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UNDERSTANDING THE ECONOMIC, SOCIO-CULTURAL AND ENVIRONMENTAL IMPACTS OF RESETTLEMENT PROJECTS

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ABSTRACT

Many countries embark on resettlement schemes to provide housing, livelihood sources and other services needed to host the displaced population in their new location. Studies from the Global South on resettlement have focused on compensatory issues, with a little emphasis on the overall socio-cultural, economic and environmental impacts. The present study therefore focused on exploring the socio-cultural, economic and environmental impacts of the Bui-Dam Hydroelectric project in five resettled rural communities in Ghana. We used a mixed method to analyze household surveys (N=124) and qualitative in-depth interviews with institutions (N=8). We found that while resettlement projects offer positive benefits, they also yield (unintended) negative impacts on the socio-cultural, economic and environmental aspects of the resettled population. It is therefore important that policymakers carefully review and systematically integrate these concerns into resettlement plans. This could enhance social acceptability of resettlement projects and sustain their benefits while minimizing negative impacts.

KEYWORDS: Resettlement; Resettlement Planning Framework; Social change; Sustainable Development; Sustainable Livelihoods; Ghana

1. INTRODUCTION

Resettlement schemes are increasingly regarded as an important strategy to cater for displaced populations (Tan, 2008). Many countries embark on resettlement schemes to provide housing, livelihood sources and other services (e.g., potable water, schools, health facilities) needed to host the displaced population in their new locations. Despite these good intentions, research has consistently shown that many resettlement schemes could perform poorly due to implementation challenges and/or inadequate knowledge of the socio-cultural context within which livelihood programs are carried out (Abbute, 2003). For instance, it has previously been observed that although displaced persons resulting from large infrastructural projects ought to be prime beneficiaries of such projects (Abbute, 2003), they end up being worse off (Bates, 2002). Other studies have found that displaced or resettled communities suffer major socio-cultural impacts such as loss of identities, loss of artefacts, loss of traditional homes,

loss of ancestral places of worship, loss of grave sites, decline in social cohesion and disregard for chieftaincy issues (Yankson et al., 2018; Alemu, 2015; Naab et al., 2016). Because many people in developing countries attach strong emotional, spiritual and cultural significance to ancestors, long-held heritage and ancient places of living, relocating them from these cultural and spiritually important areas obviously creates problems for their psychosocial wellbeing (Woube, 2005; Akpanodoedehe, 2010).

Other studies have also documented the economic impacts of resettlement. For instance, disruption of economic activities, loss of livelihoods, loss of fertile lands and loss of grazing sites are all negative consequences associated with resettlement (Yankson et al., 2018; Naab et al., 2016). The disruption of economic activities following resettlement obviously has serious adverse effects on all other facets of the lives of affected population. The detrimental economic impacts of resettlement may be accounted for by loss of productive natural assets such as land and rivers which translates into lower incomes, thus compelling resettled population to venture into other livelihood activities such as illegal mining, charcoal production and hunting for wildlife (Divine et al., 2017). Another group of studies provide evidence on the environmental problems posed by resettlement. For instance, some research outputs (e.g., Schmidit-Soltau, 2003; Nakayama, 1998; Tan and Yao, 2006) illustrate unsustainable farming methods, destruction of vegetation due to intensification in agricultural activities, threat to forest resources resulting from overdependence on fuel wood and alterations in water quality as threats to the environment posed by resettlement.

Together, these studies provide important insights into the impacts of resettlement schemes, highlighting potential socio-cultural, economic, and environmental impacts. It is therefore surprising that studies exploring the impacts of resettlement schemes in the Global South have focused on compensatory issues, with a little emphasis on the overall socio-cultural, economic and environmental impacts. Even where attempts were made to explore the socio-cultural, economic and environmental impacts of resettlement schemes, those studies were quite selective – focusing on different aspects of the topic. For instance, some researchers attempted to evaluate the impact of resettlements on economic issues such as livelihood sustainability (e.g., Naab et al., 2016; Yankson et al., 2018), socio-cultural issues (e.g., Akpanodoedehe, 2010; Atindane et al., 2015; Obour et al., 2016), and environmental issues (e.g., Obour et al., 2016; Divine et al., 2017; Tan and Yao, 2006). This narrow approach to assessing program impact may result in a poor understanding of the real effects of resettlement schemes. For instance, studies that focus on only economic issues (e.g., livelihood studies) may fail to provide evidence on socio-cultural issues, although, it is anticipated that the socio-cultural aspects of people are of much significance to the sustainability of planned resettlement programs as indigenous people have strong spiritual and emotional attachments to their traditional and cultural practices (Korah et al., 2019).

This paper explores the socio-cultural, economic and environmental impacts of resettlement on the displaced population. The study focuses on the changes that have emerged following the resettlement

of people from their old location to new places to pave way for the construction of the Bui-Dam in Ghana. Following the power crises in Ghana in 2007, the Government of Ghana, with support from the China Development Bank, cut the sod for the construction of a 400 Megawatts power facility on the Bui River. This intervention was to help generate additional hydroelectric power, with associated benefits such as fishing, irrigation and flood control schemes (Naab et al., 2016). To pave way for the smooth construction of the dam, communities along the river's catchment were displaced. This resulted in the resettlement of communities near the project area. Just like any resettlement scheme involving the movement of a large number of persons from one location to another, the Bui Dam resettlement scheme may have unintended negative impacts. It is therefore important to evaluate its outcomes on various dimensions of human wellbeing, to know if the scheme has yielded the needed impact and/or the adverse effects (Alemu, 2015). The lack of such valuable data may limit our understanding of the holistic impacts of the scheme and lessons needed to (re)design effective future resettlement programs.

By using a comprehensive approach, the study contributes to the literature in a number of ways; first, unlike previous studies from the Global South that focused considerable attention on partial aspects such as livelihood sustainability, the present study provides insights into a wide range of variables. Moreover, the analytical method applied in this study allows us to explore systematically, the mechanism through which different variables affect each other, which previous studies have failed to do. Overall, our study offers useful insights into what issues to integrate in the design and subsequent implementation of resettlement policies from the developing country context. The specific objectives are: a) to explore the changes in livelihoods and incomes following the resettlement b) to explore changes in socio-cultural issues following the resettlement c) to explore the changes in environmental issues following the resettlement.

We draw upon the theory of change to pursue the objectives above. The theory of change looks at the pathway(s) through which a set of activities are linked to various outcomes and impacts within a context (Weiss, 1995; Connell and Kubish, 1998). It has been proposed that to obtain a good understanding of the impact of an intervention, the evaluators need to know the intended outcomes of the intervention, activities implemented in respect of this, and the situational factors that could influence both the implementation and outcomes of the program. By systematically exploring these links and potential influential factors, researchers and/or evaluators strengthen the scientific case for attributing subsequent change in these outcomes to the activities included in the intervention (although this approach may not remove all alternate explanations for a particular outcome). This theory is therefore deemed suitable for the present study.

