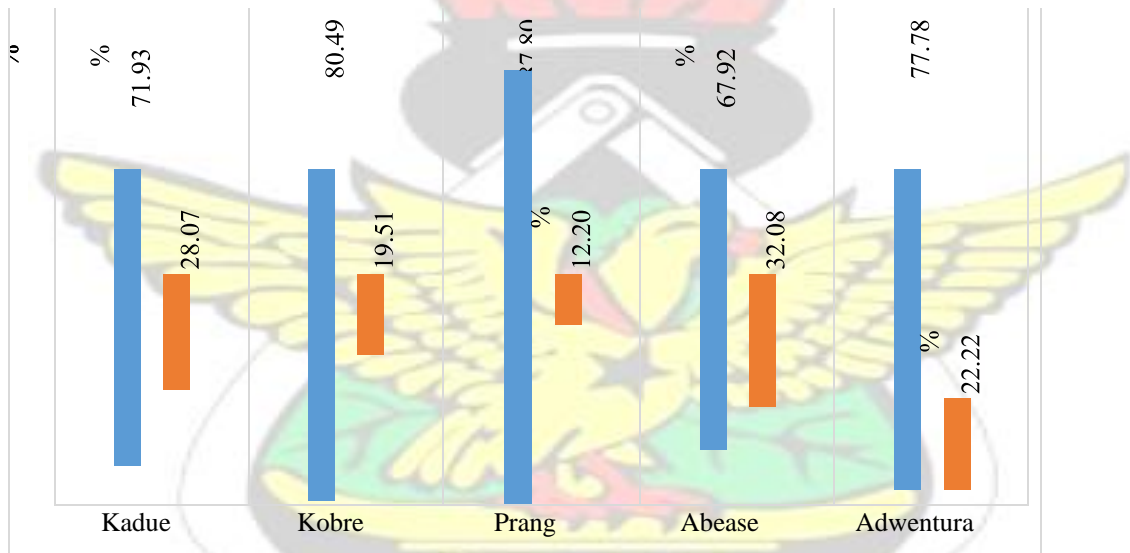
Source: Field Survey, 2016

Responses from Prang indicated that 73.17 percent of the respondents' natural assets have been affected by large scale land acquisition activities while 26.83 percent of the respondents also indicated that their natural assets have not been affected by large scale land acquisition. Considering the natural assets outcomes from Abease and Adwentura, 58.14 percent and 55.55 percent respectively indicated that their natural assets have been affected by the activities of large scale land acquisition while 41.86 percent of the respondents from Abease indicated that their natural activities have not been affected as 44.45 percent of respondents from the Adwentura indicated their natural assets have not been affected by the activities of large scale land acquisition.

The study finding is similar to that of Grains (2008) who stress that, large scale land acquisition, instead of facilitating rural development, rather deprives the host country the natural resources that constitute the assets upon which rural livelihoods are drawn.

6.8.4 Physical Livelihood Outcomes

In examining the effects of large scale land acquisition on livelihood outcomes on smallholder farmers in the Pru District, the physical livelihood outcome was assessed based on each study community. In assessing the effects of LSLA on physical assets, 71.93 percent of the respondents from Kadue indicated that, their physical assets have been affected while 28.07 percent of the respondents also indicated their physical assets have not been affected by the activities of large scale land acquisition. In Kobre, 80.49 percent indicated that their physical assets have been affected by large scale land acquisition activities while 19.51 percent of the respondents also indicated their physical assets have not been affected.



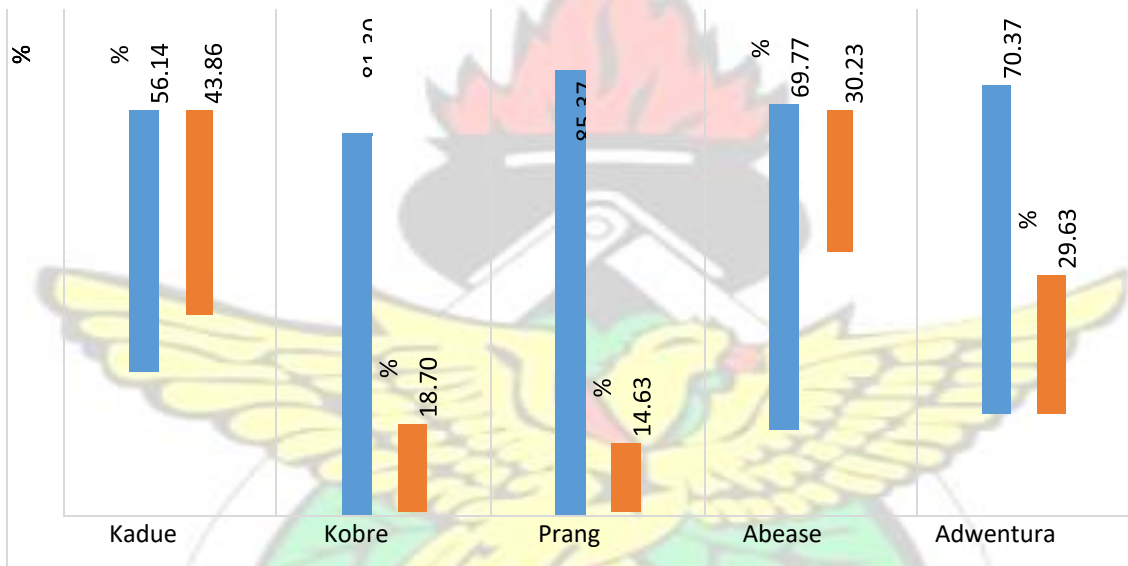
Source: Field Survey, 2016

Responses from Prang indicated that 87.80 percent of the respondents' physical assets have been affected by large scale land acquisition activities while 12.20 percent of the respondents also indicated that their physical assets have not been affected by large scale land acquisition. Considering the physical assets outcomes from Abease and Adwentura, 67.92 percent and 77.78 percent respectively indicated that their physical assets have been affected by the activities of large scale land acquisition while 32.08

percent of the respondents from Abease indicated that their physical assets have not been affected; as 22.22 percent of respondents from the Adwentura indicated that, their physical assets have not been affected by the activities of large scale land acquisition

6.8.5 Capital Livelihood Outcomes

In examining the effects of large scale land acquisition on livelihood outcomes on smallholder farmers in the Pru District, the financial livelihoods outcome was assessed based on each study community. In assessing the effects of LSLA on capital assets, 56.14 percent of the respondents from Kadue indicated that, their capital assets have been affected whiles 43.86 percent of the respondents also indicated their capital assets have not been affected by the activities of large scale land acquisition.



Source: Field Survey, 2016

In Kobre, 81.30 percent indicated that, their capital assets have been affected, by large scale land acquisition activities whiles 18.70 percent of the respondents also indicated that, their capital assets have not been affected. Responses from Prang indicated that 85.37 percent of the respondents' capital assets have been affected by large scale land acquisition activities whiles 14.63 percent of the respondents also indicated that, their capital assets have not been affected by large scale land acquisition. Considering the

capital assets outcomes from Abease and Adwentura, 69.77 percent and 70.37 percent respectively indicated that their capital assets have been affected by the activities of large scale land acquisition while 30.23 percent of the respondents from Abease indicated that, their capital assets have not been affected; 29.63 percent of respondents from the Adwentura indicated their capital assets have not been affected by the activities of large scale land acquisition

The livelihood outcomes of farming households are the milestones which directly reflect or determine the livelihood status of farming households. The livelihood outcomes considered in this study are employment, food security, nutritional level, healthcare and income levels of farming households. Indeed to determine the effects of large scale land acquisition on the livelihood outcomes of farming households, the number of respondent of households to the questions meant that, they did not lose any land to large scale land investors and this was correlated with the livelihood outcomes of households. The correlation results (one tailed) of the effects of large scale large land acquisition on livelihood outcomes are presented in Table 6.7.

Table 6.7: Correlation of Large Scale Land acquisition and Livelihood Outcomes of Households

Livelihood Outcome	N _o of Respondents	Pearson Correlation Coefficient	Significance (onetailed) P value()	Decision
Employment	332	0.129**	0.013	Reject H _o
Food Security	332	0.080*	0.084	Reject H _o
Nutrition	332	-0.014	0.404	Do not reject H _o
Healthcare	332	0.128**	0.014	Reject H _o
Income	332	0.890***	0.000	Reject H _o

Source: Field Survey, 2016

The one tailed correlation results showed that large scale land acquisition has a significant positive effect on the employment of farming households in the Pru District.

The null hypothesis is therefore rejected which states that —large scale land acquisition

has no significant effect on the livelihood of smallholder farming households. In the community focus group discussions, the chief farmer stated that:

“We have realised that, companies who are into large scale land activities did not keep to their promises of recruiting more of its worker from the operating community. The presence of these investors in our communities has affected the general life style of the community, thus affecting our general output, income, distance to farms, the number of hours trekked to the farms, the size of farm lands and even assessing non- forest products”

(Focus Group Discussion-Prang, A Chief Farmer 2016).

The Pearson correlation coefficient of 0.129 implies that large scale land activities of investors have a low effect on the employment of farming households in the Pru District. According to Baumgartner *et al.*, (2013), workers of Saudi Star in Ethiopia spent portion of their income on locally produced goods and services such as local beer which had a positive effect on self-employment. Similarly, the significant effect of large scale land acquisition on employment of farming household may be explained by the fact that though the companies are not able to directly employ many people from within the local communities, their presence in these communities may have created markets for the local products of community members such as sales of food stuffs, call cards, etc. to workers of the companies. The study revealed that about 73 percent of sampled households opined that large scale land investors‘ activities have no effect on their employment status while 27 percent of households interviewed reported that the

youth have gained employment as a result of the activities of large scale land investments. This is not different from the findings of Baumgartner *et al.*, (2013) who intimated that the workforce of Saudi Star in Ethiopia composed of 20 percent local members employed as field workers, tractor drivers and other casual jobs workers were lowly paid.

“Our company’s expectation was to expand operations to help improve the livelihoods of all the community members and the district as a whole, by offering services, providing basic infrastructure facilities and creating direct and indirect employment , thus alleviating poverty to bring development” (Smart Energy Company, 2016).

