

UNIVERSITY OF CAPE COAST

SOCIO-ECONOMIC EFFECTS AND RESETTLEMENT CHALLENGES
ASSOCIATED WITH THE CONSTRUCTION OF THE BUI DAM IN
GHANA

BY

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DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Name: Ama Henne-Taah

Signature:..... Date:

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Name: Dr. Owusu Boampong

Signature:..... Date:

ABSTRACT

This study aimed at investigating the socio-economic effects and resettlement challenges associated with the construction of the Bui Hydro Power Dam on the Black Volta River at the Bui Gorge in Ghana. It used the qualitative research methodology with the use of both a set of structured questionnaire and focus group discussions. It was found that affected communities in the Bui Dam area had been resettled into new areas. However, most of the resettlers had lost some property or some intrinsic benefits associated with the former residences. Resettlers were quite content with new housing accommodations provided them but were dissatisfied with other forms of compensation they received such as that relate to land. Major challenges in the resettlement process that were identified include lack of involvement of local rulers in decision-making and poor information dissemination to indigenes.

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DEDICATION

To the people in my study area

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CHAPTER ONE

INTRODUCTION

Background to the Study

Large dams emerged as a symbol of modernity during the second half of the 20th century with construction peaking in the 1970s when an average of two or three large dams were commissioned per day throughout the world (Namy, 2007). This resulted from the fact that large dams are hailed for being an effective way to harness water resources for food production, energy generation, flood control and domestic use (Namy, 2007). Hence dams became a symbol of progress and economic development especially by new emerging nations.

When the Akosombo dam in Ghana was constructed in 1965, it was observed to be the beginning of the economic boom and statement of independence by the young nation of Ghana. The dam was intended to start an industrial revolution in the country and also provide the citizenry with access to electricity and modern amenities and services. Over the years due to several factors such as the rapid population increase in the country, expansion in the industrial sector, increased access to electricity by rural communities and so on, there has been a shortfall in the supply of electricity in the country.

The Ghana government has put up a number of infrastructure and plants including the construction of the Aboadze thermal plant in the Western Region of

the country with the intention of boosting the supply of electricity. Yet there still exists a shortfall in the supply of electricity in the country; with reliance on electricity imports from neighboring Côte d'Ivoire to supplement domestic supply during peak hours (ERM, 2007a).

The construction of the Bui Hydroelectric Dam was aimed at boosting energy supply in the country and also to ensure that the challenges of electricity load shedding of 2006 do not recur. The Bui Hydroelectric Power Project is located on the Black Volta River at the Bui Gorge in north-western Ghana and includes a main dam in the Bui Gorge and two smaller saddle dams in the neighbouring Banda Hills, which is expected to create a reservoir extending roughly 40 km upstream, within Ghanaian borders (ERM, 2007a). Upon completion, the Bui Project is expected to produce a maximum generation capacity of 400 MW and a net average energy production of 994 gigawatt hours/year (GWh/yr) (ERM, 2007a).

Ghanaian Environmental Impact Assessment Procedures require that a project proponent prepares an environmental impact statement that presents a clear assessment of the impacts of the proposed undertaking on the environment. The procedures set out four steps to be followed in the conduct of an Environmental Impact Assessment: Project Registration, Project Screening, Scoping Report, and Environmental Impact Statement (ERM, 2007a). After the Environmental Impact Statement was submitted by the consultants, the government and authorities were satisfied with the report and gave the consent for the project to commence.

Dam construction has a number of added positive effects to the area it is situated including the construction of access roads, schools, access to electricity and health care. Moreover, energy generated from hydroelectric power is cleaner than those generated by oil and coal and thus conforming to the trends in helping decrease global warming.

Unlike the Akosombo and the Kpong dams which displaced about 80,000 and 7,000 people respectively the Bui Dam was expected to displace around 859 people and thus making it easier to identify the people affected by the project (ERM, 2007a).

A report by the World Commission on Dams (2000) concluded that in too many cases there have been unacceptable and often unnecessary fallouts from dam construction, especially in social and environmental terms, by displaced residents, downstream communities, taxpayers and by the natural environment.

According to Cernea (1997), large dam construction receive a lot of condemnation from the press in many parts of the world because there always seems to be a number of negative social impacts which are often not addressed fully; often the case when preventive and mitigatory actions are not taken. The major social problem associated with dam construction has to do with the involuntary displacement of people which results in the loss of livelihood and their potential impoverishment.

Displacement and resettlement presents a myriad of socio-economic challenges to the affected people. When communities are forcibly resettled, the existing production systems are dismantled, leading to loss of jobs, loss of

valuable land, trees, and other income generating assets (Cernea, 1997). Also, kinship groups and informal social networks for mutual help may be scattered while links between producers and their customers are often severed and local labor markets disrupted. Symbolic markers, such as places of prayer and ancestral graves are also abandoned, breaking links with the past and with people's cultural identity (Cernea, 1997).

Also if resettlement is not planned and financed adequately, resettlers end up worse off than before (Cernea, 1997). It has been documented by the World Commission on Dams that rarely have livelihoods of resettlers been restored after large dam construction. This was also confirmed by Scudder (undated) who observed that the standards of living of the majority of people who were resettled after the construction of the Akosombo and the Kpong dams worsened thereafter.

Only seven communities, Agbegikuro, Bator, Brewohodi, Bui, Dam Site, Dokokyina, and Lucene, with a total population of 859 (containing 168 households) were expected to be inundated by the Bui dam and hence required resettlement. Four additional communities with an estimated 93 households were also expected to lose land and hence required compensation (ERM, 2007b). Most of these households depended on farming and fishing for subsistence (ERM, 2007a).

In the Resettlement Planning Framework (RPF) submitted to the Ministry of Energy and the Bui Development Committee in 2007, there was a clearly spelt out procedure for compensation of affected communities as well as the establishment of a Livelihoods Enhancement Programme (LEP) aimed at assisting

and rehabilitating the villages. This project was aimed at improving the livelihoods of villages over and above the pre-project levels through the establishment of committees, business development programmes and micro-credit facilities (ERM, 2007b).

With the experiences obtained with the resettlement of inhabitants at Akosombo and Kpong, there has been the need to ensure that the proposed activities to improve the livelihoods of residents of the Bui Dam area are carried out successfully. These socially responsible resettlement plans ensures that the host communities are not burdened and makes the resettlers better able to contribute their quota in the development of the nation.

Problem statement

The need to boost electricity supply in Ghana became especially apparent during the second half of the year 2006 when decreased water level in the Akosombo dam led to a reduction in the output of electricity. This finally resulted in a load shedding exercise that lasted for several months. This turn of events affected several sectors of the economy and contributed to the collapse of many businesses until the situation was stabilized through several measures that were put into effect by the government. Though the situation was ameliorated in early 2007, there still exists the issue of high demand of electric energy for both domestic and industrial use.

Moreover, the construction of hydroelectric dams all over the world usually receives bad press especially for the huge number of people it displaces as

well as the environmental damages it causes. Construction and operation of large dams usually inundates downstream communities taking away their livelihoods and history. Dam construction normally displaces huge numbers of people who are often not well compensated by their government. In Ghana after the construction of the Akosombo and the Kpong dams which displaced about 80,000 people and 7,000 people respectively, inhabitants were reported to have been left with worse standard of living after resettlement. This study seeks to find the socio-economic effects of the Bui Dam's construction on the affected residents in the area.

Objectives of the study

The general objective of the study was to investigate the socio-economic effects and resettlement challenges associated with the construction of the Bui Dam in Ghana.

The specific objectives of the study were to:

1. examine the effects of the Bui Dam construction on the socio-economic lives of the displaced community members.
2. examine the challenges associated with the resettlement of the affected community members.
3. determine the level of satisfaction of resettlers affected by the Bui Dam construction with regard to compensation.
4. make recommendations targeted at shaping future policy resettlement projects.

Research questions

The following questions guided the study:

1. What are the effects of the Bui Dam construction on the socio-economic lives of displaced community members?
2. What are the challenges associated with the resettlements of affected community members in the Bui area?
3. What is the level of satisfaction amongst resettled residents in the Bui Dam area regarding compensation?

Delimitations of the Study

Data for this study was based on the experiences of only individuals who had been physically relocated by the Bui Power Authority during the resettlement phase of the Bui Dam construction were included in this research. Also, only three out of the seven communities that were physically resettled were surveyed. This placed a limit on the overall magnitude of the communities surveyed.

Significance of the study

This study presents clearly the challenges that displaced community members go through during large dam construction, especially with regards to accessing compensation packages. The findings of this study are aimed at shaping future resettlement projects while making recommendations to direct future social policy on addressing the needs of displaced and resettled community members. The study also contributes to the existing data about resettlement issues related to

hydroelectric dam construction.