2. STUDY AREA AND METHODOLOGY

2.1 Description of the Bui Dam Resettlement Project Context

The Government of Ghana in its quest to stabilise the supply of power for domestic and industrial purposes constructed the Bui Dam at the Bui Gorge on the Black Volta in 2009 (Naab et al., 2016). Development of the dam resulted in the complete inundation of several villages and loss of land for some households in other villages. As a result, all villages that were inundated had to be physically resettled, and households that lost lands and other valuable economic assets compensated. The construction of the Bui Dam and the subsequent relocation of communities situated along the Black Volta had resulted in socio-cultural, economic and environmental changes among the displaced population. In all, 7 villages with a total of 859 persons, comprising 180 households were resettled due to the inundation. These were; Agbegikuro, Bator, Brewohodi, Bui Village, Dam Site, Dokokyina and Lucene. The dominant ethnic groups residing in the location were the Bandas, Mos and Ewes.

To provide adequate information about the potential impacts of the project in order to effectively manage expectations and misconceptions regarding the project, stakeholder participation was made an integral component of the resettlement process. Participatory mechanisms included focus group discussions, surveys and local and national level consultations, thus, affording the affected persons the opportunity for their views, needs and interests to be incorporated into the resettlement planning framework. The dominant economic activities displaced were farming and fishing, as these were the primary occupations inhabitants engaged in. Some other livelihood activities such as livestock rearing, tree-cropping, collection of forest products and hunting were also displaced by the resettlement. The resettlement was expected to impact several socio-cultural issues such as loss of identity, loss of traditional places of worship, loss of ancestral homes, breakdown of social support mechanisms and disintegration of communal spirit.

The resettlement and its preparatory activities began in 2008, however, the actual movement of the affected people and communities occurred in 2011. New housing facilities that marked a significant improvement over the old housing typologies were provided. Aside the improvements in housing, other socio-economic facilities such as electricity, potable water, tarred roads, community centre, market stalls, a basic school and a community clinic were provided to support livelihoods and welfare of the people in the new locations.

The Bui Dam Project exhibit similar characteristics with resettlement projects in other countries (see Table 1 for an overview and description of similar Hydroelectric Power Projects). The case studies presented in Table 1 underscores the fact that the Bui Dam Project carried out in Ghana exhibit similarities with other Dam induced projects in other parts of the world. Like some other resettlement projects presented in Table 1, the Bui Dam resettlement project involved the movement of indigenous

people from their ancestral homes to new places of dwelling. Also, similar to other resettlement projects, dominant livelihood activities such as fishing, farming, hunting, forest product collection and animal rearing were lost to the relocation. Lastly, like many other development-induced resettlement projects, several socio-economic amenities such as water, electricity, education, housing and health facilities were provided to make life easier in the new places of abode. As a result, the findings of this study may have significant contextual relevance for other jurisdictions. Also, the policy implications of the study could be extrapolated for other nations.

Table 1 Overview of some Hydroelectric Dam Projects

Name of Project	Location	Description	Source
Three Gorges Dam Project	China	To pave way for the construction of the Three Gorges Dam Project, close to about 4 million people were relocated from areas around China. Like the Bui Dam resettlement project, the Three Gorge Dam Project resulted in the displacement of livelihood activities such as farming and fishing downstream. The resettlement also brought about alterations in socio-cultural activities such as loss of ancestral homes and graveyards, which could be likened to the Bui Dam resettlement project.	(Gouging and Shaojun, 2000)
Pak Mun Dam	Thailand	The construction and subsequent operation of the Pak Mun Dam in 1994 resulted in the displacement of close to about 80,000 people in the North-eastern part of the country. Like the Bui Dam resettlement project in Ghana, among the most vulnerable groups in the relocation were farmers and fishermen whose livelihoods were most seriously affected. Additionally, like the Bui Dam resettlement project in Ghana, participatory mechanisms such as local and/or community level consultations, focus group discussions and surveys were used in involving the affected persons in the resettlement decisions.	(Khorn, 1999)
Turucui Dam	Brazil	The construction of the Turucui Dam culminated in the displacement of huge numbers of people. It is also worthy to note that like the Bui Dam resettlement project in Ghana, the Turucui Dam project reduced fish harvest and thus, collapsed the economy that was fish-dependent. This resulted in negative social and	(World Commission on Dams, 2000)

		environmental practices. Also, basic and improved social and economic amenities such as water, electricity, health, educational and surfaced roads were provided in the new location, which makes it similar to the Bui Dam resettlement project in Ghana.	
Aswan Dam	Egypt	The relocation was to pave way for the construction of the Aswan Dam in Egypt. More than 100,000 people were relocated around the Dam site. Just like the Bui Dam resettlement project, the livelihoods of inhabitants and their socio-cultural practices were distorted due to the relocation. Also, like the Bui Dam resettlement project in Ghana, participatory mechanisms such as local level consultations and focus group discussions were employed to incorporate the views, aspirations and interests of the affected households and communities into the resettlement.	(Fahim, 1981).

2.2 Study Area

The study was carried out in five resettled rural communities: Bator, Bui Village, Dam Site, Brewohodi and Dokokyina in the Banda District of the Bono Region of Ghana (Figure 1). These communities were selected because the resettlement program was implemented there. Because these people are based in the resettled communities, they are better placed to provide valuable information based on their experiences and knowledge on the resettlement scheme. Although, Lucene and Agbegikuro communities in the Bole District were part of the resettled communities, the current study did not include those communities as we focused on resettled communities in the Banda District (due to resource constraints).