The correlation results showed that large scale land acquisition has a significant negative effect on the income levels of farming households in the Pru District. The null hypothesis that large scale land acquisition has no significant effect on the livelihood of smallholder farming households is therefore rejected. Only 21 percent of sampled households interviewed reported that large scale land acquisition has an effect on their income levels. The Pearson correlation coefficient of 0.89 implies a strong effect of large scale land acquisition on the income levels of farming households. In a focus group discussion, this is what the committee chairman had to say;

“It was revealed that though companies into large scale land activities promised to recruit more of its workers from the operating communities, it turned out to be the reverse as very few people from the

communities were employed. The investors’ presence and activities have affected our general output, income, distance to farms, number of hours used, the size of farm lands, our access to nonforest products, migration, diversification and the general life style of the people” (Focus Group Discussion-Prang, Committee Chairman, 2016).

On the contrary, the household heads revealed in a focus group discussion that the inception of large scale land activities by investors have rather rendered households poorer than before. Most participants stated that households were compensated between GH 80.00 to GH100.00 per acre for losing farm lands and were given between six to twelve months to relocate to different farms lands. The empirical findings of this study are similar to the study of Baumgartner *et al.*, (2013) who reported increased per-capita of both settler and native citizens of Ethiopia by over 50 percent as a result of the Saudi Star project operations.

6.9 Linkages of the Study Findings to Theoretical and Conceptual Frameworks

The integration of the global political economies through globalisation makes it much easier to attract foreign investors to acquire large tracts of lands in deprived regions of the world for plantation and other developmental projects. In their quest for developments, governments of developing nations including Ghana lease out lands occupied by smallholder farming households to large scale land investors for better livelihood of the host communities. However, the taking over of farm lands belonging to smallholder farmers by large scale land investors brings some form of vulnerability and the effects on the livelihood of the smallholder farming households is immense.

The core region is the industrialised and most developed region of the world. For instance, the activities of Smart Oil Ghana in Kadue and Makomanya, the Agolis Company at Yeji and African Natural Diesel deprived smallholder farmers of major livelihood assets such as land for farming. Similarly to the view of the Agropolitan theory and the Pedagogy of the oppressed by Paulo Frieze (2005) that any larger form of settlement in the rural areas tends to exploit the rural people, thus, the urban elites, traders and local industries draw resources away from the rural areas. The study findings revealed that large scale land acquisition has significant negative effect on the social, financial, human, physical and natural livelihoods of smallholder farming households in the Pru District. Thus the activities of investors in the Pru District brought little benefit to the locals as it has negative social effect. Therefore the social capital of the locals have been hampered because of large scale land acquisition. The study revealed that large scale land acquisition is a form of exploiting locals and diminishing their physical, natural, social, financial and human capital of the local communities.

The vulnerability of the smallholder farmers affected their Assets. Then the processes and structure, institution and government introduced policies to cushion the system by employing good coping and adaptation strategies to result to either positive or negative outputs.

The study finding revealed that with the exception of age of household heads and households' access to other farming inputs, the independent variables considered in the model had a significant effect on the dependent variable which is linked to the political economy framework which assumes that resources are allocated not on the basis of relative efficiency or merit but according to power. The political economy theoretical framework for instance, has been adopted in related studies however considering investors from developed countries acquiring large tracts of lands from smallholder

farmers, these are resources which their livelihoods are generated from. They further repatriate the income to their country of origin, while most failed to even pay taxes which could be used for development at the local communities, their cooperate social responsibilities as the investors failed to honour their promises such as employment, health, water, sanitation, education and others. Large scale land acquisition investor in Pru repatriated almost all their profits to their home countries mostly the developed countries leaving their operating countries still in poverty and less developed. This leaves the smallholder farmers from developing countries poor hence further enriching their developed countries.

The globalization theory argues that land acquisition speaks to many of the big questions that concerned scholars of globalization. The theory argues from the perspective of economic globalization. Large scale land acquisition has facilitated extensive and rapid flows of capital, goods, and ideas across borders which link the findings of livelihood outcomes of smallholder farmers in the Pru District where, large scale land acquisition has negative effect on income and a positive effect on health care but low effect on employment. This finding further links the Care International Sustainable Livelihood Framework/Model which embodies three fundamental attributes, namely: the possession of human capabilities (such as education, skills, health and psychological orientation), access to tangible and intangibles assets and existence of economic activities.

6.10 Summary

The chapter employed FANRPAN (2011) classification of Human Vulnerability Index (HVI). The computed LEI was used to categorise households into three categories: lowly affected (0-0.47), moderately affected (0.471-0.64) and highly affected (0.641-1.00) households. The computed index for the district (0.27) suggests that large scale

land acquisition has a low effect on households headed by females in the district. The computed financial indicator of 0.73 implies that large scale land acquisition has a high effect on the financial capital of farming households in the district with farming households in Kobre and Adwentura communities (0.76) being the most affected. The effect of large scale land acquisition on the social capital of farming households in the Pru District is low (0.30) with households in the Abease community (0.33) being the most affected. The findings of this study affirm Gobena (2010), who reported a negative implication of farmers' dispossession of farm lands to Indian investors in Ethiopia on their social livelihoods especially when the investors disregarded the social values of the native farmers. The computed indices revealed high effect of large scale land acquisition on the human capital of farming households in all the communities and for the district (0.83). A physical capital index of 0.33 for the Pru District reveals that large scale land acquisition have low effect on the physical capital of farming households in the Pru District and Abease with an index of 0.35 is the most affected community. This finding is similar to Williams *et al.*, (2012) who found that large scale lands acquired for jatropha plantations in the Yendi Municipal, Pru and Nkoranza districts had significant negative effects on the livelihood of farmers because displaced young farmers could neither get employment with the company nor access fertile farm lands for cultivation. The computed indices indicate that farming households in the Prang community travel to far locations for farming activities than households in the other communities. However, the combined index of 0.18 for the Pru District suggests low effect of large scale land acquisition on distance to farms of households. The study further revealed that smallholder farmers who did not lose their lands are most affected by large scale land acquisition in Pru District as compared to those who lost their land as a result that those who lost their lands now depend on those

who did not lose their lands hence shifting most of their burdens on them by catering for their wellbeing.

To test for the statistical significance of the effect of large scale land acquisition on the livelihood assets of farming households, the computed household's LEIs was correlated with households' responses on whether it has lost any land to large scale land investors. The Spearman correlation coefficient achieved was (0.305) at significant of 5 percent. This means that large scale land acquisition has a significant effect on the livelihood asset of farming households. The null hypothesis is therefore rejected which states—large scale land acquisition has no significant effect on the livelihood asset of smallholder farming householdl.

The chapter also discussed the factors influencing the effects of large scale land acquisition on livelihood of smallholder farming households and the effects of large scale land acquisition on the livelihoods outcomes of households in the Pru District. In considering the factors influencing the effects of large scale land acquisition on livelihoods of smallholder farming households, the regression results revealed that with the exception of age of household heads and households' access to other farming inputs, all the other independent variables considered in the model had significant effects on the dependent variable.

The regression results revealed a significant negative relationship between a household head's years of education and the effects of large scale land acquisition on the household. In effect, an additional year of a household head's education leads to a reduction in the effects of large scale land acquisition on the household by 24.6 percent. Another factor with significant negative influence on households' livelihoods attributable to large scale land acquisition as revealed by the regression results is the

total farm size owned by the household. The empirical results showed that every additional hectare of farm land owned by a household leads to a 36.8 percent reduction in the effects of large scale land acquisition on the household's livelihood as the study finding was similar to Nega *et al.*, (2003) who reported that landholding is a major factor constraining household farm income and household food security in Ethiopia because declining landholding due to land grabbing led to decline per capita food production and farm income.

The livelihood outcomes of farming households are the milestones which directly reflect or determine the livelihoods status of farming households. The livelihoods outcomes considered in this study are employment, food security, nutritional level, and healthcare and income levels of farming households.

The correlation results showed that large scale land acquisition has a significant negative relationship on the income levels of farming households in the Pru District with the mean income before large scale land acquisition being 1300.52 and 1700.83 as the mean income after large scale land acquisition in the Pru District Assembly.

The null hypothesis that large scale land acquisition has no significant effect on the livelihood of smallholder farming households is therefore rejected. The Pearson correlation coefficient of 0.89 implies a strong positive effect of large scale land acquisition on the income levels of farming households.

Large scale land acquisition has a significant positive effect on the healthcare of farming households in the Pru District. Therefore, the null hypothesis is rejected. About 82 percent of sampled households attributed their improved healthcare to the activities of large scale land investors. The Pearson correlation coefficient of 0.129 implies that large scale land activities of investors have low effects on the employment of farming

households in the Pru District. The study finding is contrary to Baumgartner *et al.*, (2013), who argued that workers of Saudi Star in Ethiopia spent a portion of their income on locally produced goods and services such as local beer which had a positive effect on self-employment. The Pearson correlation coefficient of 0.08 suggests that large scale land acquisition has very low effects on the food security status of farming households in the Pru District. The view of the minority confirms the findings of Deressa (2013) who reported that agricultural projects have no positive effects on the food security of host communities in Bako Tibe Worde

The study revealed that households were compensated between GH 80.00 to GH100.00 per acre for losing farm lands and were given between six to twelve months to relocate to different farms lands.



CHAPTER SEVEN COPING AND ADAPTATION STRATEGIES OF SMALLHOLDER

FARMERS TO THE EFFECTS OF LSLA

7.1 Introduction

This chapter unravels the coping strategies of smallholder farmers about the effects of large scale land acquisition in the Pru District on farmers and the adaptation strategies they have employed in response to the effects of the large scale land acquisition. The chapter therefore teases out how the farmers cope and adapt to the effects. The chapter employs descriptive statistics and thematic analysis in analysing the data gathered. Structured interviews, focus group discussions and observations were also employed to elicit from the farmers their coping and adaptation strategies to large scale land acquisition.

7.2 Farmers' Strategies and Implication

Given that large scale land acquisition has adverse effects on the livelihood outcomes of farming households, some contingent measures have been put in place by households to mitigate the level of effects inflicted on them by the activities of large scale land investments. The measures embarked upon by households to survive the effects of activities of large scale land acquisition in the interim are known as coping strategies while those measures adopted to eternally adjust to the effects of large scale land acquisition are also called adaptation strategies. The coping and adaptation strategies identified to have been adopted by farming households in the Pru District are presented in Table 8.1.