Limitation of the Study

The major limitation of this study was the difficulty in getting to the resettled communities, since they are located in remote areas where access to transportation is a challenge. Lack of funding also affected the number of field days and subsequently the sample used for this study.

Organization of the study

The study is organized into five chapters. Chapter One contains the background to the study, the problem statement, objectives of the study, research questions, significance of the study, delimitations and limitation of the study, as well as the organization of the study. Chapter Two comprise of literature review and the conceptual framework used for the study. Chapter Three is the methodology which includes study area, research design, target population, study design, sampling techniques and sample size, data collection, the instruments used, ethical issues and community entry and data analysis procedure. Chapter Four is made up of the results and discussion. Chapter Five presents the summary, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presents the conceptual framework guiding the study. It also presents the review of relevant literature on the effects of dam construction on the socio-economic lives of resettled community members in various parts of the world as well as that which has been experienced in Ghana.

Worldwide hydroelectric dam construction

Although dams have existed for thousands of years, the past century has witnessed a huge surge in large dam construction, most notably in the developing world with over 45,000 large dams having been built (Namy, 2007). This is attributed to the fact that large dams emerged as symbols of modernity in the 20th century and were also hailed for being an effective way to harness water resources for food production, energy generation, flood control and domestic water use. This meant that countries who constructed large dams were on the part of progress and economic development (Namy, 2007).

Girmay (2006) identified that there are more than 40,000 large dams around the world and more than 400,000 square kilometers of area have been inundated by reservoirs worldwide. One of the world's largest man-made lakes in

terms of surface area is the Volta Reservoir created behind the Akosombo dam of Ghana with an area of 8,500 km² and flooded around 4 percent of the country's land area (Moxon, 1952).

Conceptual framework of the study

Dams are barriers constructed across a stream or river to harness water for one of several uses. According to Uyige (2005), dams have the following uses:

1. to concentrate the natural fall of a river at a given site in order to generate electricity
2. to direct water from rivers into water supply systems
3. to direct water into canals and irrigation systems to increase depths for navigational purposes
4. to control flow during times of flood and droughts and
5. to create artificial lakes for fisheries and recreational use.

Many dams are built to serve multiple purposes and fulfil several of these functions (Uyige, 2005). Globally, the last century witnessed a dramatic increase in the construction of large dams (Uyige, 2005). Uyige (2005) noted that by 1949, about 5,000 large dams had been built worldwide, three-quarters of them in industrialized countries. At the end of the 20th century over 45,000 large dams had been built in over 140 countries of the world (ICOLD, 1998). The top five dam-building countries are China, the United States, India, Spain and Japan, which account for nearly 80 percent of all large dams worldwide (Figure 1).

China alone has built around 22,000 large dams, the USA over 6,390; India has over 4,000 dams while Spain and Japan have between 1,000 and 1,200 dams each. Currently, approximately two-thirds of the world's existing dams are in developing countries (Uyige, 2005).

While a number of those dams may be seen to have achieved the main goals for which they were constructed (such as the provision of hydro-electricity, or irrigation), they have also been instrumental in causing severe socio-economic problems for those people who have had to move to make way for those dams (de Wet, undated). The construction of large dams has resulted in the displacement or resettlement of many millions of people across the world (de Wet, undated).

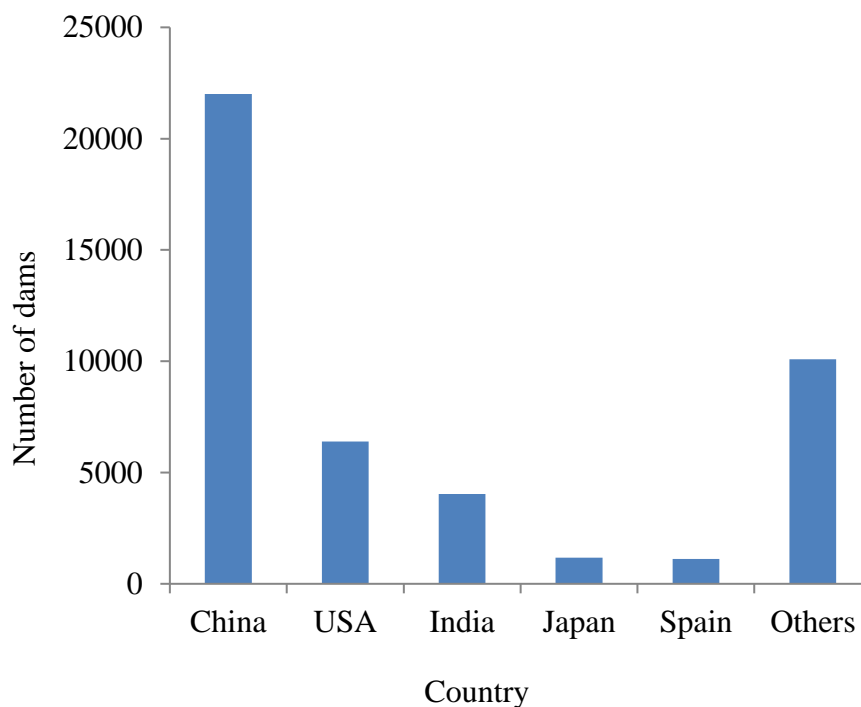


Figure 1: World Distribution of Dams

(Source: Uyigue, 2005)

The construction of large dams which invariably create man-made lakes in

Africa has been responsible for the relocation of large numbers of people (Girmay, 2006). Around 50,000 people were displaced by the Kariba Dam in Zambia , about 80,000 people by the Volta Dam and 7,000 people by the Kpong Dam in Ghana (Girmay, 2006).

The benefits and effects of dam construction especially those intended for electricity power generation are diverse and sometimes specific to particular locations. Figure 2 was constructed after considering all the major factors and relationships concerning the construction of large dams. This framework was developed to capture most of the variables that this study considered. This framework takes into account two distinct issues that may arise as a result of the construction of a large dam. These are either the benefits that may be accrued or the negative effects that may arise from the interruption of the social, economic and natural environmental dynamics by the dam construction. The explanation of the various aspects of the framework also follows the model.

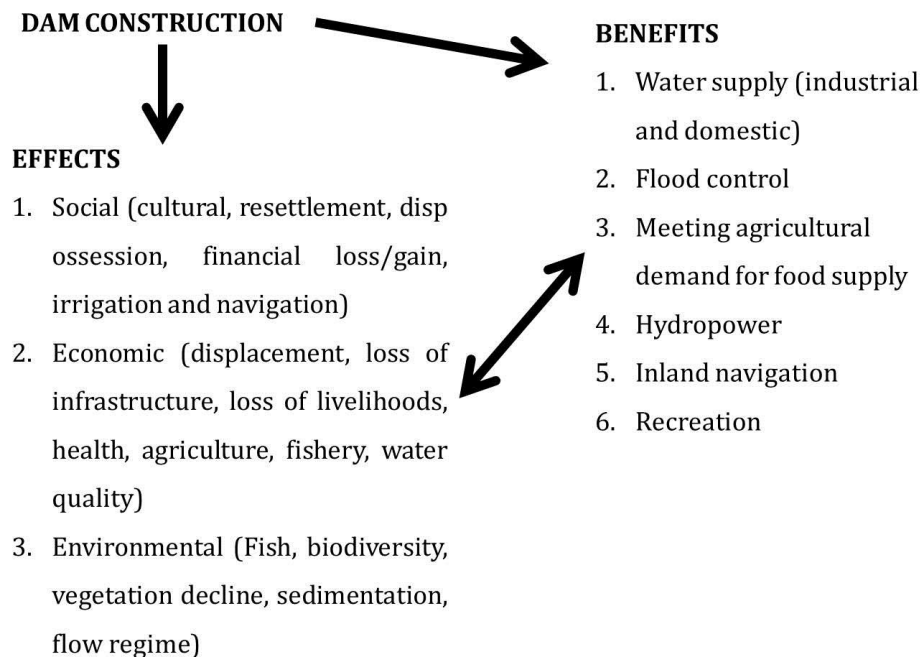


Figure 2: Benefits and underlying impacts of dam construction.

(Source: Author)

Benefits of dams

Because of the multiple uses of dams, they have several key benefits and importance to various sectors of the economy and particular industries. They are especially vital to local industries and communities through the generation of electricity and also serve as a source for municipal water supply. It is also vital to agriculture as it presents all year round supply of water for irrigation of crops.

Dams have contributed significantly to the success of agriculture in many parts of the world, especially that of areas in which water is scarce to come by. The importance of dams to agriculture can be seen in the history of dams itself. In a country such as India, food grain production has been known to have nearly quadrupled between 1951 and 2000, with an estimated two-thirds of this increase

coming from dam irrigated areas (Thakkar, 2000). While dams account for 38 percent of India's irrigated area, estimates of what fraction of the increase in production can be attributed to dams vary from 10 percent (World Commission on Dams, 2000b) to over 50 percent (Gopalakrishnan, 2000).