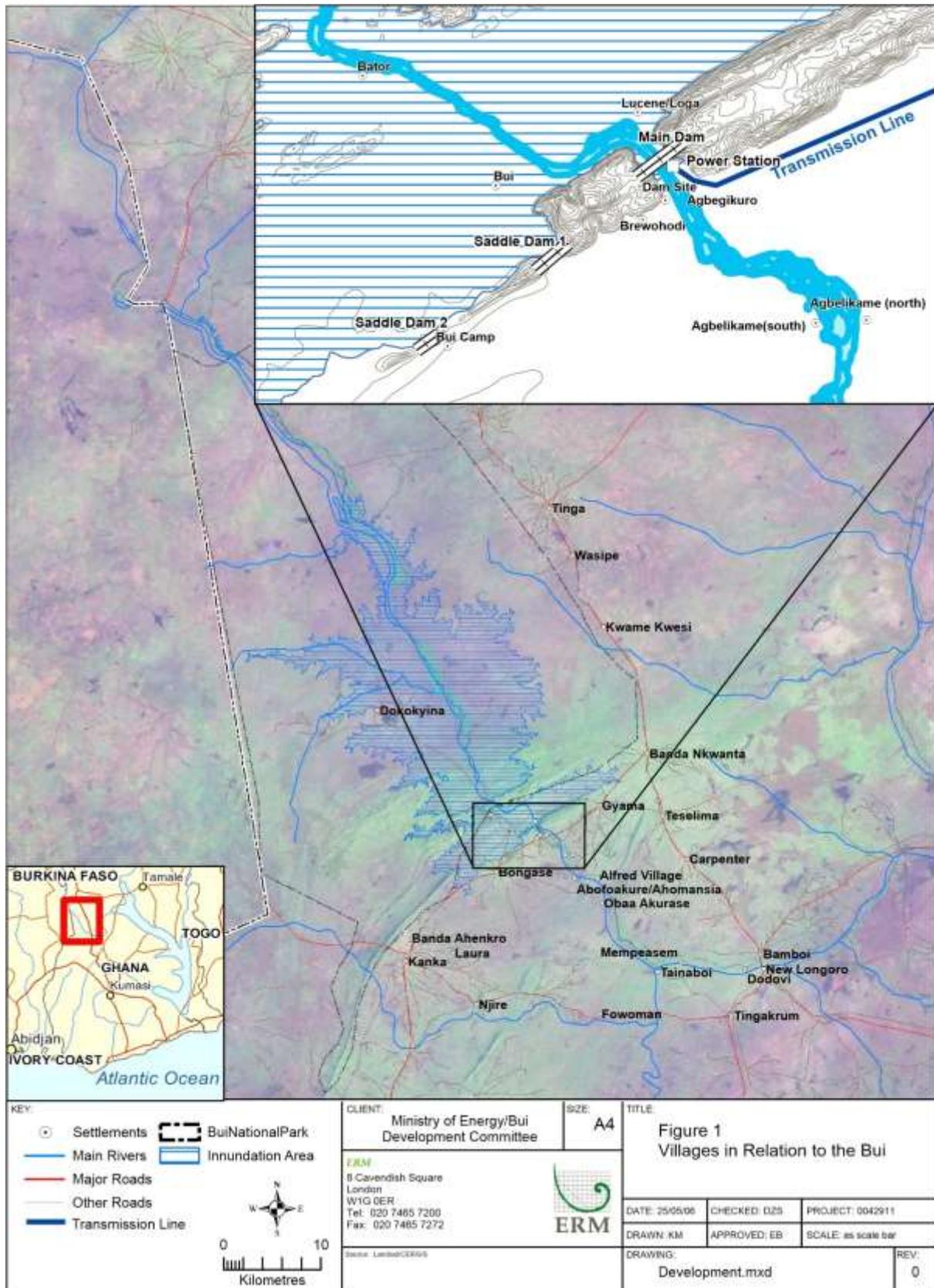
The Banda District lies within latitudes 7° and 8° 45` North and longitudes 2° 52` and 0° 28` West. The District shares boundaries with Bole District to the North, Tain District to the South, La Cote D'Ivoire to the East and Kintampo-South District to the West (Banda District Assembly, 2018). The Banda District covers approximately 2,298.3 square kilometres out of the region's total of 39,558 square kilometres (Banda District Assembly, 2018).

The Black Volta River serves the communities in the District (Banda District Assembly, 2018). The Black Volta River flows throughout the year and as a result, the second largest hydroelectric dam (the

Bui Dam) in Ghana has been constructed on it – supporting the national grid with about 400 megawatt (MW) of power (Banda District Assembly, 2018).

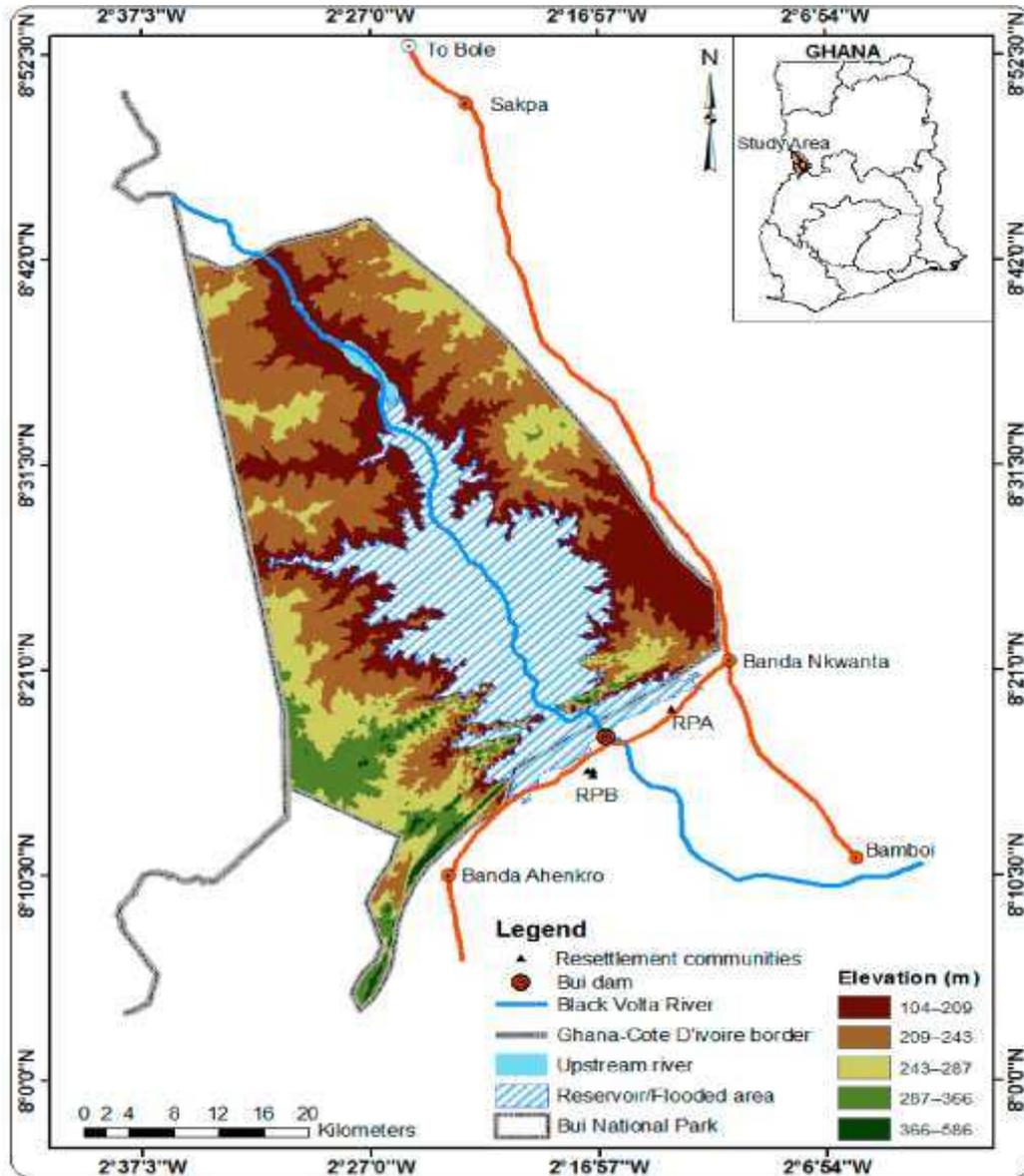
The total human population of the District is estimated at 20,282, with males and females representing 50.8% and 49.2% respectively (Banda District Assembly, 2018). The District has an annual population growth rate of 2.6%. Communal spirit among the major ethnic group, the Banda people, is very high. The people are highly motivated and willing to partake in community development initiatives as reported by the district authorities. The popular festival celebrated in the District is Fofie, usually observed in the District Capital, Banda Ahenkro. Food crop production, fishing and animal rearing employ almost 85% of the active labour force. Major food crops cultivated include yam, cassava, pepper, groundnut, cowpea and plantain. Major livestock kept include cows, goats, sheep and poultry.