Table 7.1: Farmers’ Coping and Adaptation to the Effects of Large Scale Land Acquisition

Effect of large scale land acquisition on farmers’ livelihood	Coping Strategy		Adaptation Strategy	
		%		%
Re-location of farms to far places	Reduce number of days of visit to farm . Change of crops to be suitable for weeds control.	23	Keep backyard garden, migration, Resettlement to new farm site	91
	Leaving to farm very early	67	Bought motor bike	85
Inadequate medicinal plants	Get medicinal plants from friends/family Good health practices	42	Grow medicinal plants	15
Inadequate water resources	Harvesting of rainfall, Protection of watershed, afforestation	99	Fish farming ,hybrid seeds	33
			Dug boreholes	57

Source: Field Survey, 2016

As mentioned earlier, whereas coping strategies are interim mechanisms adopted by farmers to survive the effects of large scale land acquisition by farmers, adaptation strategies are long term measures employed by farmers to acclimatise with the adverse effects of large scale land acquisition. One of the serious effects of the acquisition of large scale land by investors is the tendency of smallholder farmers having to re-locate their farms to far sites. In a focus group discussion a farmer at Adwentura gave this account:

“The acquisition of arable lands by investors has reduced our output. We were not given the opportunity to choose our preferred lands, location and size of hectares which could contribute towards our main occupation, crop farming, for our extended family survivor” (The Community

Secretary,2016).

7.2.1 Farmers' Coping Strategies

To immediately surmount the effect, majority of smallholder farmers (67 percent) go to their farms very early than they used to while about 23 percent of smallholder farmers reduce the number of days they visit the farm. However, in the long-run, most smallholder farmers (91 percent) reported establishing backyard farms rather than traveling to distant places to cultivate their produce. About 85 percent of households also reported to have adapted to the re-location of farm lands to far places by acquiring motor bikes to aid their transport to their new farm lands which are a bit far from their homes than their old farm sites. At Prang, in a focus group discussion a farmer had this to say:

“The presence of the investors has contributed to mass unemployment which has led to the recent increased armed robbery cases on the Kumasi-Yeji Road. Indeed, it is affecting our social lives and our properties. It has also led to the breakup of families, breakdown of parental control on children as well as other imminent life development activities” (The Assembly man, 2016).

Table 7.2 Coping Strategies of the Communities

Coping Strategies	Prang (%)	Adwentura (%)	Kobre (%)	Kadue (%)	Abease (%)
Reduce number of days of visit to farm	23.17% (19)	22.22% (6)	22.76% (28)	23.26% (10)	22.81% (13)
Leaving to farm very early	67.07% (55)	66.67% (18)	66.67% (82)	67.44% (29)	66.67% (38)
Get them from friends/ family	41.46% (34)	40.74% (11)	41.46% (51)	44.19% (19)	42.11% (24)
Depend on rainfall	100% (82)	96.30% (26)	99.19% (122)	100% (57)	97.67% (47)

Source: Fieldwork, 2017

The study enquired from the respondents some of the coping strategies that the smallholder farmers engaged in to minimize the effect of large scale land acquisition by investors. The respondents from the communities indicated that they coped by reducing the number of days of visit to farm, thus 23.17 percent (19) of the respondents from Prang, 22.22 percent (6) of the respondents from Adwentura, 22.76 percent (28) of the respondents from Kobre, 23.26 percent (10) respondents from Abease and 22.81 percent (13) respondents from Kadue all indicated that they coped with the effects of large scale land acquisition by reducing the number of days they visit their farms. Their close fertile lands have been acquired by the investor, thereby increasing the distance from their homes to the farm. This makes it difficult for regular visit and have led to the reduction of the number of days of visit.

The respondents also indicated that they had to leave their home very early due to large scale land acquisition. As the distance to their farm increased, it leaves them with no option but to leave the house early so that sun rise will not catch them up. This assertion is attributed to 22.81 percent (13) of respondents from Kadue, 66.67 percent (18) of the respondent from Adwentura, and 66.67percent (82) of respondents from Kobre, 67.07 percent (55) of the respondents from Prang and 23.26 percent (10) of respondents from Abease. However, some smallholder farmers also coped by getting food stuffs and other help from families and friends to sustain their livelihoods. Large scale land acquisition has deprived some smallholder farmers of their farming land which they depend on for their livelihood. In order for them to cope with such situations some smallholder farmers depend on help from friends and families to survive. This assertion was made by 42.11 percent (24) of respondents from Kadue, 44.19 percent (19) of the respondents from Abease, 41.46 percent (34) of the respondents from Prang, 41.46

percent (51) of the respondents from Kobre and respondents from Adwentura accounted for 40.74 percent (34).

In coping with the situation where smallholder farmers can have good water for domestic purposes, the smallholder farmers cope by harvesting rain water into big tanks and barrels from where they can use for weeks. The large scale land acquisition has limited smallholder farmers' access to water resource in these communities thus, 100 percent (82) of the respondents from Prang, 96.30 percent (26) of respondents from Adwentura, 99.19 percent (122) of Kobre, 97.67 percent (42) of the respondents from Abease and 100 percent (57) of respondents from Kadue cope by harvesting rain water for their domestic use.

7.2.2 Farmers' Adaptation Strategies to the Effects of Land Acquisition

Table 7.3 Adaptation Strategies of the Communities

Adaptation Strategies	Prang (%) (n)	Adwentura (%) (n)	Kobre (%) (n)	Abease (%) (n)	Kadue (%) (n)
Keep backyard garden	91.46% (75)	88.89% (24)	91.06% (112)	90.70% (39)	91.23% (52)
Bought motor bike	85.37% (70)	85.19% (23)	84.55% (104)	86.05% (37)	84.21% (48)
Grow medicinal plant	14.63% (12)	14.81% (4)	15.45% (19)	13.95% (6)	15.79% (9)
Fish farming	34.15% (28)	37.04% (10)	32.52% (40)	32.56% (14)	31.58% (18)
Dug boreholes	57.32% (24)	55.55% (15)	56.91% (70)	55.81% (24)	57.89% (33)

Source: Fieldwork, 2016

The study found out the adaptation strategies used by the five communities. Out of 82 respondents from Prang, 91.46 percent (75) indicated that they keep backyard gardens while 88.89 percent (24) respondents from Adwentura also indicated that they keep backyard gardens as one of their adaptation strategies against the adverse effects of large scale land acquisition. Respondents from Kobre, Abease and Kadue also said they

keep backyard gardens as one of their adaptation strategies. In Kobre, 91.06 percent (112) of respondents indicated that they keep backyard gardens, 90.70 percent (39) from Abease also gave the same account and 91.23 percent of the respondents from Kadue indicated that they keep backyard garden to adapt to the effects of large scale land acquisition.

Another strategy which the respondents of the communities adapted was to buy a motor cycle; 86.05 percent (37) respondents from Abease, 85.37 percent (70) respondents from Prang, 85.19 percent (23) respondents from Adwentura, 84.55 percent (104) respondents from Kobre and 84.21 percent respondents from Kadue, all indicated that they bought motor cycle as an adaptation strategy. The motor cycle was to ease free movement in the communities and reduce the number of hours of walks before they get to their various farms.

The farmers from the communities adapt to the effect of large scale land acquisition by planting medicinal plants for their uses. This was evident in the responses from the respondents, as 34.15 percent (12) of the respondents from Prang, 14.81 percent (4) of the respondents from Adwentura, 15.45 percent (19) of the respondents from Kobre, 13.95 percent (6) of the respondents from Abease and 15.79 percent (9) respondents from Kadue all indicated that they grow medicinal plants as an adaptation strategy. The community members are restricted from going to the forest and some part of the forest are cleared for the projects by the investors, making it difficult to get access to herbs for medicine hence, the smallholder farmers have adopted by growing medicinal plants for use.

The study also revealed that community members adapt to fish farming as an

adaptation strategy to the effects of large scale land acquisition on their livelihoods in the Pru District Assembly. As indicated by the respondents from the various communities, 34.15 percent (28) of the respondents from Prang, 37.04 percent (10) respondents from Adwentura, 32.56 percent (14) of the respondents from Kobre, 31.58 percent (18) of the respondents from Kadue and 32.56 percent (14) of the respondents from Abease all indicated that with the activities of large scale land acquisition by investors and limited access to water resources, smallholder farmers engage in fishing activities as an adaptation strategy to sustain the family source of protein and also make extra income to support their livelihood.

The quest for maintaining a reliable source and safe drinking water for domestic use, smallholder farmers from the communities adapt by digging borehole for good source of water. The responses from the communities indicated that, 57.89 percent (33) of the respondents from the Kadue community, 55.81 percent (24) of respondent from the Abease community, 56.91 percent (70) of the respondents from the Kobre community, 55.55 percent (15) respondents from the Adwentura community and 57.32 percent of the respondent from the Prang community all indicated that they have dug boreholes in their various homes to serve their domestic purposes.

The adaptation strategies farmers perceive as appropriate (as opposed to the strategies they actually carry out) include crop diversification using different crop varieties; varying the planting and harvesting dates; increasing the use of irrigation; increasing the use of water and soil conservation techniques; shortening the length of the growing season; and diversifying from farming to non-farming activities (Hassan and Nhemachena, 2008). This was evidenced by a narrative given by a farmer from Kadue:

“The activities of the investors have resulted in extensive migrations of the natives of the Pru District to Yeji Makango and other communities turning to fishing along the Volta River. This is so because they want to support and take care of their families” (The Chief Farmer, 2016).

Another effect that has befallen smallholder farmers by the acquisition of their farm lands by large scale land investors is the inadequate medicinal plants which have been the main source of healing for ailment among the farmers in the study communities. About 42 percent of farmers reported that they get dwindling medicinal plants from friends and relatives in other communities in the short run, but adapt to the situation in the long run by replanting or growing such medicinal plants in their communities as reported by about 15 percent of households. An official from the Environmental Protection Agency (EPA) gave this account in an interview; *“The farmers have access to small piece of land which they cultivate. The farmers have found it very challenging to get herbs for their use especially in emergency situations. The investors have taken over the nearby forest hence creating this challenge”* (An official from EPA, 2016).

Inadequate water resources were not exempted from the harsh effects suffered by smallholder farmers resulting from the relinquishing of their farm lands to large scale land investors. About 99 percent of households depend on rainfall for water as a coping strategy. On the other hand, about 33 percent and 57 percent of households adapt by

engaging in fish farming and digging boreholes respectively. At Kobre, one of the farmers said:

“Other alternative farming practices have also sustained us to survive, we would apply fertilizer to maximum crops yield to the small piece of land available and hence resulted to backyard farming”

(The Chief Farmer, 2016).

Also a farmer in Abease in a focus group discussion had this to say:

“The presence of these investors on our lands has caused us a lot with loss of our young men on the Volta Lake due to the fact that they took to fishing as means of livelihood when our lands were taken away from us. Unfortunately our young men were trained to till the land but not to fish, thus losing lives on the river during fishing expedition” (The Chief Farmer, 2016).