Evenson & McKinsey (1999) found that irrigation reduces the volatility of production by mitigating the effects of rainfall shocks and temperature. Further, irrigation and agricultural inputs, such as fertilizer, electricity and seeds for high yielding variety (HYV) crops are complements. These findings, and other studies such as Singh (2002), suggest that irrigation enhances productivity by increasing multi-cropping and the cultivation of more profitable water-intensive cash crops.

Assuming that access to irrigation has a fixed cost, this is the cost of accessing ground water in a region with no dams, and the cost of accessing canal irrigation in a dam's command area (Singh, 2002). If a farmer can obtain the optimal set of inputs, then he/she will invest in irrigation if its cost is below the long-run difference between the value function with and without irrigation. His/her decision process follows a threshold rule: he/she switches if the productivity shock exceeds some threshold in a given period (Singh, 2002).

Relative to other forms of water harvesting, such as ground water and small dykes, dams reduce the fixed cost of accessing irrigation in the command area (Biswas & Tortajada, 2001; Dhawan, 1989). Singh (2002) noted that the availability of dam irrigation will not affect the irrigation choices of farmers who have paid the sunk cost of accessing ground water irrigation. However, those farmers who would have invested in ground water irrigation in the future will

instead opt for dam irrigation (Singh, 2002). Singh (2002) noted also that some of the farmers who would not have chosen ground water irrigation will invest in the cheaper dam irrigation. Dams, therefore, increase irrigated area. Consequently, the demand for labour, fertilizer, and seeds will increase, and the dependence of agricultural production on rainfall will decrease (Singh, 2002).

Effects of dam construction on indigenous people

In his paper on the “Social and Environmental Impacts of Hydroelectric Dams in Brazilian Amazonia”, Fearnside (1999) noted that forested lands were converted to resettlement areas, which prevented the indigenous people from gaining access to the reservoir. Other tribes downstream also suffered the effects of water pollution and the loss of fish resources. Canter (1985) noted that during the dam construction phase there can be social conflict between the local villagers and some dam construction workers that maybe foreign. Foreign construction workers may disregard and disrespect local culture and authority.

Dam Construction does not only fragment the riverine ecosystems, but also physically displace and deprive indigenous people from the river systems where they depend on their traditional livelihoods. On a deeper insight, the NGO Forum (2004), noted that their physical displacement from the river system also alters their cultural way of life. In one of ADB-funded dams, the Tarbela hydropower project in Pakistan, only those affected people with legal title were compensated for the loss of their lands and livelihoods (NGO Forum, 2004). The same happened in another ADB-funded dam project, the Kali Gandaki

Hydroelectric project in Nepal (NGO Forum, 2004). With such criteria for eligibility, indigenous people and ethnic minorities suffered disproportionately as they “lacked” citizenship, tenancy or land tenure papers (NGO Forum, 2004).

Displacements of inhabitants

According to Cernea (2004), the sharpest debate about the social liabilities of hydropower development revolves around population displacement and forced resettlement. These are grave issues indeed. Yet, they are not intractable.

Cernea (2004) found that three elements explain why displacement processes have overtaken much of the public debate around dams, both in developing countries (e.g. India, Laos, Thailand, Brazil, Argentina) and developed ones (in Europe and in the USA). Cernea (2004) explained these elements as follows;

- Magnitude of human impacts: large groups of people are adversely affected, profoundly and enduringly, by imposed material losses and social disruptions.
- Absent or weak regulation frameworks: policies and laws for socially responsible resettlement are still missing now, at the start of the 21st century, in most developing countries. Human rights violations bedevil most displacements.
- Under-financing: Classic economic theory regards “cost externalization” as an unsound and unacceptable practice. Yet most dam-building projects practice externalization with no restraint and morality, flying in the face of economic theory and policy discourse. These theories underestimate the losses caused by displacement, compensate them in utterly insufficient proportion, and externalize

the difference as an unbearable burden on the displaced population.

An estimated 40-80 million people have been displaced world-wide by the construction of dams (WCD, 2000a). In many cases, host communities are resettled and their livelihood and access to resources of riverine communities, especially those downstream of dams, are affected in varying degrees (Uyige, 2005).

Cernea (2004) noted that forced population displacement occurs not only in dam construction, but in all infrastructural (and other) projects that require “land-takings” and are predicated on changing the uses of lands, waters, or forests. Cernea (2004) wondered why if such population displacement is frequent in other sectors as well, what that makes forced resettlements in dam building more visible and problematic than in other economic sectors? The response Cernea (2004) observed are the huge size and historic record of past or recent major social disasters, more severe and better known publicly than any other forced displacements.

Size and content of dam displaced communities

Cernea (2004) asserted that the numbers are indeed overwhelming. Large reservoirs may displace tens of thousands of people, and so rarely, even hundreds of thousands of people. Mudzengi (2012) noted that the creation of large dams in Africa has been responsible for the relocation of large numbers of people. These includes 85,000 people due to the Kossou Dam in Ivory Coast, 84,000 people due to the Akosombo Dam construction in Ghana, 57,000 people due to the Kariba

Dam in Zimbabwe, 55,000 people due to the Kainji Dam and the Lagdo Dam which displaced 35,000 people. The Aswan High Dam on the Nile displaced an even greater number of people, 120,000 Nubians, both in Egypt and Sudan (Adams, 1992).

Fernandes (2004) identified that in India, development-caused displacements over the last five decades affected over 50-55 million people. By sector, India's dam construction alone accounts for the single largest displacements (Cernea, 2004). In China, recent research shows that at least 45 million people were displaced by dam construction. Dams account for over half of this number (Shi & Chen, 2004). The WCD (2000) estimates dam-triggered displacements worldwide as between 40-80 million people, even without counting those losing their common lands but not also evicted from houses.

Yet the forced displacement problem is not just a problem of numbers: it is mainly a problem of content (Cernea, 2004). The fundamentally negative content and effect of forced displacement is the impoverishment of those displaced, the vast majority of whom have been poor even before their forced displacement (Cernea, 2004). In India, for instance, a country with a long history of tragic displacements which only this year, in February 2004, has adopted a policy on resettlement, over 75 percent of those displaced, according to the same Indian researchers, have not been rehabilitated or restored to prior levels (Cernea, 2004). Tens of millions of poor people have received insufficient or no compensation, and ended up worse off. Such impoverishment, with its lack of social justice and equity, is manifest in numerous other countries throughout the

developing world, particularly in countries lacking policies and legal frameworks protecting the welfare and livelihoods of those displaced (Cernea, 2004). Conversely, in order to preempt such adverse effects further, and to provide such protection, some countries have taken steps to adopt social policies and legislation regarding forced resettlement (Cernea, 2004). For instance, China has adopted over the last 18-20 years, in its water resources sector, several sets of policy guidelines and standards (Shi & Chen, 2004), each one being an improvement over the previous standards, in order to better protect those displaced and assist their economic and social recovery and development.

Resettlement

Resettlement issues can be classified into two categories namely, voluntary and involuntary (Girmay, 2006). Involuntary resettlement has been a companion of major development projects or programmes throughout history, and has been permanently written into the evolution of industrial as well as developing countries. On the other hand, voluntary mobility, which includes rural-urban migration, help in stimulating economic growth, reflecting the people willingness to pursue other new opportunities, which also helped in the design and implementation of settlement policies (Girmay, 2006).

Displaced communities are frequently indigenous people and other ethnic minorities whose voices have too often been silenced by existing power structures. Some of the most common negative social impacts of dams are dispossession, discrimination, cultural alienation and health problems (Namy,

2007).

Causes of failure or success of resettlements

According to Cernea (1997), if resettlement is not planned and financed adequately, resettlers end up worse off than before. Socially responsible resettlement, however, is also economically beneficial because otherwise the heavy costs of poorly handled displacement extend well beyond the immediately affected population – to regional economy, and the host population in relocation areas (Cernea, 1997).

Cernea (1997) observed that inadequate resettlement induces local resistance, increases political tensions, entails project delays, and postpones project benefits for all concerned; the benefits lost because such avoidable project implementation delays sometimes far exceed the marginal cost of a good resettlement package. Ensuring that involuntary resettlement is minimized and when unavoidable, is carried out without impoverishing the people displaced – is fully justified on both economic and ethical grounds (Cernea, 1997).

The major common factors that explain why resettlement worked in some cases but failed elsewhere in the world are classified by Cernea (1997) as follows:

1. Political commitment expressed in policy and law, functioning grievance procedures, fair resource allocations and consistent implementation of set norms;
2. Sound social analysis, reliable demographic assessments, and technical expertise in planning resettlement;
3. Accurate cost assessments and commensurate financing and

4. Effective executing organizations and public participation in identifying reestablishment solutions and implementing them.