Figure 1: Map of the Banda District



Source: Adapted from Environmental Resource Management (ERM), 2007.

Figure 2: Map of the Resettled Communities



Source: Adopted from Mortey et al., 2017.

2.3 Research approach and data collection

A mixed method design was adopted for the study given that the approach helps to combine the benefits of both quantitative and qualitative research approaches. Therefore, it is deemed appropriate for investigating complex social issues such as resettlement and livelihood dynamics (Simpson, 2007; Prowse, 2010; Creswell and Plano Clark, 2007; Creswell, 2003). The exploratory nature of the present study also allows us to observe rather than predict relationships, as we sought to explore many variables beyond what is previously reported in the literature. A questionnaire was administered in the resettled

communities through a survey. We note that the first draft of the questionnaire was reviewed by senior academics who provided feedback on the wording and structure of the survey instrument. The questionnaire focused on potential changes in economic, socio-cultural issues, environmental and general living conditions following the resettlement. The questionnaire also covered socio-demographic characteristics such as age, gender, educational attainment and sector of employment (Appendix 1).

Data obtained from the Bui Power Authority revealed that there was a total of 180 households in the new location. However, due to resource constraint, the study randomly selected and focused on 124 households. The random selection of households for the survey was made relatively easier as the Bui Power Authority already had compiled a list of the households in the new location. All 180 housing units in the research area were assigned a unique “house number” from 1 to 180. These unique numbers were written on pieces of card boards and placed in a box. The numbered list was randomly hand-picked by the researchers until 124 households were obtained, thus, serving subsequently as the units of enquiry for the study. We focused on interviewing household heads as the heads of households often represent the households and also make important decisions for them (Ampofo and Boateng, 2007). The survey recorded a response rate of 100% as all household heads that were missed were contacted again on different dates.

Of the 124 households interviewed from the five resettled communities, the majority fall within the working age range, with a median age of 47 years and an average of 46.8 years (Table 1). Information in Table 1 shows that survey participants were predominantly males. This is not surprising as it is common to find males as heads of households in Ghana (Ampofo and Boateng, 2007). In situations where females acted as household heads, they were either divorced, separated or widowed. The Banda and the Mo ethnic groups appear to be the predominant ones and the original natives of the land. On the other hand, Ewes, Dagartis, Dagombas and Sisaalas are migrants that have moved from other parts of the country to carry out farming and fishing in the area. Survey participants were religious, with Christians making up 75.8%. It is therefore not surprising that the Resettlement Planning Framework made provisions for religious centers or places of worship for the different religious groups to enhance peaceful and harmonious living in their new settlements. Survey participants had a relatively lower educational attainment as over 90% of participants had received up to primary education or no form of formal education (Table 2).

Table 2: Socio-demographic Characteristics of Survey Respondents

Variable	Group	Percentage
Age	15-24	1.61
	25-34	12.09
	35-44	32.28
	45-54	30.64
	55-64	12.09
	65+	11.29
Gender	Males	60.5
	Females	39.5
Ethnicity	Banda	30.6
	Dagarti	3.2
	Dagomba	4.2
	Ewe	30.6
	Mo	26.6
	Sisaala	4.8
Religion	Christians	75.8
	Muslims	19.4
	Traditionalist	4.8
Educational Attainment	No qualification	50
	JHS/SHS	49.2
	Diploma or Higher	0.8

Note: N = 124.

Aside household surveys, we also recruited stakeholders from the following institutions: Traditional Authorities in each of the resettled communities, District Assembly, Local Assembly Members in each community and key informants such as opinion leaders and heads of community associations in the resettled communities. These stakeholders were interviewed because of their knowledge, experience and interest in the resettlement program, thus making their views relevant for the present study. These interviews could offer deeper insights and may serve as a means of triangulating the views of households. Moreover, these institutional interviews could help us understand whether and how social position may influence perceptions of an intervention. The script used for interviews focused on the resettlement process, issues considered during the design of the scheme and existing impacts (see Appendix 2). Interviews lasted an average of 25 minutes. An intelligent verbatim technique was adopted to transcribe the recorded interviews, allowing us to remove fillers and irrelevant statements.

2.4 Analytical methods

The study adopted the mixed method approach to analyze both quantitative and qualitative data. The quantitative data was analyzed with the aid of SPSS software (Version 24). Both descriptive and inferential analysis were employed. Data exploration began with normality test to determine the

distribution of scale data as this was necessary to help us decide which analytical methods to apply (i.e., parametric or non-parametric). It was revealed that all scale variables such as age, income among others, were non-normal based on the Kolmogorov statistic obtained (Appendix 3). Following this, the median was deemed reliable than the mean and was therefore used.

Because age, income, household size and number of dependants were scale data, we had to reclassify the data into categorical or nominal data (i.e., two groups) for subgroup analysis. This was aimed at helping us explore relationships between groups and how these were related to other variables (e.g., satisfaction with the resettlement process). To do this, we used the median value for each of the variables as a benchmark to split the data into two groups (lower and upper categories). Specifically, age was categorised into two groups: up to the median age (47 years) = 1; those from median age upwards = 2; household size: up to the median value (7 persons) = 1; above median value = 2; number of dependants in household: up to the median value (5 persons) = 1; above median value = 2; income before relocation: up to the median value (GHS750.00) = 1; above median value = 2; and income after relocation: up to the median value (GHS200.00) = 1; above median value = 2. Inferential analysis such as Chi square test of independence and correlations were employed to establish relationships between variables. Because the data was non-normally distributed (see Appendix 3), we relied on non-parametric tests (e.g., Spearman's rank correlation).

With the qualitative interviews, we applied content analysis to examine the interview transcripts. Each interview transcript was examined through hand coding. First, all sections of the transcript were scanned through to have a fair idea of its content. Next, we read each transcript carefully and coded relevant sentences. Following this, the connections between the coded sections were grouped into appropriate themes. To enhance accuracy and validity of the results, the process was repeated until the results became stable.

3. RESULTS

3.1 Economic impacts

A key objective of the research was to establish whether there have been changes in livelihoods and incomes of the affected persons following the resettlement. In this section, we present results on livelihoods after which findings regarding income are presented.

3.1.1 Livelihoods

To establish changes in livelihoods, the research identified the main livelihood activities undertaken by the respondents in the previous location and in the new location. Table 3 shows that the predominant economic activity undertaken before the resettlement was farming (66.2% of household heads).

However, following resettlement of the displaced people, farmers were compelled to shift from their main occupation to take up other livelihood activities (such as charcoal production and hunting).

To establish the extent to which the resettlement had affected the incomes of the resettled households, we explored the monthly incomes earned before and after the relocation. From the survey data collected, the median monthly income obtained was GHS750.00 (average monthly income of GHS 950.48) prior to the resettlement. However, following the resettlement, the median monthly income earned by the respondents had declined to GHS200.00 (mean = GHS217.50). The substantial reduction in incomes was corroborated by a Local Assembly Member:

“Generally, I think the conditions in the previous location differs dramatically from what we see here. At the original settlement, we had unrestricted access to a range of natural and/or productive assets (land, forest and water resources) which boosted incomes. At the present location, the main cash crop (cashew) is yet to mature and hence we get very little incomes. This might be responsible for the significant drop in incomes at the present location”

Another comment from a male household head from the Dokokyina community supports the finding on income decline:

“We were able to cater for the educational and health needs of the entire household at the original settlement because of good land and water bodies. The vast acreage of cashew plantation provided incomes that were sufficient for a decent living. The same situation can't be said after the resettlement as our main cash crop (cashew) are in their early stages of maturation.”