The coping and adaptation strategies adopted by farming households in this study are not much different from those adopted by farmers (resettlement of farmlands, offfarm activities such as fishing, firewood, charcoal burning and shea nut picking) in the Talensi/Nabdam District in Northern Region of Ghana as effective coping and adaptation strategies to the effects of small scale mining activities in the region (Ontoyin and Agyeman, 2014). Also, according to Deressa (2013), majority of smallholder farmers in the Woreda District of Oromia Region adopted such strategies

as changing land use, share cropping, and tenant farming, changing to off-farm occupation and seeking employments with foreign companies to cope with the adverse effects of large scale agricultural projects in Ethiopia.

7.3 Linkages of the Study Findings to Theoretical and Conceptual Frameworks

The study findings also showed that most farming households who lost their farm lands had to relocate or engage themselves in other sources of livelihood as adaptation strategies. The smallholder farmers after losing their land to large scale land acquisition adapted strategies to cope and adapt to the effect of large scale land acquisition. Coping is the short measure resorted to by the farmer while the adaptation is the long measure to deal with the effect of land acquisition. This is congruent with the resilience theory which argues that in times of the effects of large scale land acquisition on livelihood, affected farming households should develop adaptation strategies to withstand the pressures of the effects. This is exactly what the study has found.

Where the local inhabitants in the Pru District lose their livelihood asset (land) to the large scale land investors, they engage themselves in other livelihood strategies to enable them survive. Some of these strategies include planting medicinal plants, digging boreholes, buying motor bike to ease their movement and harvesting rain water for domestic purposes. This has also been conceptualised by the DFID Sustainable Livelihood Framework which specified that vulnerable farming households to large scale land acquisition adopt some livelihood strategies to adapt to the effect of large scale land acquisition on their livelihoods. The UNDP and DFID framework also lay emphasis on the enabling policy environments, macro-economic reforms, and legislation which are equally important for effective poverty reduction.

Thus, for DFID analysis of people's livelihoods usually takes place at a household or community level with the aim of not just to identify constraints or opportunities that could be harnessed or remedied at that level.

7.4 Summary

This chapter involved the discourses of coping and adaptation strategies by smallholder farmers as a result of large scale land acquisition. Coping strategies are interim mechanisms adopted by farmers to survive the effects of large scale land acquisition by investors. Adaptation strategies are long term measures employed by farmers to acclimatise with the adverse effects of large scale land acquisition. The findings revealed that most male and female households use the same coping and adaptation strategies but each gender preference for a particular strategy was high which is similar to the finding of Quisumbing (1998), who argued that large scale land acquisition contributes to changing roles of gender in the household. The study revealed that large scale land acquisition contributed to the coping and adaptation strategies; however, it was evident in the finding that some of these strategies have contributed to the accidents on River Yeji through fishing activities. To surmount the effect, majority of smallholder farmers (67 percent) go to their farms very early than they used to while about 23 percent of smallholder farmers reduce the number of days they visit the farm. However, in the long-run, most smallholder farmers (91 percent) responded that establishing backyard farms rather than traveling to distant places to cultivate their produce. The coping and adaptation strategies adopted by farming households in this study are similar to those adopted by farmers (resettlement of farmlands, off-farm activities such as fishing, firewood, charcoal burning and shea nut picking) in the Talensi/Nabdam district in Northern Ghana as effective coping and adaptation strategies (Ontoyin and Agyemang, 2014).

CHAPTER EIGHT SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

8.1 Introduction

This chapter presents a summary of findings, conclusions and recommendations. The study investigated the effects of large scale land acquisition on the livelihood of smallholder farming households at Pru District Assembly in the Brong-Ahafo Region of Ghana. Specifically, it mapped out the process of acquiring large scale of land using a flow chart; measure the effect of large scale land acquisition on the livelihood assets of farming households using the Livelihood Effect Index; determined factors influencing the effects of large scale land acquisition on the livelihood of farming households using simple linear regression; analysed the effects of large scale land acquisition on the livelihood outcomes of farming households using Chi Square statistic; and identified farming households strategies of coping with and adapting to the effects of large scale land acquisition using descriptive statistics.

Structured questionnaire were administered to 332 smallholder farming households, 5 officials of large scale companies and officials from the Planning Unit of the Assembly and Land Commission were interviewed using structured interview guides. Focused group discussions were held in all communities visited. This was complemented by secondary data from reports of the Ministry of Food and Agriculture (MoFA) as well as the Pru District Assembly. Summary of findings of the study are presented in section 8.2, while conclusions emanating from the summary of findings and policy recommendations based on the findings are presented in sections 9.3 and 9.4 respectively. Suggestions for future research are presented in section 9.5.

8.2 Summary of Major Findings

8.2.1 Processes of Large Scale Land Acquisition (LSLA)

The process involved in acquiring large tracts of land for investment in the Pru District of Brong-Ahafo Region takes six steps. The initial steps are identification of vacant lands by the district assembly and in consultation with the traditional authorities, decide to lease out the land to investors. The lands are then advertised by the district assembly for prospective investors to assess the suitability of the land. When the investors deem it suitable for the purpose of their projects, they go ahead to negotiate the leasehold terms with the district assembly and the chiefs as well as other stake holders. The final stage in acquiring large tract of land for investors is the documentation and transfer of ownership after the fulfilment of all the agreed terms of the land leasehold contract. When the land is released for a period of 25 years, 50 years and 99 years, after which the land goes back to the traditional authority. The study also revealed that, the smallholder farmers are not the owners of the land but just care takers. This role or position would not guarantee as owners of the land, when they present a bottle of schnapps (drink) to the traditional authority. Hence they are not involved and informed during the large scale land acquisition process in the Pru District.

8.2.2 Effects of Large Scale Land Acquisition on Livelihood

The Pearson correlation coefficient for the relationship between the effect of large scale land acquisition and the livelihood of farming households was 0.305 and was significant at 5 percent. This implies that large scale land acquisition has a significant negative effect on the livelihood of smallholder farming households in the Pru District of Brong-Ahafo Region. The livelihood indicators of smallholder farming households are human, natural, social, financial and physical capitals. The human capital of farming households in the Pru District are moderately affected by large scale land acquisition as indicated by the computed Livelihood effect index (LEI) of land acquisition with Kadue being the most affected community. The natural capital index

of 0.62 for farming households in the district suggests that the livelihoods of farming households in the Pru District are moderately affected by large scale land acquisition with Kobre community being the most affected. The computed social and physical indicator indices of 0.30 and 0.33 respectively indicate that large scale land acquisition has a low effect on the social and physical livelihood indicators of smallholder farming households. For financial capital indicator, the computed effect index of 0.73 suggests that large scale land acquisition has a high effect on the financial livelihood indicator of smallholder farming households in the district with Kobre and Adwsentura communities with computed effect index of 0.76 being the most affected. Overall, the computed LEI of 0.51 implies that large scale land acquisition has a moderate effect on the livelihood of smallholder farming households in the Pru District and Kobre and Kadue communities are the most affected among the study communities.

8.2.3 Factors Determining the Effects of Large Scale Land Acquisition on Livelihood

The regression results revealed that household heads' education, male household heads, total farm land owned by households, households' participation in decisions leading to acquisition of large scale of land by investors, access to labour, training of households, and households' engagement in off-farm activities have been significant positively influenced by large scale land acquisition on the livelihood of smallholder farming households. While the size of households' farm lands lost to large scale land investors have negative influences on the livelihood of smallholder farming households. However, age of household head and access to other farming inputs have no significant influence on the effect of large scale land acquisition on the livelihood of smallholder farming households.

8.2.4 Effects of Large Scale land Acquisition on Livelihood Outcomes

The Pearson correlation results showed that large scale land acquisition has a significant positive effect on employment, and healthcare but not income levels of the smallholder farming households in the Pru District of the Brong-Ahafo Region. The Pearson correlation coefficients of 0.129 and 0.128 suggest that the effects of large scale land acquisition on employment and healthcare are low. The Pearson correlation coefficient of -0.890 implies that large scale land acquisition has a very high negative effect on the income levels of smallholder farming households.

8.2.5 Coping and Adaptation Strategies of Households

Smallholder farming households cope and adapt to the effects of large scale land acquisition using a myriad of strategies. About 23 percent and 67 percent of farming households cope with re-location of farms to far places by reducing the number of days of visit to farms and leaving very early to farms respectively. About 91 percent and 85 percent of farming households raised backyard gardens and bought motor bikes respectively as adaptation measures to relocation of farms to far sites as a result of large scale land acquisition. About 42 percent of farming households get medicinal plants from friends and families while 15 percent of farming households grow medicinal plants as coping and adaptation strategies respectively to the extinction of medicinal plants due to large scale land acquisition. About 99 percent of farming households cope with the extinction of water resources as a result of large scale land acquisition by depending on rain water while 33 percent and 57 percent of farming households relied on fish farming and dug boreholes respectively to adapt to the extinction of water resources as a result of large scale land acquisition.

8.3 Conclusions of the Study

The conclusions emanating from the findings of the study are not far-fetched. To begin, the main stakeholders in large scale land acquisition are the district assemblies, chiefs,

prospective investors and Land Commission, without the farmers or occupants of those lands. The process of acquiring large tracts of land for investment purposes include identification of vacant lands, making a decision to lease the vacant lands, advertising the vacant lands, assessment of the land by prospective investors, negotiating terms of leasehold and documentation and transfer of ownership. This cycle of large scale land acquisition without the consent of the smallholder farmers is not in the best interest as they are not able to negotiate for their compensation which led to the compensation not being paid by the investors. Large scale land acquisition has a significant positive influence on the livelihood of smallholder farming households.

The empirical results also show that household heads' level of education, household engagement in off-farm activities, and size of land lost by households to large scale land have significantly influenced large scale land acquisition on the livelihood of smallholder farming households.

Large scale land acquisition has a significant moderate effect on the employment and healthcare but, has a significant negative effect on income levels of smallholder farming households. However, large scale land acquisition has no significant effect on the nutritional status of farming households in the Pru District of the Brong-Ahafo Region.

Farming households strategies of coping with the effects of large scale land acquisition on their livelihood are reducing the number of days they visit their farms, leaving very early to farms, getting extinct medicinal plants from friends and families in other communities and depending on rainfall. The adaptation strategies of smallholder farming households to the effects of large scale land acquisition are keeping backyard garden, buying motor bikes, growing extinct medicinal plants, engaging in fish farming and digging boreholes.