Dispossession

The World Commission on Dams (2000) reported that most indigenous communities and other ethnic minorities faced with dam-based development projects have experienced dispossession and denial of their basic rights. Most obviously, the construction of dams and related infrastructure leads to the loss of considerable areas of agricultural land, forest, fishing grounds, grazing lands and other resources on which impacted communities rely for their livelihoods and cultural practices.

The NGO Forum (2004) noted that not all affected people were adequately compensated during dam construction and resettlement. There were those who were excluded due to technicalities (definition on the categorization of people to be affected by dams). The WCD (2000) case studies show that, at the time of many dam designs, communities situated downstream, those without land or legal title, indigenous people and those affected by project infrastructure (and not just the reservoir) were not considered as affected people. Thus, depriving these people of what is due them and making them worse off.

Discrimination

The World Commission on Dams Thematic Review on Social Issues concluded

that due to structural inequities and institutionalized racism, indigenous populations and other minorities have “suffered disproportionately from the negative impacts of large dams, while often being among those who have been excluded from sharing the benefits (Namy, 2007).

Health Risks

There have been a number of negative health impacts which have been documented with a relation to dam construction. Namy (2007) noted a World Health Organization (WHO) report that noted that reservoirs created behind dams are often breeding grounds for water-borne illnesses (such as schistosomiasis, malaria, and cholera) and other potentially toxic bacteria.

The environmental changes and social disruption resulting from dams and associated infrastructure such as irrigation schemes have significant adverse health outcomes for local populations and downstream communities (Uyige, 2005). Among the resettled, access to drinking water and to health services and ability to cope with new social and physical environments determine health conditions (Uyige, 2005). In tropical areas, numerous vector-borne diseases are associated with the reservoirs of dams, the most common of these diseases is schistosomiasis, a parasitic disease causing untold misery in 75 countries (WHO, 1985), affecting over 200 million people worldwide with 500-600 million more exposed to infection (Webbe, 1981).

Schistosomiasis is associated with water resource development projects such as dams and irrigation schemes, where the snail is the intermediate host of

the parasite breeds. The snail intermediate host breeds in slow-flowing or stagnant water (Uyige, 2005). Hence, the main courses of large rivers are not usually a major source of schistosomiasis, but waters sustained by them through seasonal flooding, impoundment and extraction for irrigation are important transmission sites (Ogbeide & Uyigue, 2004). The disease is essentially an infection of rural and agricultural communities where the way of life of people promotes the contamination of inland water with human excreta (Uyige, 2005).

In the Bui Dam area, a permanent change in the flow of the river and the creation of the reservoir will have a significant impact on disease incidences in the local region, specifically serious communicable diseases such as bilharzia, trypanosomiasis, guinea and intestinal worms, and onchocerciasis (ERM, 2007a). According to ERM (2007a), there are other health impacts that may affect residents of the Bui area due to reduced access to natural resources. These include those impacts associated with loss of medicinal plants and malnutrition.

ERM (2007a) projected that the loss of land and forest resources will result in the destruction of medicinal plants used by herbalists in the villages to cure various ailments and health problems. ERM (2007a) noticed that these herbalists are especially relied upon by the poorer sections of the communities. The construction of the Bui dam will affect natural resource-based livelihoods and household income and possibly lead to an increase in malnutrition for some households in the study area if measures are not in place for the prompt payment of compensation to those who will be affected by the loss of natural resources (ERM, 2007a).

Impacts of dam construction on fishery

Tahmiscioğlu *et al.* (2004) noted that as a result of dam construction and holding of sediments in reservoirs, sediment feeding of downstream channel or shore beaches is prevented, which allow corrosions to occur. They noticed that as the transfer of sediments is avoided by this way, the egg laying zone of the fishes living in the stream ecosystem is restricted, too. Reproduction of migrating fishes is hindered by the floods that harm the egg beds or the egg gravel beds can be destructed while the excavation and coating works in the stream beds (Tahmiscioğlu *et al.*, 2004). All of which reduces the fish stock in the area.

Fishes can be damaged while passing through the floodgates, turbines and pumps of the high bodied dams (Tahmiscioğlu *et al.*, 2004). Drainage of marshes and other water accumulations and the excavation works causing changes in the stream bed structures affect the creatures living here negatively; even result in their death (Tahmiscioğlu *et al.*, 2004).

River and flood-plain fisheries are a critical source of food and income for hundreds of millions of people in the developing world, particularly the rural poor (Richter *et al.*, 2010). Flood-plains are among the most productive ecosystems on earth (Millennium Ecosystem Assessment, 2005; Opperman *et al.*, 2009). According to Richter *et al.* (2010), when a fish spawns on a flood-plain, its offspring will have many advantages over other fish born in the river itself. The water spilling into a flood-plain during floods becomes warmer, and is enriched with nutrients, which greatly benefits the growth of young fish (Richter *et al.*, 2010). The drowned vegetation of the flood-plain harbours a bounty of insects to

feed upon, and provides places where newborn fish can hide from bigger fish and other predators (Richter *et al.*, 2010).

All of these advantages can play a big role in determining which fish grow fastest, live longest, and reproduce most often. Rivers supporting large numbers of flood-plain-spawning fish species typically produce far more fish tonnage than those without floods and flood-plains (Sommer *et al.*, 2001; Koel & Sparks, 2002).

When flood-plains are regularly connected to their rivers, they are not only more productive but house the majority of the river's species. In the lower Rhine and Meuse rivers, for example, 70 percent of the species are found exclusively in the flood-plain lakes (Van Den Brink *et al.*, 1996).

Economic impacts of dam construction

According to the Environmental Resource Management (2007a), the impacts of the construction of the Bui Dam on the livelihoods of the communities will be in two forms:

1. Permanent loss of natural resource-dependent livelihoods and
2. loss of other livelihoods

Permanent loss of natural resource-dependent livelihoods

Dams result in the destruction of natural habitats. The shift from river to lake environments can result in the reduction of species diversity. Impoundments may lead to decreased woodland, thereby adversely affecting wildlife

communities which may lead to decreased hunting and loss of associated functions. Decreased forest plant communities lead to decreased timber production and attractiveness of an area to recreationists (Canter, 1985).

Environmental Resource Management (2007a) identified that the loss of natural resources dependent livelihoods included loss of agriculture, access to fishing grounds, hunting and the collection of non-timber forest products. The majority of the households in the study area are dependent on land-based livelihoods (farming, fishing, and hunting) as a source of subsistence and income (ERM, 2007a). Resettlement will result in complete loss of land, crops and trees, and access to fishing grounds and therefore the permanent loss of livelihoods. The significance of this impact is expected to be major prior to the implementation of any measures. However, the extent of the residual impact will depend on the capacity of the host sites in terms of access to land and access to fishing grounds.

Loss of other livelihoods

Other livelihoods in the study area include wage based employment (mainly teaching and health workers) as well as petty trading and a wide variety of other small businesses (ERM, 2007a). However, a relatively small proportion of the population is engaged in non-land based livelihoods: less than 10 percent except in Bamboi which is a major trading settlement (ERM, 2007a). The resettlement will result in temporary disruption of these livelihoods, assuming that these can be re-established after resettlement. However, the future viability of these livelihoods will depend on the opportunities and competition at the host site

for similar skills and services (ERM, 2007a). ERM (2007a) contended that the significance of the impact is expected to be moderate as a smaller proportion of households are involved in these livelihoods.

Loss of cultural identity

Several studies have identified a myriad of impacts on the cultural lives of resettled people during major dam construction. Namy (2007) contended that “the fertile soils of river valleys have always been densely populated, giving rise to some of the world’s most ancient civilizations. Displacing these communities risks the loss of valuable traditional knowledge systems and destroys part of the world’s cultural heritage”.

Cernea (2004) noted that two categories of cultural assets may be lost in dam construction: underground remains of significant historical importance and buildings or places of cultural, spiritual, or religious meanings, created or used by recent/current generations (cemeteries, places of worship, symbolic markers, etc.). Cernea (2004) observed that good practices have been developed in many countries in addressing these sets of social impacts. It is therefore, indispensable that policies and programs for dam construction are fully alert and sensitive to the risks for, and the need to protect and rescue both categories of cultural endowments (Cernea, 2004).

Namy (2007) noted further that the abandonment of symbolic markers such as grave sites and ancestral lands can sever linkages with the past and undermine a community’s cultural identity. ERM (2007a) noted that displaced

communities would permanently lose their cultural property including cemeteries, sacred sites, ancestral villages, and churches, owing to the creation of the Bui reservoir.

Disruption to social networks

In ERM (2007a)'s report to the government of Ghana, they mentioned that they found that communities in the Bui dam area are relatively conservative with strong traditions and cohesive social networks, even though all the villages in the area are ethnically mixed. ERM (2007a) stated also that "settlers" are in the minority in all of the villages and had arrived slowly; giving local people time to incorporate them into their social fabric on their own terms.