It was therefore not surprising that 96% of the households interviewed evaluated incomes before the resettlement to be either fairly or extremely adequate while 75.8% judged incomes after the resettlement to be extremely low.

Table 3 Livelihood activities carried out before and after the resettlement.

Livelihood Activity	Before Resettlement (%)	After Resettlement (%)
Farming	66.2	38.2
Fishing	12.9	1.6
Fish sales	17.7	0
Pot making	0.8	0
Trading	2.4	14.8
Hunting	0	14.8
Charcoal production	0	26.4
Unemployed	0	4.2
Total	100	100

Source: Field Survey, 2019.

NOTE: It is possible that some community members were unemployed at the time of the study. Therefore, the result that there was no unemployed person among the survey respondents might be

because the study focused solely on household heads whilst excluding other members of the working age group. Similarly, it is possible that some other household members were engaged in hunting and charcoal production before the resettlement but were not household heads.

3.2 Changes in social and cultural aspects

The second objective of the research was to ascertain the social and cultural changes in the lives of the affected persons. The study identified a range of socio-cultural issues that were impacted by the resettlement scheme. Prominent among these issues were communal spirit and support networks, access to lands, customs and traditions, chieftaincy, marriage and religious practices. Next, we present the results for each of the issues listed.

3.2.1 Communal Spirit and Support Networks

The survey established that there was a tremendous decline in support networks and this in turn affected social cohesion and development initiatives. Survey respondents indicated that due to economic hardships resulting from the loss of productive economic assets, people were no longer able to support one another during difficult times. Moreover, there were views to suggest that people's willingness to attend community meetings for self-help community development initiatives had reduced. It was perceived that the reduced social capital and willingness to support community development initiatives had contributed to stagnated growth in the communities' development. The following statements from survey participants and institutional interviewees illustrate some of these concerns:

“We are no longer able to seek financial and social support from each other due to the harsh living conditions here” (Male respondent in Dokokyina community).

“We are no longer able to mobilise community members to undertake self-help community development initiatives or deliberate on pertinent development issues. Basically, I must say the difficulty with which community members find to attend communal durbars and participate in development issues has been the bane of the present location” (The chief in Bator community).

3.2.2 Access to Land

It was suggested that following the resettlement, the pattern of ownership, access to and use of land had changed greatly. For example, a chief in one of the affected communities highlighted that:

“At the original location, we (traditional rulers) exercised jurisdiction over all the lands in our communities. However, following the movement here, we have not been assigned any lands to exercise our custodial role over due to the stereotype that we are “strangers”. In light of this, we have been restricted in owning lands in the new location and has thus constrained our capacities to offer lands to our subjects, to undertake productive economic activities” (The chief in the Bui community).

This claim was corroborated by a household head in the Bui Village:

“The lands in the present location are owned by the host population and as such we have restricted access. Our native chiefs exercise no control over these lands and has made it extremely cumbersome to hold the right to an arable land for farming purposes” (A female respondent in the Bui Village).

Interview participants added that inhabitants of the host communities were predominantly farmers whose activities had contributed to a decline in soil fertility due to intensive farm management practices (i.e., the continuous cultivation of the land). This implied that there was limited fertile land which was further fraught with access challenges as the host population claimed ownership of the lands (believing that the new settlers were “strangers” and could not have any legitimate claim over the land). This ultimately made it challenging for newly settled people to access land for cultivation. An interviewee noted that this situation had contributed to land fragmentation and litigation:

“We did not litigate over lands at the old location. But in the present location, we (even) quarrel with our own brothers and sisters due to the limited lands and the difficulty in accessing it. Recently, someone from the host community even seized my cashew farm because he claimed to be the rightful owner of the land” (A male respondent in the Dokokyina Village).

As these views were held by both men and women, it was unclear whether the issue of land access and ownership was gendered.

3.2.3 Customs and Traditions

There were perceived changes regarding customs, rituals, traditions and practices. For example, some institutional interviewees mentioned that critical elements of their cultural practises such as dancing, drumming, observation of sacred days and puberty rites were no longer practised in the new location:

“Our movement from the original settlement to the new location has halted the continuation of very salient aspects of our culture. This is so because of the declining regard for our norms and long-held customary practises. Our sacred days, festivals, puberty rites and dancing have been relegated to the background. I am quite optimistic that the predicaments confronted in the new location may be as a result of disregard for these critical aspects of our culture. People say this is a new ‘London’ so they don’t care about old colloquial things” (The chief in the Bator community).

These customary practices were an integral part of the lives of the affected population as it provided them a unique identity from other cultures and served as important sources of entertainment. Such a decline is therefore an important concern to the inhabitants, particularly the traditional rulers.

3.2.4 Chieftaincy

It was reported that the authority, power and respect that characterised chieftaincy institution had declined. In the Ghanaian context, the legitimacy of chiefs rest with their access to and control over

productive resources like land. However, interview participants noted that the relocation had rendered all the chiefs in the affected communities landless and their custodial role and symbols of authority were thus compromised. Some interviewees (even) attribute the disregard for some crucial aspects of their culture – such as dancing, drumming, puberty rites and observation of sacred days – to the less recognition accorded chiefs in the area. This claim is reflected in the following statements from a household head and a traditional ruler:

“Chiefs are no longer revered because they lack legitimacy to make them powerful. The chiefs have no lands in the present location and this has resulted in disregard for the traditional authorities” (A male respondent in the Bui village).

“Our authority as native chiefs with jurisdiction over our subjects has declined. We are not able to settle disputes and organize our members to undertake community development activities as well as deliberating on important issues, all practices that were observed in the original location. This is, in part, due to the less recognition accorded the traditional authorities in the present location emanating from our lack of jurisdiction over productive assets, typically, lands” (The chief in the Bator community).

3.2.5 Marriage

Marriage was also cited as another integral socio-cultural dimension that had experienced a dramatic change. From the responses gathered, the people had a strong cultural and emotional attachment to marital unions as they believed that marriages marked the transition of a person from childhood to man/womanhood – and also provided the avenue to procreate and to sustain the human race. It was reported that economic hardships accompanying the movement had contributed to some men being unable to pay the bride price before marital unions are sealed. Some interviewees indicated that this had a cascading effect on the frequency and excitements with which marriages were held:

“Our up and coming men are unable to seal marital unions due to the unfavourable financial circumstances we find ourselves. The harsh economic conditions inhibit them from mobilizing the required financial resources to pay for the bride price before marriage. In the last 8 months, I have not heard or seen anyone get married, a very unusual experience in the old location” (A male respondent in the Dokokyina community).