Various regions in Ghana have been affected by LSLA activities. The study would have delved into the concept of LSLA, if there were enough time and opportunities existed for the study. Indeed, due to the limited time allotted for the programme time and resource, the researcher concentrated on only Pru District. However, the findings and recommendations would be applicable to areas where necessary to encourage investors and their set goal activities and to inform district assemblies to study the real activities of the investors before giving the lands to them.

Pru District is newly created with a lot of inadequate infrastructure facilities. Such infrastructures includes roads, school, electricity and good water system. It was made known to the researcher that some Non-governmental institutions such as World Vision International, Adventist Relief Agency (ADRA) have embarked on a lot of studies in the area. They entice the people with a lot of gifts both goods and services. This motivated them to willingly rendered service and function. During the researcher's visit to the area, the people thought it was a sponsored study and giving information for this study was difficult. I therefore had to explain to them that the study was terminal study and academic work without any social and economic gains from the study. Gradually key institution agreed based on the introductory letters from the Department of Geography and Rural Development. My regular visit to the houses of the smallholder farmers motivated them to give answers to the questionnaire.

At the Pru District, administering questionnaire was a problem. The district has been characterized by many tribes all over Ghana. They include Ewe, Mamprusi, Gonja, Ga and others. The presence of a student from the University of Cape Coast who really assisted the researcher in interpreting the various languages and explaining the questionnaires to the respondents. It was based on an agreed fee. I went there with

recording machine which was later written down. The interpreters' patience and persuasion, brought the work to a successful end.

8.4 Recommendations of the Study

The study examined the effects of large scale land acquisition on the livelihoods of smallholder farming households in the Pru District of Brong-Ahafo region of Ghana.

The study recommends the following considering the findings of the study:

8.4.1 Involvement of Smallholder Farmers in LSLA Processes

Given that the findings revealed that occupants of farm lands do not participate in decisions leading to the acquisition of those lands by investors which has a significant influence on the livelihood of smallholder farming households, this study recommends that the Chiefs and the District Assembly should allow smallholder farmers a stake in decisions leading to acquisition of land by large scale land investors in the Brong-Ahafo Region. This would afford households the opportunity to negotiate for better terms of compensation from investors and the government especially for farming households losing their farm lands. However when the land is given to the smallholder farmers, terms and conditions about the release of the land should be explained and clearly accepted by both the traditional authority and the smallholder farmers.

8.4.2 Defunct Lands Should be Return to Initial Occupants

The empirical findings showed that the size of households' farm lands relinquished to large scale land investors significantly exacerbates the effects of large scale land acquisition on their livelihood. The study recommends that, the investors, chiefs, District Assembly and land commission should give lands which were acquired by companies whose operations are currently defunct to the initial occupants of those lands. This will be a panacea for farming households to expand production and also

reduce the number of hours walking to their farms. This is to be achieved when illegal contract between the traditional authorities, the chief and the investors have clauses which will allow to revert lands to the people when the companies are defunct over a period of years, example, about 5 years even before their lease contract expires.

8.4.3 Locals should be given Employment Quota

The study also recommends that DAs and chiefs should include in their contracts with the investors clauses which will make it an obligation for them to employ people from the host communities in their projects. This follows the finding that large scale land acquisition has a significant positive effect on employment of few community members reported to be employed by large scale land companies. The reason is that though companies promised to employ workers from within their operational communities, they tend to flout this promise and are not held responsible by any institution or law because there is no such by-law which enjoins them to abide by the promise. The legal contract should compel the investors to uphold cooperate social responsibilities and refusal of which will be a breach of contract.

8.4.4 Smallholder Farmers should be trained to Engage in Alternative Livelihood Activities

Finally, given that farming is the main source of livelihood to farming households in the Pru District, taking over of their farm lands by large scale land investors means a seizure or reduction in their livelihood sources. Now, to restore farming households to normalcy, this study recommends that the investors should pay compensation package in the form of start-up capital sufficient to guarantee the livelihood of farming households for their loss of crops as a result of large scale land acquisition. Thus, farming households should be given seed capital with training ventures into off-farm activities as an alternative means of livelihood sustainability. The study recommends

that the chiefs, district assembly and MoFA should formulate informed policies that will protect and sustain livelihoods of farming households in host communities. The traditional authority should reserve some acres of lands where community members can visit for herbs, hunting, snails, firewood and wild fruits. The research findings and conclusions were informed by the research objectives, questions and hypotheses and thus addressed the knowledge gap. The conclusions were therefore drawn based on the research objectives, questions and hypotheses.

8.5. Contributions to Knowledge

The results and findings after the study have provided an in-depth knowledge to government and non-governmental institutions such as Ministry of Food and Agriculture, Environmental Protection Agency and the District Assembly, the appropriate policies that would maintain healthy relationship between investors and smallholder farmers and the documentation need for pledged promises and cooperate responsibilities.

Also, there exist several studies on LSLA and farmer's livelihoods. This study's findings have revealed LSLA effect on the environment, others LSLA on the land owned by small holder farmer's social life, also a study on LSLA on the farmer's income. This study is unique out of others works, since it considered the various coping and adaptation strategies adopted by the affected farmers in the Pru District.

Several studies have assessed the effects of LSLA on the socio-economic dimensions of LSLA (Bosch and Zeller, 2013; FAO, 2012; Schoneveld *et al.*, 2010; Hughes *et al.*, 2011). The findings from these studies revealed negative and positive dimension of large scale land acquisition. They used qualitative method as their approach in relationship to their study, but in the case of this study, both qualitative and quantitative

approaches were used which gave a comprehensive information in terms of social gestures and explanation of statistical impacts of the effects on smallholder farmers.

Several studies have also shown the results of LSLA effects on income, environments, health and education. The studies used various theories to support the findings and focus. Such as in the case of this study, the following theories were used; modernisation theory, globalization, core-periphery, the new gramscian theory.

Finally, the study would serve as piece of literature and reference point to others, and researchers who would like to delve into the concept of LSLA in their areas of interest in the field of land acquisition. .

8.4 Areas for Further Research

Large scale land acquisition is an international developmental menace and can best be understood when conceptualised and studied on a large scale. The findings of this study may not provide a wider implication of large scale land acquisition. Hence the study recommends that further studies should focus on the following:

- The implication of the —schnapps| presented to the traditional authorities on the ownership of lands used by smallholder farmers.
- Comparing the livelihood effects of large scale land acquisition across the various regions in Ghana.
- The supports of the returnees of Pru District as a result of large scale land acquisition as compared to when they had not migrated from the district.
- Assessing the coping and adaptation strategies on crop yield in the Pru District

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APPENDICES

Appendix A: Households Questionnaire

Department of Geography and Rural Development

Kwame Nkrumah University of Science and Technology, Kumasi Research

topic:

**Effects of Large scale land acquisition on the livelihoods of smallholder farmers
in the Pru district of Ahafo Region.**

Introduction:

[Enumerator, please read this introduction to every household that has been selected for this study. You can provide further details about the purpose of the study to the head of household. This will help them understand the purpose of the study and hoping give their consent to be part of it.]

In recent times, several multi-national companies have acquired large tracts of land in many developing countries for several purposes. Typical among these are for the establishment of jatropha and mango plantations. These plantations have displaced several families whose livelihoods depended directly on the land. Some of these farmers were trained in alternative livelihoods activities and given compensations that were expected to lead to the diversification of their sources of livelihoods.

The literature provides evidence to suggest that in the Pru District in Ghana, several hectares of land have been acquired by various Multi-National Companies for investment purposes. The effects of the phenomenon on the livelihoods of the affected smallholder farmers in the districts are unknown. The purpose of this study is to assess the effects of the phenomenon on the livelihoods of the affected smallholder farmers in the Pru District. The coping and adaptation strategies of these affected smallholder farmers would also be assessed.

The hope of the researcher is that the results of the study would help the District Assembly plan to respond to any adverse effects the phenomenon may have caused while planning to sustain the positive effects. The results would also contribute to the formulation of more-targeted foreign direct investment policies at the national level.

Informed Consent:

[This section must be completed by the household head before the interview commences].

After listening to/reading the introduction, I agree to participate in the study.

Date..... Signature.....

Thumbprint.....

S.N	HOUSEHOLD HEAD'S BIO-DATA	
1.	Cell phone number.	Cell phone number: +233 (0) _____
2.	Sex.	a. Male <input type="checkbox"/> b. Female <input type="checkbox"/>
3.	Age. years
4.	Origin.	a. Home Region b. Home District c. Home town
5.	Marital status.	a. Single <input type="checkbox"/> b. Married <input type="checkbox"/> c. Co-habiting <input type="checkbox"/> d. <input type="checkbox"/> Widow(er) <input type="checkbox"/> e. Divorced <input type="checkbox"/> f. Other (specify)
6.	Household size.	<i>(Refers to a group of people living and eating together, and sharing the same housekeeping arrangements)</i>members
7.	Highest formal educational level.	<i>Tick the appropriate response</i> a. None <input type="checkbox"/> b. Primary <input type="checkbox"/> c. JSS/JHS/Middle School <input type="checkbox"/> d. SSS/SHS/Tech <input type="checkbox"/> e. Tertiary <input type="checkbox"/> f. Other (specify)
8.	Literacy:	<i>In English</i> <input type="checkbox"/> <input type="checkbox"/> <i>Language:</i> a. Yes <input type="checkbox"/> b. No <input type="checkbox"/> <i>Vernacular:</i> a. Yes <input type="checkbox"/> please indicate the language..... b. No <input type="checkbox"/>
9.	How long have you stayed in this community? years
10.		a. Yes <input type="checkbox"/> b. No <input type="checkbox"/>

Have you or any member of your household lost any land to any company?	<input type="checkbox"/>	<input type="checkbox"/>	
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EFFECTS ON HOUSEHOLD CAPITAL/ASSET																					
A. NATURAL CAPITAL																					
<i>i. Land</i>																					
11.	How many acres of land did your household own before the company entered the community?acres																			
12.	How many acres of land did your household cultivate before the company came into this community?acres																			
13.	Please, identify the crops you were cultivating and the farm sizes for each crop.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; padding: 5px;">Crop (e.g. yam)</th> <th style="width: 50%; padding: 5px;">Land area</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> <tr><td style="height: 20px;"></td><td></td></tr> </tbody> </table>	Crop (e.g. yam)	Land area																	Enumerator, please note that most households engage in mixed cropping. In this case, it would be difficult for the household head to tell you the area used for the cultivation of each crop. You are advised to guide him to give proportions. For e.g. the land area for yam is 5 acres but has been inter-cropped with okra. He can say, the yam accounts for about 90%. In this instance, the land area for the yam could be estimated as 0.9 x 5 acres = 4.5 acres
Crop (e.g. yam)	Land area																				
14.	How many acres of land does your household farm on now?acres																			
15.		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; padding: 5px;">Crop (e.g. yam)</th> <th style="width: 50%; padding: 5px;">Land area</th> </tr> </thead> <tbody> <tr><td style="height: 20px;"></td><td></td></tr> </tbody> </table>	Crop (e.g. yam)	Land area			Please refer to question 13 for guidance on how the farm sizes can be estimated.														
Crop (e.g. yam)	Land area																				

	Please, identify the crops you cultivate now and the farm sizes for each crop.		
16.	How many acres of land has your household lost to the company?acres	Enumerator please make sure the difference is correct. Make sure the response here doesn't contradict that of question 10.