ERM (2007a) gave an example that the Banda had numerous rules and regulations outlining the rights and obligations of settlers and these were rigorously enforced by the Paramount ruler and the sub-chiefs in all the Banda villages.

However, the relatively sudden influx of possibly up to 1,500 - 2000 relatively wealthy workers (and possibly several thousand opportunist migrants) with different cultures may disrupt social networks, resulting from, and further contributing to increase in crime and prostitution, and social tension between the locals and outsiders (ERM, 2007a), thus, disrupting the very fabric upon which these communities are exist on.

Downstream residents

Societies need and value rivers for a host of reasons – from the spiritual and aesthetic to the cultural and very practical. Rivers provide water to drink, to irrigate crops, and to generate electric power that benefits, in one way or another, just about everyone on earth (Richter *et al.*, 2010). There is a segment of the human population that depends very directly on aspects of the river ecosystem that are sustained by particular patterns of river flow – the highs and lows, floods and droughts – that a river exhibits in its relatively natural state (Richter *et al.*, 2010).

According to Richter *et al.* (2010), just as species evolve in response to variable environmental conditions, human cultures have evolved and adapted to the availability of resources and services provided by natural ecosystems. For those populations that continue to be closely dependent on river ecosystems, disruptions in flow by a dam can mean a disruption in the freshwater goods and services that sustain them – especially fish, flood-recession crops, and flood-plain vegetation used for grazing (Richter *et al.*, 2010).

In Cambodia, for example, about 60 percent of the population's protein comes from fish derived from the Mekong's Tonle Sap, a unique and highly productive freshwater ecosystem now threatened by dam construction upstream (Smith *et al.*, 2005). It is estimated that some 60-70 million people in the lower Mekong basin rely upon fish as their primary source of protein (Mekong River Commission, 2005; Baran *et al.*, 2007).

Large dams affect downstream river-dependent communities in myriad

ways. The most common and most threatening impact is the loss of food security that stems from changes in the flow regime – especially the loss of seasonal flooding (Richter *et al.*, 2010). Seasonal floods hydraulically connect a river with the surrounding landscape, promoting the exchange of water, nutrients and organisms among a rich mosaic of habitats (Richter *et al.*, 2010). This river-flood-plain connection increases both species-diversity and biological productivity (Richter *et al.*, 2010). The moist, naturally fertilized flood-plain soils also allow for sustainable cropping systems that provide food during the drier months, herders also look to flood-plains for water and grazing areas for their livestock during the dry season (Richter *et al.*, 2010). Without the influx of water and nutrients in this annual cycle of flooding, these flood-plain production systems can disappear, taking with them human livelihoods (Richter *et al.*, 2010).

When a dam is built the residents along the river downstream of the dam suffer tremendous impacts. While the reservoir fills, the stretch below the dam often dries up completely, denying riverside residents water and fish (Fearnside, 1999). He also noted that in the case of Balbina Dam in Amazonia, the first 45 km downstream was dry during the filling stage. After the dam is filled, the water released through the turbines is virtually devoid of oxygen, killing fish in the river downstream and for a substantial distance below the dams preventing re-establishment of the fish populations. Fearnside (1999) observed that “the virtual total loss of fish from lack of oxygen applies to 145 km at Balbina, while at Tucuruí it applies to 60 km in the dry season on the western side of the river. Also blocked migration reduces the river fish stocks over the full distance between

these dams and the confluences of the rivers with the Amazon: 200 km in the case of Balbina and 500 km in the case of Tucuruí” (Fearnside, 1999). Hence, due to the construction of dams, the entire fishery industry is interrupted and affected, causing the indigenous people severe hardships, since they mostly depend on their fish catch for their household sustenance.

Fearnside (1999) noted that “below the Tucuruí Dam, the fish catches were three times smaller than pre-dam levels beginning in the second year after closing the dam. The fish catch per unit effort, as measured either in kg per trip or kg per fisherman, dropped by about 60 percent, while the number of fishermen also fell dramatically. In addition to declines in fish catches, freshwater shrimp harvests also decreased: local production in the lower Tocantins fell by 66 percent beginning in the second year after closure”.

Effects of dams on river flow

Tahmiscioğlu *et al.* (2004) observed that the main hydraulic effect is the discharge of the collection basin to a stationary reservoir instead of a stream bed. Therefore, an instant change will start downstream; downstream of a stream dries partially or totally whenever the reservoir begins to accumulate water (Tahmiscioğlu *et al.*, 2004). During this temporary or periodically repeating time interval, the hydrological balance can collapse; Irreversible death, disappearance and structural jumps are observed in the water dependent ecosystem (Tahmiscioğlu *et al.*, 2004). Decay of dead flora and fauna in the new coming water body speeds up. Hence, upstream water flows polluted, without oxygen in

deeper parts, dark coloured for a long time and usually smells rotten because of sulphurous hydrogen disposal (Tahmiscioğlu *et al.*, 2004). Although after this process the stream forms a new and healthy ecosystem in this part of it, neither this new aqua balance nor the terrestrial ecosystem and even the sea environment that the stream joins the sea have the chance to enjoy their previous health.

Sedimentation

ERM (2007a) found out that the communities living downstream from the dam site rely upon water from the river for drinking, cooking, washing clothes, watering animals, irrigation and fishing. A significant reduction in the quantity or quality of the water could have a temporary impact on the health and incomes of the communities living downstream (such as Agbelikame South, Abofoakure /Ahomansia, Obaa Akurase, Agbelikame North, Alfred Village, Tainaboi, Mempeasem, Dodovi, Bamboi and others). These impacts may last for the duration of construction. An accumulation of sediments in water bodies ultimately leads to clouding of the water body causing a less desirable environment.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter presents the methodology used in this study. It also gives a description of the research instruments and the sampling and sample size used in the study.

Study Area

The study was conducted at selected communities who were affected by the Bui Hydro Power Project. The Bui Project is located on the Black Volta River at the Bui Gorge, which is at the border of the Bole (Northern Region) and Wenchi (Brong-Ahafo Region) districts in northwestern Ghana, approximately 150 kilometers (km) upstream of Lake Volta. Portions of the Project fall within Bui National Park. All components of the Project lie entirely within Ghana. Existing hydroelectric facilities on the Black Volta River include Akosombo and Kpong hydroelectric projects, located approximately 150 km downstream of the proposed Bui project in southeastern Ghana. in north-western Ghana. The ethnic groups of the area include Akan, Mo, Banda, Ganja, Ewe, and Dargarti and also recent and historical migrants to the area (ERM, 2007a).

Research Design

A research methodology approach defined as academia's established regulatory framework for the collection and evaluation of existent knowledge for the purpose of arriving at, and validating, new knowledge (Sekaran, 2003). A methodology does not simply frame a study but it identifies the research tools and strategies (i.e. resources) that will be employed, and relates their use to specified research aims.

The research design functions to articulate the strategies and tools by and through which empirical data will be collected and analyzed. It additionally serves to connect the research questions to the data and articulate the means by which the research objectives will be satisfied (Punch, 2000). Dawson (2002) stated that the qualitative research methodology explores attitudes, behaviour and experiences through such methods as interviews or focus groups. This study used the qualitative research design. Focus group discussion guide and an interview guide were used to collect data for the study.

Target Population

In the Environmental and Social Impacts Assessments undertaken by the firm Environmental Resources Management in 2007, they identified seven communities which were either going to be completely inundated by the flood that the dam construction will generate or will have part of their farm lands inundated. These communities were Bator, Bui, Dam Site, Brewohodi, Dokokyina, Lucene/Loga and Agbegikro.