Some interview participants noted that owing to the loss of major productive assets after the relocation, some men were rendered financially handicapped and were no longer capable of taking care of the basic needs of their immediate families. An institutional interviewee argued that this could be one of the key reasons for divorces in their new locations:

“As key opinion leaders and agents of conflict resolution in the locality, there has been an unprecedented reported incidence of marital breakdowns. I must be quick to emphasize that marital breakdowns were very rare in the old location. I am quite sure that this development is partly due to men’s inability to fulfil their home-keeping responsibilities in terms of providing the basic needs of the household” (A Local Assembly member).

Another critical marital practice that had been altered by the relocation and deserves mentioning is polygamy. Polygamy was regarded as acceptable in the cultural context of the people and was a show of prestige and dominance by males. However, the practice could no longer be sustained at the present location attributable to the harsh living conditions. Similarly, the love, care, trust and respect that prevailed over marriages were reported to have vanished. A respondent in the Bator village said this:

“Due to the difficulty with earning a decent living and catering for our dependents, we are unable to marry multiple women, a development that departs from our customs and traditions. The sharp decline in incomes in the present location may also account for the frequent marital breakdowns and the loss of some key elements in marriages such as love, trust and respect” (A male respondent in the Bator Village).

3.2.6 Religious Practices

With regards to religious practices, key leaders of the Christian and Islamic faiths reported that the relocation resulted in a decline in some religious practices. This is attributed to the reasonably long time it took for the faith-based organizations to obtain decent places of worship. The respondents reported further that they had to mobilize financial resources on their own, to provide new places of worship and had resultant effect on religious virtues. A respondent in Bator highlighted the following;

“I believe the recent rise in youth indiscipline, disrespect for elders, theft, promiscuity and other related forms of violence in the community may be due in part to a fall in religious practices” (A female respondent in the Bator Community).

However, some of the respondents were of the view that the relocation had not altered their religious activities. They indicted further, that, although it took a reasonably long time for new places of worship to be provided, this delay did not impact their religious practice in any manner. This is illustrated by the statement of a religious leader in the Bui village who suggested the following;

“God is everywhere and one’s ability to worship his maker does not necessarily depend on his physical proximity to or availability of a place of worship” (A male respondent in the Bui village).

We asked survey participants for their views on whether these social-cultural issues were considered in the resettlement scheme or not. The majority (51.6%) believed that the resettlement planning framework considered the socio-cultural issues explored in the study. Results of a Chi square test of independence revealed that education and income were related to perceptions regarding whether social-cultural issues were considered in the resettlement scheme or not. Specifically, we found that household heads who had no formal education were more likely to have reported that socio-cultural issues were considered in the scheme than household heads with some form of formal education: χ^2 (n = 124, df = 1) = 12.917, $p < 0.001$. Similarly, household heads earning up to GHS200 were more likely to have reported that socio-cultural issues were considered in the scheme than household heads with higher earnings: χ^2 (n

= 124, df = 1) = 8.144, $p < 0.005$. However, there was no evidence to support the potential role of age, employment, marital status and household size (see Appendix 4).

3.3 Environmental Impacts

Although the research sought to establish whether there have been environmental problems resulting from the implementation of the resettlement scheme, none of the household interviewees appeared to have concerns regarding the state of the environment in the present location. However, officials of the Banda District Assembly expressed concerns about the deteriorating state of the environment in the new location. The following statement from a key stakeholder of the District Assembly illustrates this:

“The loss of productive assets such as lands has compelled the farmers and fisher folks to venture into charcoal production due to the availability of abundant tree species in the catchment area. However, I am worried that an intensification in this activity may further deteriorate the quality of the environment and thus, transform the area into a desert landscape”
(Environmental Health Officer of the District Assembly).

It is therefore surprising that no household interview participant mentioned this. Of course, this lack of environmental concern may be due to people’s priority for socio-economic issues; the need to survive – even if that means destroying forest and other environmental resources. This could also be attributed to a lack of environmental awareness or consciousness.

3.4 Perceptions of Living Conditions

The research sought to establish, from the interview participants, the living conditions before and after the resettlement. Survey results show that, the majority (86.3%) indicated that they were better off in the old location. The minority (13.7%) however were of the view that living conditions was much more enhanced in the new settlement as compared to the previous location. On the part of those who perceived that living conditions was better in the old location, their motivations were captured in three main themes: first, they believed that there was unrestricted access to productive assets (land and water resources) at the original location. Second, there was a relatively high income earned from their predominant economic activities and, lastly, there was a strong communal spirit that distinguished them as a community. On the contrary, the minority (13.7%) who reported that living conditions in the present location is much more enhanced attributed it to the improvement in socio-economic and cultural amenities provided. For example, the respondents cited the provision of decent housing, potable water sources, schools, community centres, improvement in road conditions, provision of a Community-Based Health Planning Service and electricity as services that had made them better off. Put together, these critical socio-economic amenities had improved their wellbeing and they were optimistic that the facilities will facilitate the provision of decent jobs and living in the locality.

4. DISCUSSION

The goal of this paper was to explore the economic, socio-cultural and environmental impacts of resettlement projects, following relocation of displaced populations. To pursue this goal, we carried out household surveys and in-depth interviews with relevant institutions. In this section, we present potential limitations of the study after which we discuss the key findings. First, being a self-reported study, there is the likelihood that survey respondents could exaggerate or underreport issues. For instance, survey respondents could over-report negative experiences associated with the resettlement and/or under-report the benefits of the resettlement scheme. Moreover, memory bias could contribute to some respondents not being able to accurately remember and/or to report their experiences about the resettlement (after eight years of relocation). Another limitation relates to data analysis. For instance, the quantitative analytical techniques applied in this study were either descriptive in nature or limited to exploring associations, thus unable to establish causality and the complex interactions among different variables. Therefore, to overcome this limitation and to unpack the complex interaction among variables, it is important that future studies apply multivariate statistical techniques such as conditional process modelling.

We were unable to apply these advanced analytical techniques due to the limited sample size. Nonetheless, we have attempted to address aspects of this limitation by complementing the quantitative results with qualitative data, helping to provide content-rich data for the research (Marshal, 1996; Sieber, 1973). Another limitation of the research relates to the failure of the Bui Power Authority (BPA) and officials of the Bui National Park (BNP) to respond to the interview questionnaire (after being contacted). The BPA was responsible for the overall management and implementation of the resettlement whilst the BNP was in charge of the management of the Bui Park. Therefore, their views, opinions and perspectives could have provided an important source of data to triangulate responses from households as well as providing further insights into the management, implementation and compensatory issues of the resettlement. Because the views of the BPA and BNP were not captured, this could have potentially impacted the results of the study. Notwithstanding this limitation, the in-depth interviews held with Assembly Members, Traditional Authorities, District Assembly and other key informants in the study communities provided rich data for the present study.

4.1 Changes in Livelihoods and Incomes

In relation to the first objective, we found that, following the relocation and the loss of productive assets, there was a sharp decline in the predominant economic activities – farming– as some household heads moved to charcoal production and hunting. This finding is consistent with previous studies (e.g. Obour et al., 2016; Yankson et al., 2018; Arnall et al., 2013; Bui and Schreinemachers, 2011; Chimhowu,

2002; Maruyama, 2003), whose findings suggest that resettlement constrains access to natural and productive assets, thus compelling resettled households to shift from their dominant occupations to adopt other livelihood strategies in their new locations. Other studies have suggested that resettlement may distort the social fabric of communities and further disrupt occupations of the indigenes (Ayanda, 1988; Cernea, 1991; Olawepo, 2008).