17.	What was the level of output of the crops you cultivated before the company entered into the community?	Crops (e.g. yam)	Mean annual output before	Mean annual output now	Enumerator please compute the mean annual output for the last five years before the land was lost to the company. Do same for 5 years after the land had been lost			
18.	On a scale of 0 - 5, where 0 is the least and 5 the highest, to what extent can you attribute any changes in the mean annual output to the company?	Please tick the appropriate response and assign reasons to your response.						
		0	1	2	3	4	5	Reason(s)
19.	Distance (in kilometers) to your farm.	Farm	Distance Before	Now	Enumerator, it is expected that the household will have farms at multiple locations. Please record the distance to each farm location to enable the study assess the effects of the phenomenon on the distance to the farms. Distance has effects on productivity.			
		Farm 1						
		Farm 2						

		Farm 3						
		Farm 4						
		Farm 5						
20.	On a scale of 0 - 5, where 0 is the least and 5 the highest, to what extent can you attribute any changes in the distances to the farms to the company?	0	1	2	3	4	5	Reason(s)
21.	How do you cope with the changes in the distance to the farms?							
22.	How do you adapt to the changes in the distance to the farms?							

		<i>ii. Forest products (trees, herbs for medicinal purpose and game and wildlife)</i>				
23.	Which of the following forest products did you have access to before the company acquired the lands?	Forest product	Yes (tick)	Quantity per day/week/month	Use/purpose	No (tick)
		i. Herbs for food (identify it. E.g. Ayoooyo)				
		ii. Herbs for medicinal purpose				
		iii. Firewood				
		iv. Trees for other uses (roofing, fencing,)				
		v. Game (e.g. grass cutter, rabbit, rate,)				
		vi. Other non-timber products				
		Shea nuts				
		Snail				
		Mushroom				
		Fruits				

		Others (specify)									
24.	Which of the following forest products do you have access to now?	Forest product						Yes (tick)	Quantity per day/week/month	Use/purpose	No (tick)
		i. Herbs for food (identify it. E.g. Ayoooyo)									
		ii. Herbs for medicinal purpose									
		iii. Firewood									
		iv. Trees for other uses (roofing, fencing,)									
		v. Game (e.g. grass cutter, rabbit, rate,)									
		vi. Other non-timber products									
		Shea nuts									
		Snail									
		Mushroom									
		Fruits									
		Others (specify)									
		Others (specify)									
		Others (specify)									
		Others (specify)									
25.	On a scale of 0 - 5, where 0 is the least and 5 the highest, to what extent can you attribute any changes your households' access to the forest products to the company's activities?	0	1	2	3	4	5	Reasons(s)			

26.	How do you cope with these changes in the households' access to the forest resources?						
27.	How do you adapt to these changes in the households' access to the forest resources?						

iii. Water and Aquatic Resources

28.	Were there some water resources that your household had access to before the company came to acquire the lands	Forest product (e.g. water, fish, crabs, and others)	Yes (tick)	Quantity per day/week/month	Use/purpose	No (tick)

29.	Which of these water resources do you now have access to	Forest product (e.g. water, fish, crabs, and others)	Yes (tick)	Quantity per day/week/month	Use/purpose	No (tick)

30.	On a scale of 0 - 5, where 0 is the least and 5 the highest, to what extent can you attribute any changes your households' access to the water resources to the company's activities?	0	1	2	3	4	5	Reason(s)
31.	How do you cope with these changes in the households' access to water resources?							
32.	How do you adapt to these changes in access to water resources?							
B. HUMAN CAPITAL								
33.	Have you been given training leading to skills in alternative livelihoods?	<input type="checkbox"/>		<input type="checkbox"/>				
		Yes		b. No				
34.	If yes to question 25, please identify the type of training your household was given.	Training in alternative livelihoods (e.g. honey production)			Year of training	Provider	Purpose	

35.	Which of the skills have you started putting to use and what benefits have you derived?	Training in alternative livelihoods (e.g. honey production)	Year of commencement	Output per year	Benefits to the household
36.	Has any member of your household been supported by the company to enroll or continue school?	Response (Yes/No)	N^o. of beneficiary household members	Level of education	Amount involved
37.	Has there been any effects of the company's activities on the following areas under human capital?	Areas	Effects		Reasons
			Positive (tick)	Negative (tick)	
		Health			
		Nutrition			
		Education			
		Knowledge and skills			
Others (specify)					

		Others (specify)		
		C. FINANCIAL CAPITAL/ASSETS		
38.	Did your household receive any compensations from the company for losing the land?	<input type="checkbox"/>	<input type="checkbox"/>	
		Yes	b. No	
39.	If yes, how much did you receive?	Amount	How was it determined?	What have you used it for?

40.	Have there been any effects of the company's activities on your annual savings?	Effects on savings							
		Positive (tick)	Reason(s)		No change (tick)	Reason(s)		Negative (tick)	Reason(s)
41.	Have you or any member of your household taken any credit/loans from anybody (organisation)?	Yes	<input type="checkbox"/>	b. No	<input type="checkbox"/>				
42.	If yes, to what extent can you attribute your indebtedness to the activities of the company? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reason (s)	

43.	Are you eligible for loan from any financial organisation?	Yes (tick)	Reason					No (tick)	Reason(s)
		<input type="checkbox"/>						<input type="checkbox"/>	
44.	Has there been any difference in the value of your income before the commencement of the company's activities and the value now?	<input type="checkbox"/> Yes b. No <input type="checkbox"/>							
45.	If yes, to what extent can you attribute the change in the value of your income to the activities of the company? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reason(s)	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

		D. PHYSICAL CAPITAL						
		<i>i. Transport Infrastructure</i>						
46.	Has there been any changes in the conditions of your roads before the company began its operations and now?	<input type="checkbox"/>		<input type="checkbox"/>				
		Yes		b. No				
47.	If yes, to what extent can you attribute the change in the conditions of the road to the activities of the company? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reason(s)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48.	Has there been any change in the volume of vehicular traffic in your community before the company began its operations and now?	<input type="checkbox"/> Yes b. No <input type="checkbox"/>						

49.	What was/is the average waiting time to travel out of the community	Before		Now	Reasons for the change (if there is)			
50.	To what extent can you attribute the change in the waiting time to the activities of the company? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons
51.	Has the change affected your livelihoods and wellbeing?	<input type="checkbox"/> Yes			b. No <input type="checkbox"/>			Reasons for your response
		<i>ii. Housing</i>						
52.	How many habitable rooms did your household live in prior to the company's activities and now?	Before		Now	Reason(s) for any change (if there is)			
53.	To what extent can you attribute the change in the number of housing units owned or available to your household to the activities of the company? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response
54.	How do you compare the conditions of your housing units before the company's operations and now?	Far better then	A little better then	No change	A little better now	Far better now	Reasons for your response	
55.	To what extent can you attribute the change in the conditions of your housing units (if any) to the activities of the company? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response

		iii. Water and Sanitation						
56.	Has there been any changes in the quantity of water consumed by your household before the company acquired the lands in this community and now?	<input type="checkbox"/>			Reasons for your response			
		Yes	b. No <input type="checkbox"/>					
57.	How do you compare the quality of the water your household used before the company's acquisition of the lands and now?	Far better then	A little better then	No change	A little better now	Far better now	Reasons for your response	
58.	To what extent can you attribute the change in the quality of the water to the land acquired by the company? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response
		iv. Energy						
59.	What was your source of energy for lighting before the company acquired the lands and now?	Before			Now			
60.	How do you compare the quality of the energy used for lighting before the company's acquisition of the lands and now?	Far better then	A little better then	No change	A little better now	Far better now	Reasons for your response	
61.	If there has been a change in the source of energy for lighting, to what extent can this be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response

62.	What was your source of energy for cooking and other heating applications before the company acquired the lands and now?	Before			Now			
63.	How do you compare the quality of the energy used for cooking and other heating applications before the company's acquisition of the lands and now?	Far better then	A little better then	No change	A little better now	Far better now	Reasons for your response	
64.	If there has been a change in the source of energy for cooking and other heating applications, to what extent can this be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response
65.	Access to the following telecommunication equipment:	Equipment			Before		Now	
		i. Internet?						
		ii. Mobile (cell phone) phone?						
		iii. Land/fixed line (home line)?						
		iv. Land/fixed line (communal)?						
		v. Other (specify).....?						
		vi. Other (specify)						
		vii. Other (specify).....?						

66.		0	1	2	3	4	5	Reasons for your response
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	If there has been a change in the telecommunication equipment, to what extent can this be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.							
		v. Access to Labour, Seeds, Fertiliser and Pesticides/Herbicides						
67.	Have there been any changes in your household's access to the following inputs for production	Factors	Yes (tick)	Reasons		No (tick)	Reasons	
		i. Labour						
		ii. Seeds						
		iii. Fertilizer						
		iv. Pesticides						
		v. Herbicides						
		vi. Tractors service						
68.	If there has been a changes in access to the production inputs, to what extent can these be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response
		E. SOCIAL CAPITAL						
69.		Yes	Please give details			No	Please Explain	

Have there been any changes in relations and trust among community members before the lands were acquired by the company and now?							
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70.	If there has been a changes in relations and trust in this community, to what extent can these be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response
71.	Has any member of your household outmigrated due to the lands acquired by the company?	Yes	Please explain how that is connected to the company				No	
72.	If any member of your household has outmigrated, to what extent can these be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response
73.	Have anybody moved to join your household due to the lands acquired by the company?	Yes	Please explain how that is connected to the company				No	
74.	If anybody has joined your household, to what extent can these be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response

75.	Has there been any change in the nature of respect community members have for local leadership before the lands were acquired by the company and now?	Yes	How?	No	Reason

76.	If there has been a change, to what extent can these be attributed to the lands acquired by the company/its operations? Rank on a scale of 05, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response
77.	Has there been any change to common rules and sanctions in the community before the lands were acquired by the company and now?							
78.	If there has been a change, to what extent can this be attributed to the lands acquired by the company/its operations? Rank on a scale of 05, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response

F. VULNERABILITY

79.	How your household cope with the following shocks before the company did acquired the lands and now?	Shocks	Before		Now	
			Yes	Never experienced it	Yes	Never experienced it
		i. Floods				
		ii. Bushfires				
		iii. windstorms				

	iv. Insects and pest attack				
	v. Diseases				
	vi. Other (specify).....				