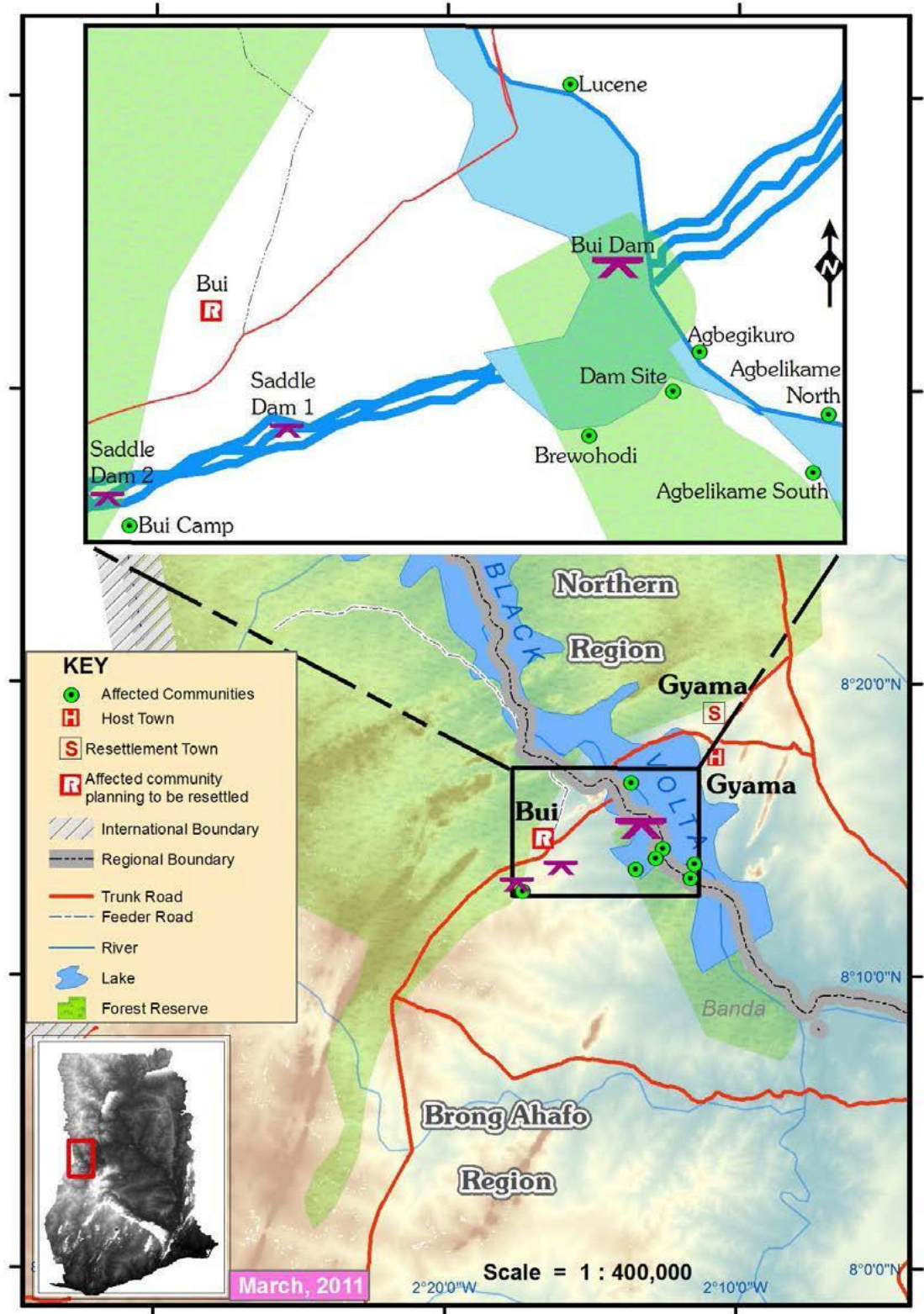


Figure 3: The Bui resettlement area. Source: Mettle (2011).

Three communities; Bator, Bui and Dokokyina, were chosen for the study because of their ease of access and higher population compared to the other communities. The major occupations in these villages are farming, fishing, trading and livestock rearing. These communities have traditional rulers who govern their daily affairs. Bator and Dokokyina were resettled into the Gyaama host town while the people of Bui village were resettled on part of their own indigenous land. The relocated communities still maintained the name of their old communities even though they now lived in new areas.

Sampling techniques and sample size

The three selected villages that were inundated by the Bui dam had a total of 140 households as shown in Table 2. For the purpose of this study 52 households were selected and interviewed using an interview guide. Two focus group interviews were also conducted at Bui and Bator.

Table 1: Households and numbers of people that were inundated or isolated by the Bui Hydropower dam.

Village	Population	Number of Households	Average number of people per household
Bator	670	45	15
Bui	350	40	9
Dokokyina	350	55	6

Source: (Environmental Resource Management, 2007a)

Seventeen (17) households were respectively selected from both Bator and Bui communities, while 18 households were selected from Dokokyina. For the purpose of this study, a household is defined as a group of people who live together and are fed from the same pot. This was aimed at helping obtain a good representation of the population. These households were selected using the systematic random technique. An audience was sought with each household head after which the interview guide was administered. The household heads were specifically targeted because they were deemed to possess the requisite knowledge about the resettlement issues in the community, especially with regard to that particular household.

Sources of data

The study was based on both primary and secondary data. Primary sources of data included field data collected through focus group discussions and individual interviews, whilst secondary data were mainly obtained from internet sources. Primary data was collected between May 2012 and November 2012.

Administration of Interview guide

This study used the systematic random sampling to select respondents for the interview guide administration. An interview guide was administered to 52 household heads. This interview guide was made up of both closed- and open-ended questions (Appendix A). The closed-ended questions were aimed at obtaining direct responses whilst the open-ended questions allowed the participant

to express their personal views. This type of instrument research method was appropriate and in line with the general research methodology of the study.

In selecting the households in each of the four communities the researcher randomly chose a house close to the entrance of the community to begin with. After selecting a starting point or house, the researcher systematically chose every other house or building on the researcher's right side of the street, until there were no more houses. The researcher then starts selecting houses from the other side of the street. In each house, the first household encountered was selected for interview. In each household the head of the family was selected and interviewed using the interview guide. When the head of the household was absent, the next eldest person who knew about the resettlement issues was interviewed. This was done for all the selected communities.

Focus Group Discussions

Focus group discussions (FGD) were used to obtain firsthand information from residents in the study area. Dawson (2002) stated that in a focus group interview a number of people are asked to come together in a group to discuss a certain issue.

Two focus group interviews were held at Bui and Bator using a Focus group interview guide (Appendix B). Each focus group discussion was made up of six participants with the researcher acting as the moderator. Only males took part in the focus group interviews. This was because of the cultural beliefs of the communities which oppose females from participating in such social fora;

however, the participant seemed to have in-depth knowledge about how females had been affected. The participants were the heads or the representatives of the heads of selected households in the focus interview communities.

In each FGD, the participants were asked a series of questions with each individual taking turn to answer the same question. Follow-up questions were asked to obtain detail responses. The moderator had the responsibility of leading the discussion and also made sure that the discussion did not digress. This helped in limiting time wastage and also helped in obtaining responses that were reliable and realistic. Each discussion was recorded using a sound recorder and later transcribed by critically listening to the responses made by participants.



Plate 1: A section of participants during a focus group interview. (Source: author, June, 2012).

Ethical issues and community entry

When the researcher entered each community, the local chief was first visited to conduct the village entry rite. This enabled the researcher to conduct interviews and other activities freely in each community without any hindrance. During the community entry, an audience was sought from the local chieftain and his elders. During these gatherings, the researcher explained the purpose of the study to the elders and the use to which it may be put to. Their permission was sought to enter the community and conduct the study. It was after the permission had been obtained from the chief and elders that the researcher entered the community to conduct the study. When a household was entered, permission was first sought from the household head before any interview was conducted.

Data Analysis

Data collected in this study were analyzed in an inductive manner and with responses grouped under several themes. In a few instances, Microsoft Excel was used to generate charts for closed ended interview guide questions to enable clarity of discussion.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This section of the report presents the results that were obtained through the field work and the discussion of the result in relation to relevant literature.

Participant Information

In the interview guide administered by the author in the three selected survey communities, thus, Bui, Dokokyina and Bator; there were 32 male interviewees representing about 62 percent while the remaining 20 participants or about 38 percent of respondents were females. Twelve participants took part in the focus group discussions, with six participants taking part in each interview. The majority of the interviewees were 41 years or above.

The interviewees had the following professions; 32 percent were farmers, about 21 percent were fishermen, about 17 percent were hunters, about 4 percent were herbalists, about 8 percent were traders, about 11 percent were laborers, 4 percent were retired wildlife officers whilst the remaining 2 percent were unemployed.

From the field study, all 52 interviewees confirmed that they had been resettled; Bui inhabitants had been resettled on an area of their indigenous land that was not affected by the dam whilst inhabitants from Bator and Dokokyina

had been resettled in the designated the host community. About 85 percent of the interviewees had resided in the original communities since their birth before being resettled. The remaining 15 percent of the interviewees had also resided in the former communities for at least four years before resettlement.

Effects of relocation on socio-economic lives of displaced communities

From Figure 5, 35 interviewees representing about 68 percent of respondents stated that relocating into another community had affected their way of life, whilst about 32 percent of respondents or the remaining 17 interviewees mentioned that their social life had not been affected by the resettlement process.