With regards to incomes before and after resettlement, result shows a sharp decline. The median monthly income earned before resettlement was GHS750.00 (average monthly income of GHS 950.48) while the median income after resettlement was GHS200.00 (mean = GHS217.50). Institutional interviewees and survey participants ascribe the sharp decline in incomes to loss of productive assets such as land and water resources. Previous studies have suggested that dam-induced displacement results in significant decline in income of the affected populations (Obour et al., 2016; Randell, 2016). Further evidence is provided by Mburugu (1994) who found that agricultural income of displaced households dropped sharply by 89%. This reinforces the point that most rural dwellers in developing countries are very much dependent on available productive assets such as land and water resources (Yankson et al., 2018). In this light, relocating them further away from these productive resources undermines their productive capacities, thus, reducing their incomes and exposing them to the risk of falling into poverty. It was therefore not surprising that households displaced by the dam-project in the Bui catchment area experienced huge losses in terms of productive assets and suffered a reduction in household income (Obour et al., 2016; Hwang et al., 2011; Wilmsen et al., 2011). On this basis, the study recommends the provision of skill-training in artisanal works such as metal fabrication, carpentry and mason. This could provide a more sustainable source of income for displaced households, thus, helping in livelihood restoration. Also, before resettlement decisions are made, the relevant authorities must make provisions for adequate productive assets such as land and forest resources, to facilitate displaced population's access to productive environmental resources. This might imply that future resettlement schemes need to consider the availability of vast productive assets in the new locations to guarantee affected persons' access to these resources.

4.2 Changes in Socio-cultural issues

Consistent with the literature (e.g. Yankson et al., 2018; Agba et al., 2010; Cernea, 2000; Abdulai and Fynn, 2018), we found that the resettlement project had resulted in changes in several socio-cultural aspects of the communities. One interesting finding is the perceived decline in the power and authority of chiefs in the resettled communities. It was reported that the resettlement led to loss of land and this rendered the chiefs powerless. The decline in chiefs' power and authority has implications for development. In Ghana, chiefs are the custodians of natural resources and exercise authority over their subjects. Chiefs have a crucial role in managing natural resources and are responsible for mobilizing community members towards development initiatives and are also tasked with the responsibility to

settle disputes among their subjects (where necessary). Therefore, the reduced power of the chiefs has the tendency to undermine their influence in mobilizing community members to undertake development activities, enforcing norms and in their capacity to settle disputes and conflicts (Dzivenu, 2008; Boafo-Arthur, 2003). Also, the potential failure of chiefs to settle disputes could have a cascading effect on peace and unity – critical factors required to foster development.

Another important finding was that the excitement and frequency with which marital unions were held had declined. As expounded in the theory of change, activities are linked to various outcomes and impacts within a context (Weiss, 1995). In line with the postulations of the theory of change, we observed that indeed outcomes are related to a set of interconnected activities. For instance, it was revealed that the decline in the excitement and frequency with which marital unions were held was attributed to a reduction in incomes which was also caused by the loss of productive assets. That is, a significant proportion of men had lost productive assets, which contributed to income losses, thus, making them less likely to afford ‘bride price’ – a major requirement for the contraction of marriages in Ghana and some parts of Africa (Otite, 1991; Kumekpor, 1975). In other cases, men lost their authority over their wives as they were unable to meet the financial needs of their families, consequently contributing to marital disputes and in some cases, divorces.

It is also interesting to note that some interview participants claim that the relocation had resulted in a fall in religious activities and faith. Some of the respondents were of the view that because it took a reasonably long time (4 years) to get a place of worship, several people departed from their religious faiths and this affected moral virtues such as obedience, trust, loyalty and chastity among the youth. However, some of the respondents also held a contrary view, stating that ‘God was everywhere’ and one’s inability to get a place to worship was not enough reason for the sharp decline in religious practices. These respondents were of the view that some other contextual factors may have caused the decline in religious faith and not necessarily the relatively longer time it took for a decent place of worship to be provided. It is quite clear from the results that views on religious issues varied greatly. It is also important to mention that there seem to be a consensus on the value of religion in instilling positive virtues such as love, respect, trust and honesty (Radcliffe-Brown, 1945; Ebstyn King, 2003). Therefore, while we encourage future studies to explore how resettlements could influence religious faiths and how this could influence personal and community development, it is important that resettlement projects integrate religious issues in the resettlement planning frameworks to enhance the continuation of key religious practices and virtues that are critical for development (e.g., love, social support, unity). Future studies could also focus on exploring the socio-demographic variables that potentially shape religious views. This could help to provide evidence that is crucial for designing more targeted policies.

4.3 Changes in Environmental issues

The last objective of this study was to establish potential environmental impacts of the resettlement project. It appeared that no household head expressed concern about the state of the environment, although, some institutional interviewees reflected on potential environmental problems due to the predominant livelihood activities in the new location (farming, hunting and charcoal production). It was perceived that these new livelihood activities were leaving an indelible negative footprint on the environment as the persistent felling of trees for charcoal production was resulting in the loss of trees and thus, gradually transforming the area into a 'desert' landscape. Consistent with the postulation of the theory of change, this was believed to have a consequent effect on climate change and food security (in the long term). Hunting, on the other hand, may result in the loss of rare animal species if practical measures are not operationalised to curtail the rate at which wildlife is being poached for economic reasons. These speculations are in line with findings of previous empirical work. For instance, Nabhan et al., (1991) provides an account of how resettlement results in decrease in biodiversity in protected areas following the quest of affected households to make a living through poaching. Schmidt-Soltau (2003) observed that there could be a number of biological risks directly related to displacement as people intensify economic activities that are not environmentally sound. Cernea (2000) posits further that, environmental degradation, including destruction of farmlands and pollution of watercourses may be associated with resettlement. Also, unsustainable farming practices such as slash and burn and subsistence hunting and gathering may have negative impacts on the environment. The lack of environmental concerns among the survey respondents may imply a prioritization of economic issues over the environment (Burns and LeMoyné, 2001). Similarly, it could be linked to a lack of environmental consciousness on the part of the resettled population. Therefore, it is critical for the District Assembly and the Traditional authorities to strengthen their efforts in terms of organizing environmental awareness campaigns in the resettled communities, while also building inhabitants' capacity to engage in sustainable alternative livelihood activities. This could help to achieve positive social-cultural and economic progress whilst minimizing the potential threats of human-related activities on the environment.

5. CONCLUSION

Resettlement schemes have become imperative to pave way for the provision of infrastructural projects. Previous studies have hypothesized that if resettlements are not carefully planned and implemented, they could result in long term economic, social, cultural and environmental adverse effects. This has stimulated a considerable amount of research exploring the (potential) impacts of resettlement schemes, though, with a selective focus on aspects of the topic. This study is one of the few studies from the Global South that attempt to evaluate, comprehensively, the impacts of resettlement projects. We found that while resettlement projects offer positive results, they also yield (unintended) negative impacts on

the socio-cultural, economic and environmental aspects of the resettled population. This finding suggests that resettlement projects are not without problems. It is therefore important that policymakers carefully review and systematically integrate these concerns into resettlement plans. This could enhance social acceptability of resettlement projects and sustain their benefits while minimizing negative impacts. Moreover, additional efforts will be needed to explore the contextual factors influencing the success or otherwise of resettlement projects.