80.	Have your coping mechanisms changed between the period before the lands were acquired and now?	Yes <input type="checkbox"/> No <input type="checkbox"/>						
81.	If there have been changes, to what extent can these be attributed to the lands acquired by the company/its operations? Rank on a scale of 05, where 0 is the least and 5 is the highest.							
82.	Have there been deaths in your households between the period the lands were acquired and now?	Yes <input type="checkbox"/> No <input type="checkbox"/>						
83.	To what extent can the death of a household member be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response
84.	Have there been violence in the community between the period the lands were acquired and now?							
85.	To what extent can the violence be attributed to the lands acquired by the company/its operations? Rank on a scale of 0-5, where 0 is the least and 5 is the highest.	0	1	2	3	4	5	Reasons for your response

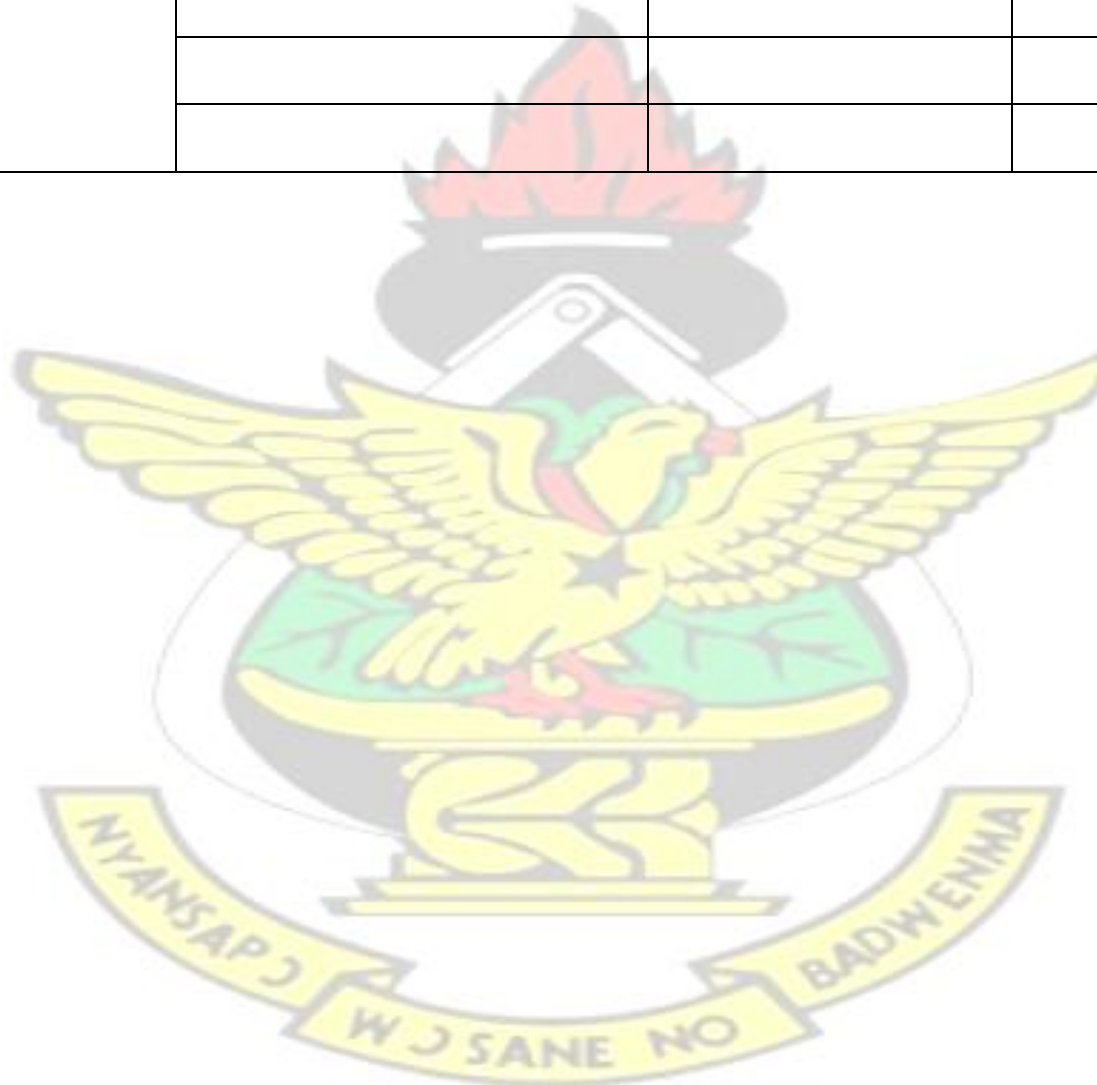
		POLICIES, INSTITUTIONS AND PROCESSES			
86.	Are you aware of any policies of the government to help the community cope or adapt to the changes that come with the land acquisition?	Response	If yes, please identify them		
		<input type="checkbox"/> <input type="checkbox"/>	i.		
		Yes No	ii.		
			iii.		
87.	How have these policies affected your household?				
88.	Has the District Assembly assisted the community towards the sustenance of livelihoods?	<input type="checkbox"/> <input type="checkbox"/>			
		Yes No			
89.	If yes, what kind of assistance has been provided and what are their effects?	Assistance/Programmes/Projects		Effects	
90.	Were there NGOs operating in this community before the lands were acquired?	<input type="checkbox"/> <input type="checkbox"/>			
		Yes No			
91.	If yes, are the NGOs still operating in this community?	<input type="checkbox"/> <input type="checkbox"/>			
		Yes No			
92.		Assistance/Programmes/Projects		Effects	

	How have these NGOs helped mitigate any adverse effects that are associated with the land acquisition?					
93.	What promises/pledges did the company make to the community prior to acquiring the lands?	Pledges i. Training in alternative livelihoods activities ii. Building community schools iii. Building staff quarters iv. improving the conditions of the road v. Extending electricity to the community vi. Improving the source of drinking water vii. Allowing households to intercrop in the plantations viii. employing community members on the plantations ix. Providing scholarships to students in the community x. Others (specify)	Yes (tick)	No (tick)		
		LIVELIHOOD OUTCOMES				
94.	Effects of the land acquisition on the following livelihood outcomes:	Livelihood Outcomes	Positive	Reason(s)	Negative	Reason(s)
95.		i. Employment				
96.		ii. Food security				
97.		iii. Nutrition				
98.		iv. Access to health care				
99.		v. access to education				
100.		vi. Income level				
101.		vii. Other specify.....				

Proposals for the sustainability of livelihoods				
102.	In your opinion what can be done to improve the livelihoods in the community?	Proposal	Responsibility agency	What must be done specifically

103.	What potentials and opportunities exist to facilitate the implementation of your proposals above?	Proposal	Potentials (within the community)	Opportunities (outside the community)
104.	What weaknesses and threat can undermine the implementation of your proposals above?	Proposal	Weaknesses (within the community)	Threats (outside the community)

KNUST



Appendix B: Interview Guide for Large Scale Land Investment Companies

**Department of Geography and Rural Development
Kwame Nkrumah University of Science and Technology, Kumasi**

Research Topic:

**Effects of Large scale land acquisition on the livelihoods of smallholder farmers
in the Pru District of Brong Ahafo Region of Ghana.**

Introduction:

In recent times, several multi-national companies have acquired large tracts of land in many developing countries for several purposes. Typical among these are for the establishment of jatropha and mango plantations. These plantations have displaced several families whose livelihoods depended directly on the land. Some of these farmers were trained in alternative livelihoods activities and given compensations that were expected to lead to the diversification of their sources of livelihoods.

The literature provides evidence to suggest that in the Pru District in Ghana, several hectares of land have been acquired by various Multi-National Companies for investment purposes. The effects of the phenomenon on the livelihoods of the affected smallholder farmers in the districts are unknown. The purpose of this study is to assess the effects of the phenomenon on the livelihoods of the affected smallholder farmers in the Pru District. The coping and adaptation strategies of these affected smallholder farmers would also be assessed.

The hope of the researcher is that the results of the study would help the District Assembly plan to respond to any adverse effects the phenomenon may have caused while planning to sustain the positive effects. The results would also contribute to the formulation of more-targeted foreign direct investment policies at the national level.

Informed Consent:

After listening to/reading the introduction, I agree to participate in the study.

Date..... Signature.....

a. Company Profile

1. When was the company established in its mother country and Ghana?
2. What are the vision, mission, core values and objectives of the company

b. Processes of Land Acquisition

3. What criteria did you consider before acquiring the land (e.g. idleness, land fertility, accessibility,)?
4. What procedure did you follow to acquire the land for the plantation?
5. Do you have a cadastral plan for the land hosting the plantation?
6. What role did the Lands Commission play in the land acquisition?
7. How many weeks, months, years, did the land acquisition process cover?
8. Was the site earmarked for such plantation? If no, why is it used for this plantation?
9. Was there a site plan prior to the company acquiring the land? If yes, did the company cross-check the land against the site plan. If yes, how and if no why?
10. What type of ownership (e.g. freehold, leasehold, rental,) do you have over the land?