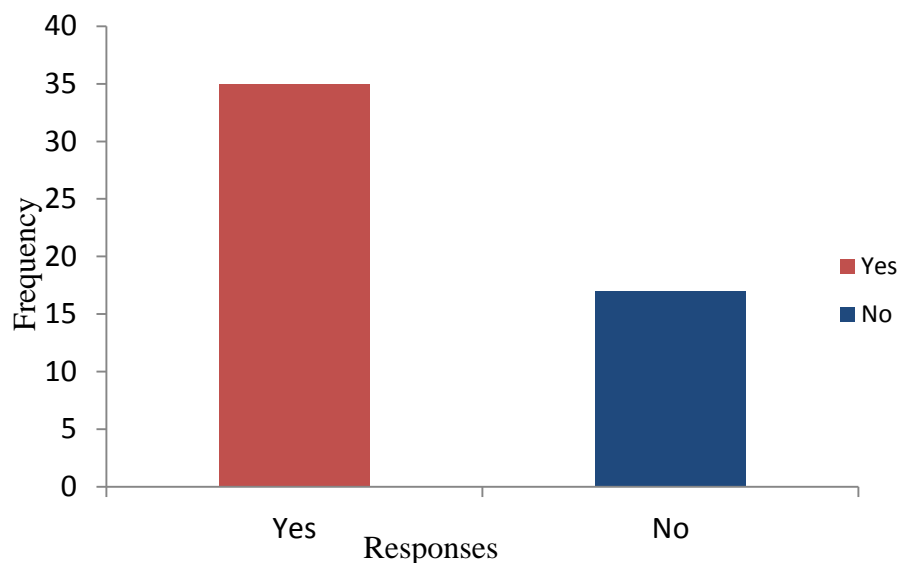


Figure 4: Respondents view on whether resettlement has affected the social life of resettlers. Source: Field Data (July, 2012).

During the focus group discussions, the participants mentioned that most of them had been born and raised in the previous settlement and only knew that

area as their home. Having relocated to the new area to them is like starting life all over again. They contended that it would take them some years to fully adjust to the new surroundings. Also, the participants were in agreement that they would have lost some part of their cultural heritage since their shrines, place of worship and history about their early settlement in the area would no longer exist. A situation one participant described at Bator as preventing their children from really understanding and knowing where they came from.

Furthermore, they stated that comparing the compensation packages with what they have lost in terms of their peace of mind, tranquil lifestyle and their culture, they felt they had been cheated. One elderly participant summed up the group's opinion at Bator when he said the following:

"Sometimes when I wake up in the morning, I feel as if I am lost, because these are new surroundings; everything is new and unfamiliar to me. It usually takes me some minutes for me to recollect that we have been moved to a new area. Sometimes too, it makes me so sad thinking about not being able to go back to where I grew up. Everything I have ever known is up there, everybody I've ever known was up there. As an old man how can I teach my grandchildren when the very things I would have used to teach them are no longer available? No amount of money or anything can replace what we have lost. It is so sad".

The various norms and values of a society are usually developed over a period and when people have to move to go and stay elsewhere, they risk losing all these values. ERM (2007a) cited many of these cultural symbols which these displaced communities would lose. These included cemeteries, various

archaeological sites, and shrines. Settling down and adjusting to new life in the new area may be unavoidably difficult for these communities; however, social interventions by the BPA may help these individuals to adjust to their surroundings.

The Resettlement Planning Framework (RPF) states that part of the Bui Dam objectives is to 'ensure that livelihoods and standards of living are restored and where possible improved', but as yet future livelihoods are still very much an unknown quantity.

One of the interesting sections in the RPF was the following: *'Education levels are very low, which could impact villagers' ability to restore livelihoods if they need to adapt to changing livelihood opportunities.'* The Environmental and Social Management Plan recommends capacity building, awareness raising and workshops (ERM, 2007a, pp.70-72) and it remains to be seen whether these recommendations are implemented as once again, there was no evidence of anything like this being implemented at the time of my field study.

According to the World Commission on Dams (2000), an estimated global total of 40 to 80 million dam settlers have rarely had their livelihoods restored (cited in De Wet, 2006). The sustainable livelihoods literature categorizes the main livelihood strategies which households pursue as livelihood diversification, agricultural intensification, and migration (Ellis, 1999). These are the same strategies used by rural communities during and after crisis in sustaining their livelihoods (Mettle, 2011).

According to the affected people of Bui Village, livelihood

transformations are sure to happen because they have seen that living in a city, they will not be able to continue with their usual way of life (Mettle, 2011). Fishermen have realized that without the river overflowing its banks fish multiplication is almost impossible. The lands offered to affected persons eligible to land compensation have been identified to be of poor quality and the shifting cultivation farming practice of these farmers is no more possible since they now have limited and fixed lands. Furthermore, trade is on hold and picking forest products will not be possible after inundation, since the portions of the Bui forest reserves the people could access will be inundated. A livelihood transformation programme was initially planned by the Bui Power Authority (BPA) and identified as Livelihood Empowerment Programme (LEP).

However, according to Mettle (2011), the implementation process has been changed, and this has had adverse impacts on the lives of the settlers at Gyama New Settlement and the fishermen in all the affected communities. The farmers also had expressed concern over the delay in implementing the LEP since they were not receiving support for their farming activities. An immediate issue about livelihood is the number of years of assistance between the period right after resettlement and the period of stability. The monthly income support, which the people were told by BPA will last for two years before resettlement was changed to one year after resettlement. This coupled with the above issues have adversely affected the lives of the displaced. However, all affected persons are eager to receive assistance to comfortably change their livelihood activities, which they anticipate will change their lives for the better. However, if they are

not assisted their foreseeable future livelihoods will be jeopardy. All affected respondents agreed that their livelihood activity must be restored and enhanced in order to have a positive livelihood transformation.

Challenges with compensation packages

The identified challenges that the resettlers encountered during the construction of the Bui Hydro dam and resettlement phase include lack of involvement of local communities in decision-making and poor information dissemination to indigenes

Lack of Involvement of Local Communities in Decision-Making

From the field survey with the set of interview guide, 29 respondents representing about 56 percent of the overall number of people interviewed, mentioned that they thought they had heard about the involvement of their local leaders in some of the decisions that were taken, while the remaining 44 percent had no knowledge of the involvement of the local community leaders in decision taking during the dam construction and resettlement process.

The participants in the two focus group discussions stated that they were not directly part of the decision-making process. However, the participants mentioned that before the dam construction began, community leaders and some other key persons in the communities were spoken to in the form of focus group discussions for them to present their views on various issues. Hence, some felt that they had been involved in some decision-making process. Some contended

that there was no way the government could have come to them every time to seek their opinions, but they were convinced that the focus group discussions and the interviews they had with the planning authorities earlier on in the dam construction process had been used to inform decisions that were taken.

Poor Information Dissemination to Indigenes

All the 52 individuals interviewed mentioned that they were never given information in any form about the resettlement and dam construction. Also, the participants in the focus group discussions also were of the view that information dissemination could have been handled better. They were of the view that residents were usually not kept abreast with happenings with the construction and resettlement. The following is an extract from the focus group at Bui Village that typifies the opinions of the group:

“During the construction of the dam, they usually did drilling and blasting of the land, as well as other things. We were never made aware that they would be doing these things. Whatever they wanted to do, they came and did it. They never informed us about anything; we only heard and felt the blasting which usually scared the community”.

Section 3.1 of the Resettlement Planning Framework (RPF) published by ERM (2007b) stated that the objectives of the framework included the following:

‘Disclose the measures in the RPF to the local community prior to resettlement and conduct ongoing consultation with affected communities during the resettlement process and afterwards.’

The importance of access to knowledge is significant since there is a concern that the people who will be most affected, or will suffer most, are those people who are least well informed (Mettle, 2011). Hence, the poor information delivery to indigenes may have caused them not to prepare themselves adequately for the final resettlement programme. If information flow to the communities had been handled much more smoothly, many residents would have had a better transition during the resettlement process. The obvious dissatisfaction of some of them may very well be a result of the fact that most affected individuals did not have adequate and pertinent information that would have helped them to prepare and adjust to their new residence.

Satisfaction of resettlers with compensation packages

From the field survey, 63 percent of respondents maintained that they had lost some form of properties (land, building, farms and so on) during the resettlement process, whilst the remaining households (37 percent of respondents) stated that they did not lose any significant or important property. When asked whether they were satisfied with accommodation facilities that have been provided them in their new communities, 35 (67 percent) respondents stated that they were satisfied, whilst the remaining 17 respondents or 33 percent mentioned that they were not satisfied with these accommodations (Figure 5).

Out of the 52 households who mentioned that they had lost properties in the form of land, buildings and so on, about 68 percent stated that they were not compensated with similar value properties and hence felt that they had been

cheated. The remaining 32 percent respondents mentioned that they were satisfied with the compensation package that was given them to replace what they had lost.

In the focus group interviews, it came up that most of those people who had been given accommodations were satisfied with it. This is because the new structures they were compensated with were made up of more durable materials and were more comfortable than their previous abodes. Not every household was given an accommodation. In the focus group discussions, participants mentioned that only those who owned houses were compensated with houses with renters or squatters not given any. They noted that those individuals or households were given some amounts of monies which the authorities thought would cater for the cost of renting new accommodations.

Most resettlers were satisfied with the new accommodation and housing facilities they had received; mainly because the new facility were built with cement blocks and adequate roofing with amenities such as electricity and boreholes as a source of water. These were different from what they had at their former residence where most of the buildings were built with mud and had poor roofing with most houses not having electricity, water and toilet facilities.