11. How many years have you acquired the land for?
12. Do you have an agreement with the original land owner over the land? If yes, has it been endorsed by both the company and the original land owner? If no agreement why? If there is an agreement but has not been endorsed by both the company and the original land owner, why?
13. Was the Land Commission involved in the transaction? If yes, how and if no why?
14. Was the Lands Commission involved in application transfer and registration of the land? If yes, how and if no why?
15. What role did the following institution/individuals play before acquiring the Land for the plantation:
 - a. The District Municipal Assembly,
 - b. Chief or land owners
 - c. Clan leaders

c) Corporate Social Responsibility and Compensation to Affected Small-Holder Farmers

16. Did the company pledge to provide physical infrastructure in the communities? If yes, what infrastructure were they? Which of them have been provided? Which of them are outstanding and why?
17. Did the company agree to employ some of the local people? If yes, why? How many have been employed? Can you give a detailed breakdown in terms of their positions in the company (e.g. security men, managers, wage employees [labourer], etc)?
18. Did the company train the affected smallholder farmers in alternative livelihood activities prior to acquiring the lands? If yes, what are they?
19. Did the company pay any monetary compensations to the affected smallholder farmers? If yes, how were they determined? Whom were they paid to? Did you offer any capacity building exercises on the productive uses of the compensations?

d) Effects of the Plantations on Livelihoods

20. Did the company arrange to get the smallholder farmers alternative lands for farming?
21. If yes, how many hectares of land was acquired? How many smallholder farmers benefitted from this? How was the parcelling done? How many of the farmers did not benefit from the land? What did you do for such farmers?
22. What effects (positive and adverse) have the plantation had on the livelihoods of the affected smallholder farmers in terms of:
 - a. employment
 - b. income levels
 - c. market for produce
 - d. social cohesion and traditional heritage protection
 - e. migration
 - f. access to non-forest products (shea nuts, mushrooms, herbs for food and medicine)
 - g. community infrastructure (energy, roads, water and sanitation, educational infrastructure, health infrastructure, and others)
 - h. access to social services (educational enrolment, health care attendance, etc)
 - i. security

e) Agitations from the Community

21. What measures do you have to manage agitations from the communities?
22. Since inception, has the company experienced any conflicts with some of the community members? If yes, what were the causes? Have they been resolved? How were they resolved?

f) Coping and Adaptation Strategies

23. What do you consider to be the strategies that can be adopted to help the affected communities cope with and adapt to the adverse effects of the large scale land acquisition phenomenon?
24. As a Company, if there is an opportunity to facilitate the land acquisition process again, what will you do differently?



Appendix C: Interview Guide for Lands Commission
Department of Geography and Rural Development
Kwame Nkrumah University of Science and Technology, Kumasi

Research Topic:

**Effects of Large scale land acquisition on the livelihoods of smallholder farmers
in the Pru district of Brong Ahafo Region of Ghana.**

Introduction:

In recent times, several multi-national companies have acquired large tracts of land in many developing countries for several purposes. Typical among these are for the establishment of jatropha and mango plantations. These plantations have displaced several families whose livelihoods depended directly on the land. Some of these farmers were trained in alternative livelihoods activities and given compensations that were expected to lead to the diversification of their sources of livelihoods.

The literature provides evidence to suggest that in the Pru District in Ghana, several hectares of land have been acquired by various Multi-National Companies for investment purposes. The effects of the phenomenon on the livelihoods of the affected smallholder farmers in the districts are unknown. The purpose of this study is to assess the effects of the phenomenon on the livelihoods of the affected smallholder farmers in the Pru District. The coping and adaptation strategies of these affected smallholder farmers would also be assessed.

The hope of the researcher is that the results of the study would help the District Assembly plan to respond to any adverse effects the phenomenon may have caused while planning to sustain the positive effects. The results would also contribute to the formulation of more-targeted foreign direct investment policies at the national level.

Informed Consent:

After listening to/reading the introduction, I agree to participate in the study.

Date.....

Signature.....

Foreign Companies and Sizes of Land Acquired in the District

1. How many foreign companies have acquired lands in this district for agricultural purposes (such as jatropha plantations, mango plantations, etc)
2. How many hectares of land have each acquired and where are their locations?

Land Acquisition Process

1. What factors account for the Pru district's attractiveness to foreign companies (like Smart Energy who need large tracts of land for investment?)
2. What role did the Lands Commission play in the land acquisition processes?
3. What processes were followed before the lands were acquired by these foreign companies?
4. What roles did the affected community members play in the decision making process regarding the acquisition of the lands? **Land Uses and Compensation**
5. What uses were the lands put to before the foreign companies acquired them?

6. Were the occupants of the land compensated? If yes, how was it determined and paid?
7. How long are they entitled to use the land for their investment purposes?
8. Are the community members allowed to enter the lands for some resources (such as mushroom, medicinal plants, wild fruits and vegetables, etc) that they had access to before the lands were acquired?

Effects on Livelihoods in the Affected Communities

9. What do you consider to be the effects (both positive and adverse) of the land acquisition and the subsequent investments on livelihoods in the affected communities? *Interviewer should try and focus the question on the five assets/capitals in the sustainable livelihood framework.*
10. What measures were put in place to protect the affected communities cope with the loss of their lands:
 - a. Alternative livelihoods and start-up capitals?
 - b. Employment opportunities to community members?
 - c. Market for the produce of small-holder farmers?
 - d. Supply of alternative land for farming?

Corporate Social Responsibilities

11. What social responsibilities do these companies have in the affected communities?
 - a. Community infrastructure (e.g. electricity, good roads, schools, and others)
12. Were these responsibilities contained in any contracts? Is there any evidence to show that the companies have played (or playing) their corporate social responsibilities?

Coping and Adaptation Strategies

13. What do you consider to be the strategies that can be adopted to help the affected communities cope/adapt to the adverse effects of the large scale land acquisition phenomenon?
14. As a Commission, if there is an opportunity to facilitate the land acquisition process again, what will you do differently?

Appendix D: Interview Guide for the District Assembly

Department of geography and rural development

Kwame Nkrumah University of Science and Technology, Kumasi Research

Topic:

Effects of Large scale land acquisition on the livelihoods of smallholder farmers at Pru district of Brong Ahafo Region.

Introduction:

[Enumerator, please read this introduction to every household that has been selected for this study. You can provide further details about the purpose of the study to the head of household. This will help them understand the purpose of the study and hoping give their consent to be part of it.]

In recent times, several multi-national companies have acquired large tracts of land in many developing countries for several purposes. Typical among these are for the establishment of jatropha, cashew, mango plantations and others. These plantations have displaced several families whose livelihoods depended directly on the land. Some

of these farmers were trained in alternative livelihoods activities and given compensations that were expected to lead to the diversification of their sources of livelihoods.

The literature provides evidence to suggest that in the Pru District, of Ghana, several hectares of land have been acquired by various Multi-National Companies for investment purposes. The effects of the phenomenon on the livelihoods of the affected smallholder farmers in the districts are unknown. The purpose of this study is to assess the effects of the phenomenon on the livelihoods of the affected smallholder farmers in the Pru District. The coping and adaptation strategies of these affected smallholder farmers would also be assessed.

The hope of the researcher is that the results of the study would help the District Assembly plan to respond to any adverse effects the phenomenon may have caused while planning to sustain the positive effects. The results would also contribute to the formulation of more-targeted foreign direct investment policies at the national level.

Informed Consent:

[This section must be completed by the district planning/head of department before the interview commences].

After listening to/reading the introduction, I agree to participate in the study.

Date..... Signature.....

Thumbprint.....

NUMBERS	QUETION	DISTRICT ASSEMBLIY RESPONSES	
1.	How did the various companies get to know that vast land altered to lie over	- Adverts on the internet -radio -friends -mass media -papers examples graphics and magazines	
2	Was the layer scale land acquisition a beneficial to both the small household farmers and district assembly?	-strongly agreed -don't know -agreed -disagreed -strongly disagreed	
3	Why did the district assembly accepted to release large scale land for investors	-bring employment - -help provide physical development -open opportunities for socioeconomic market -good policies	

4	Did the district assembly sign any legal agreement of the social role to be performed by the investors or plantation	A. yes B. no If yes did they comply by the laid down arguments Outcome A. yes B. no	
5	Did the district assembly make any public education about the take-over of the land by the investors	A. yes B. no	
6	If yes, what mechanism of communication was used for the education?	-F.M stations -information centres -wireless -information service -public lectures	
7	Did the community members agree to give out land to the investors	-agreed -highly agreed -disagreed -indifferent	
8	What alternative livelihood was planned for the small holder farmers	-compensation -relocated -skills trend -seed money to start life with	
9	Did the investors affect the community socially in terms of development, settlement communal we feeding	-strongly agreed -don't know -agreed -disagreed -strongly disagreed	
10	Did the district assembly organize any skills training before the intervention of the community members	A. Yes B. No -If yes give reason -if no give reason	
11	Was it necessary for the district assembly to have organized skills training to small holder farmers after their lands have been taken away by the various prospective investors	-strongly agreed -agreed -don't know -disagreed -strongly disagreed	
12	Did the district plan any alternative livelihood for the smaller holders farms after their lands had been legally transferred to the investors	A. Yes B. no -if yes give reason -if no give reason	
13	Did the district assembly plan any formal education to the community members	A. yes B. no -if yes explain -if no explain	

14	Has the district assembly recorded any change in the level of standard of living after the skills and formal education training	-Strongly agreed -agreed -don't know -disagree -strongly disagreed	
15	To what extent would you agree that the district assembly has improved the sanitation at Pra district	-strongly agreed -agreed -don't know -disagree -strongly disagreed	
16	How would you rate the performance of the investors in human development	-very effective -effective -fairly effective -not effective	
17	To what extent would you agree at the district assembly level that, communities members in the Pra district have benefited from the various intervention	-strongly agree -agree -don't know -disagree -strongly disagree	
18	Are the district assembly aware of any statistic of people employed by the various interventions	-0-50 -51-100 -101-150 -151-200	
19	Has the employment level declined as a result of the intervention	-yes -no -if yes give reason -if not give reason	
20	How many acres of land did the district assembly own before the company entered the community	-0-2000 -2000-4000 -4000-6000 -6000-8000 -8000-10000 -10000-12000	
21	How many acres of land has been given to investors for the last ten years	-0-1000 -1000-2000 -2000-3000 -3000-4000 -4000-5000	
22	Please identify the crops grown in the Pru district assembly and the farm size of each crop	Crop a. b. c. d. e.	Land area
23	How many acres of land is currently not used for any farming activities	-0-500 -500-1000 -1000-1500 -1500-2000 -2500-3000	

24	What is the level of crop output before and after the intervention recorded by the district assembly	before crop a. b. c. d.	output
		After Crop a. b. c. d.	output
		Using a scale	
		15-25 15-20 10-15 0-15	Highest High Low Lowest
25	What compensation package was planned by the district assembly for the various community small holder farmers who loss their lands	Area a.0-10 b.20-40 c.40-80 d.80-120 e.120-160	amount
26	Was the compensation equated to the amount of money paid by the investors	-strongly agree -agree -don't know -disagree -strongly disagree	
27	Has the district assembly projected any measures to sustain standard living of small holder farmers ,after their lands had been taken away by the various investors	A. yes B. no -if yes list some of the measures. Example snail, glasscutter, mushroom,bee keepingand soone	
28	Has this intervention had a positive or negative impact on the small holder farmers	positive impact A. strongly agreed B. agree C. don't know D. disagreed E. strongly disagree negative impact A. strongly agree B. agree C. don't know D. strongly disagree	Response Response