However, the majority of respondents (87 percent) were not happy with the other forms of compensation given them with only 13 percent of respondents expressing satisfaction with compensation packages given them by the Bui Dam Resettlement Committee (Figure 5).

In one of the focus group discussions, a participant summed up the group's thought about the compensation packages as follows:

“Looking at the long term problems that the dam would have on us and our children, the accommodations and sometimes the small pieces of land provided some of us are very inadequate. We have lost fertile farmlands, fishing areas, our shrines, cemeteries, houses, our past and many more we cannot be compensated for. The paltry amounts of monies they gave us cannot compensate for all these things we have lost, so we can never be satisfied with any form of compensation given us”.

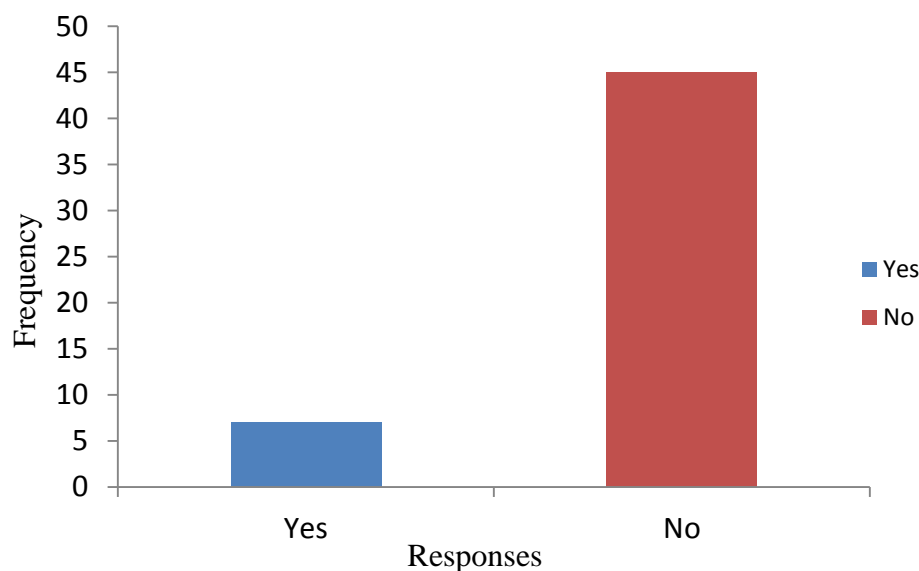


Figure 5: Respondents satisfaction on overall compensation they received

Source: Field data (July, 2012).

The major issues with the compensation had to do with the compensation of indigenes with their family and farm lands commensurate with what they had lost. Out of the 33 respondents who stated that they had lost some land in the process, 22 (68 percent) of them mentioned that they were not satisfied by the size

and quality of size they were compensated with whilst the remaining 11 (32 percent) were of the opinion that they had been adequately compensated for the land they lost.

However, contrary opinions were expressed in the focus group discussions. There was a general agreement in both group discussions that the compensation packages were not adequate. Some mentioned that the land which they were given was not up to what they previously had and hence they were not happy about them. One participant summed up the group's views at Bator as follows;

“When they came and measured our land, they did not tell us that maybe the size of the farm land was this, say eight acres so that when they came to compensate us they would give us eight acres. They never told anybody anything; they just took the lands and gave us something that they felt was okay for us”.

The key legal provisions which are used in relation to acquisition and compensation in Ghana for dam development include: the State Lands Act (1962) Act 125; Administration of Lands Act (1962) Act 123; the Public Conveyance Act 1965 (Act 302) and the Mineral and Mining Act 2006 (Act 703), recently supplemented by the Bui Power Authority Act (2007) Act 740 (BPA Act) (Raschid-Sally *et al.*, 2008). The BPA Act has powers and independent jurisdiction over the Black Volta. The guiding principle on which the general policy for resettlement of the government of Ghana (GOG) is based is that nobody should be made worse off by the implementation of government projects (Raschid-Sally *et al.*, 2008). Thus the main objectives of compensation are to:

1. Replace asset losses.
2. Restore and enhance the livelihood of affected people through land allotment for sustainable agriculture and facilities and opportunities for fishing and other forms of economic activities.
3. Ensure affected people's primary services such as schooling and health care facilities are available.
4. Ensure minimum disruption in their social organization and assist them to develop viable social relations.
5. Ensure affected people share adequately in benefits from projects

Though the BPA had tried to achieve all the above objectives as planned in the report of ERM (2007a), the dissatisfaction of some resettlers with their compensation is inevitable. This is because most compensation packages will not be enough to satisfy the sense of loss that some individuals may feel. However, The BPA could have organized programmes to sensitize the indigenes on the effects of the resettlement in order to cushion and assuage their fears.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study aimed at investigating the socio-economic effects and resettlement challenges associated with the construction of the Bui Hydro Power Dam in Ghana. It used the qualitative research methodology with the use of an interview guide and focus group discussion. Households were sampled using a systematic random technique. The main findings of the study are as follows:

1. Affected communities in the Bui Dam area had been resettled into new areas. Most now have facilities that they did not previously have such as electricity, toilet facilities and potable water, the sense of loss of the heritage has made many of the resettlers discontent and unsatisfied. Their future satisfaction might be dependent on programmes that the Bui Power Authority would undertake to help them cope in their new surroundings.
2. Most resettlers had lost some property or some intrinsic benefits associated with the former area. However, resettlers were quite content with new housing accommodations provided them but were dissatisfied with other forms of compensation they received such as that that relate to land. Major challenges in the resettlement process that were identified include lack of involvement of local rulers in decision-making and poor information dissemination to indigenes.

3. Farmers who lost their lands were not necessarily given similar land sizes. These lands may also not be as fertile as what they originally owned were and thus disrupting their farming activities. Also, because of the change in the flow regime of the Black Volta, many fishers activities had been affected. Access to forest products had also been affected due to inundation. Traders were more likely to be affected positively since the Bui Dam construction had brought migrant workers and other people which would help boost local markets
4. The major problems that were identified by this study relate to the compensation and resettlement process had to do with the poor flow of information to the communities and their lack of involvement in decision making.

Conclusions

The following conclusions were drawn from this study:

1. All the affected communities in the Bui Dam area have been resettled into new communities.
2. Many livelihoods of the resettlers have been affected with activities such as farming and fishing being most affected.
3. Resettlers were displeased with the way and manner information dissemination was handled during the construction process.

Recommendations

Based on the findings and conclusions of the study the following

recommendations are made:

1. The Livelihood empowerment programmes that were initially proposed should be fully instituted to help the resettled communities.
2. The government of Ghana should with urgency institute the recommendations made by Environmental Resources Management (ERM, 2007a; ERM, 2007b) in their Environmental and Social Impact Assessment.
3. Long-term studies should be conducted into how resettlers have been able to cope and survive in the new area. Studies should also be conducted into the effects of the construction on the health of residents especially that which relates to the changes in the flow regime of the Black Volta.
4. Studies should also be conducted to elicit the socio-economic impact of dams in Ghana and its relationship to the health and livelihood of riparian communities.
5. Private organisations, financial institutions, agencies of the United Nations and other development partners of Ghana should provide financial and logistic support to local NGOs and institutions to embark on the empowerment and enlightenment of the affected communities.
6. The decision on projects affecting indigenous people should be guided by their free prior and informed process that can be achieved through formal and informal representatives.

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11. What was included in the overall compensation given to your household?

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12. Are you satisfied with the overall compensation that you have been given?

Yes No

13. If no, why are you not satisfied with the overall compensation given you?

.....

14. Did the Bui Dam Resettlement Committee involve your chiefs or leaders in decisions making during the resettlement process? Yes No

15. Before you were resettled, were you usually informed about when you would be resettled and the type of compensation package that would be given to you?

Yes No

16. Do you know of any project the government has started to help improve the livelihoods of the resettled community? Yes No

17. If yes, please mention them.

18. What other issues have you identified during the resettlement process?

.....

Thank you

Appendix B
Focus group discussion question guide

1. What is the importance of the Bui Dam Project to the area?
2. Is the community going to benefit from the construction of the dam?
3. Were you briefed about the project and the possible consequences to the area before construction began?
4. Were your leaders included in the decision making process during the Resettlement planning stages?
5. Have members of the community experienced diseases were not common around here before the dam construction began?
6. How were land measured for compensation?
7. Were people compensated with the actual land size that they lost?
8. What kinds of compensation were given to resettled people?
9. What were included in the compensation packages?
10. What were some of the challenges you faced during the resettlement process?
11. Has the government started any livelihood enhancement projects in the area?
12. Have the young people benefitted by way of employment from the Dam construction?
13. Are you satisfied with the compensation package given you?
14. Was the government fair in the distribution of the compensation packages?