DECLARATION OF INTEREST STATEMENT

The authors declare that they have no known conflict of interest.

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7. APPENDICES

Appendix 1: Survey Instrument

1. Age of respondent
2. Sex of respondent
3. Highest level of educational attainment a. no formal education b. Primary/JHS c. SHS/Technical/Vocational Education d. Diploma/ Short Course e. University level
4. Marital status: a. Single b. Married c. Separated d. Divorced e. Widowed
5. Religion a. Christian b. Islam c. Traditional d. other, please specify
.....
6. Ethnicity:
7. Sector of Employment: a. agriculture/ fishing b. industry c. service d. unemployed e. others, please specify.....
8. What was your major occupation before the resettlement?
9. How much were you earning monthly from your occupation before the resettlement?
10. In your estimation, how would assess the household's income earning before the resettlement? a. enough b. moderate c. low
11. Please indicate the reason(s) for your answer above
12. What livelihood assets did your household have before the resettlement?
13. Were the assets enough to enhance a decent living?
14. Indicate reason(s) for the answer above
15. What was your major occupation following the resettlement?
16. How much were you earning monthly from your occupation after the resettlement?
17. In your estimation, how would assess the household's income earning after the resettlement? a. enough b. moderate c. low
18. Please indicate the reason(s) for your answer above
19. What livelihood assets did your household have after the resettlement?
20. Were the assets enough to enhance a decent living?
21. Indicate reason(s) for the answer above
22. What has been the effects of resettlement on the following socio-cultural facets?
 - a. Support network and communal spirit
 - b. Marriage
 - c. Access to land
 - d. Religion
 - e. Language
 - f. Chieftaincy
 - g. Customs and traditions

h. Ancestral places of worship

23. Please indicate any other socio-cultural changes that has emanated from the resettlement

24. What major socio-cultural issues were considered before the resettlement?

25. What major socio-cultural issues were left out in the resettlement planning process?

26. Has there been any visible impacts of the resettlement on the environment? a. yes b. no

27. a. Are there activities that could cause environmental problems?

27. b. If yes, what are the activities and what are the (expected) changes in the state of the environment?

28. In your opinion, do you think the human activities undertaken in the new location may pollute the environment? a. yes b. no

29. Please indicate the reason for your answer above?

30. Which period would you say your living conditions was better? a. before resettlement b. after resettlement.

31. Indicate your reason for the answer chosen above

Appendix 2: Interview script

1. Were you involved in the resettlement planning framework? a. yes b. no

2. If yes, what was your role(s) in the resettlement process?

3. What was the dominant livelihood activities undertaken in the affected communities before the resettlement?

4. What are the main livelihood activities undertaken in the resettled communities following the resettlement?

5. What productive assets were lost during the resettlement?

6. In your opinion, do you think the loss of these productive assets affected the incomes of the affected household? Please indicate reason(s) for your answer.

7. Were compensations paid to the affected households following the loss of productive assets?

8. Were social and cultural issues considered in the resettlement? a. yes b. no

9. If yes, what major social and cultural issues were given considerations in the resettlement?

10. Are there visible changes in the social and cultural practices in the present location? a. yes b. no

11. If yes, what are the observed changes in the socio-cultural practices?

12. How have the changes in socio-cultural practices affected the lives of affected households?

13. Are there any environmental problems emanating from the resettlement? a. yes b. no

14. If yes, what are the some of these environmental challenges?

15. In your opinion, how can these environmental problems be managed?

Appendix 3: Normality test results

Data for all scale variables not normally distributed hence making the median reliable.

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Household Size	.141	124	.000	.930	124	.000
Number of dependents in your household	.133	124	.000	.922	124	.000
For how long have you stayed in the community	.480	124	.000	.470	124	.000
How much do you earn monthly from your occupation after the resettlement	.106	124	.002	.965	124	.003
Age of Respondent	.110	124	.001	.973	124	.015

a. Lilliefors Significance Correction

Statistics

		Household Size	Number of Dependents in Your Household	For how long have you stayed in the community	How much were you earning monthly from your occupation before the resettlement	How much do you earn monthly from your occupation after the resettlement
N	Valid	124	124	124	124	124
	Missing	0	0	0	0	0
Mean		7.4919	5.4355	7.5161	950.4839	217.5000
Median		7.0000	5.0000	8.0000	750.0000	200.0000
Mode		4.00	3.00	8.00	600.00 ^a	300.00
Range		16.00	15.00	7.00	9900.00	500.00

a. Multiple modes exist. The smallest value is shown

Appendix 4: Relationship between socio-demographic variables and perceptions regarding consideration of socio-cultural issues in the scheme

1. No evidence of a relationship between employment and perceptions on whether socio-cultural issues were considered in the scheme or not.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.061 ^a	1	.805	.856	.474
Continuity Correction ^b	.004	1	.948		
Likelihood Ratio	.061	1	.805	.856	.474
Fisher's Exact Test				.856	.474
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.68.

b. Computed only for a 2x2 table

2. Household heads without formal education were more likely to have reported that socio-cultural issues were considered in the scheme than household heads with some form of formal education. This may partly explain why this group were happy with the process (see earlier results on satisfaction).

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12.917 ^a	1	.000	.001	.000
Continuity Correction ^b	11.657	1	.001		
Likelihood Ratio	13.152	1	.000	.001	.000
Fisher's Exact Test				.001	.000
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 30.00.

b. Computed only for a 2x2 table

3. No evidence of a relationship between marital status and perceptions on whether socio-cultural issues were considered in the scheme or not.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.963 ^a	1	.161	.182	.113
Continuity Correction ^b	1.462	1	.227		
Likelihood Ratio	1.968	1	.161	.182	.113
Fisher's Exact Test				.182	.113
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.35.

b. Computed only for a 2x2 table

4. No evidence of a relationship between household size and perceptions on whether socio-cultural issues were considered in the scheme or not.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.534 ^a	1	.465	.478	.291
Continuity Correction ^b	.304	1	.582		
Likelihood Ratio	.534	1	.465	.478	.291
Fisher's Exact Test				.478	.291
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 29.03.

b. Computed only for a 2x2 table

5. No evidence of a relationship between number of dependants in a household and perceptions on whether socio-cultural issues were considered in the scheme or not.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.595 ^a	1	.440	.473	.278
Continuity Correction ^b	.349	1	.555		
Likelihood Ratio	.596	1	.440	.473	.278
Fisher's Exact Test				.473	.278
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 26.13.

b. Computed only for a 2x2 table

6. No evidence of a relationship between income before relocation and perceptions on whether socio-cultural issues were considered in the scheme or not.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.026 ^a	1	.871	1.000	.507
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.026	1	.871	1.000	.507
Fisher's Exact Test				1.000	.507
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.55.

b. Computed only for a 2x2 table

7. Household heads earning up to GHS200 were more likely to have reported that socio-cultural issues were considered in the scheme than household heads with higher earnings.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.144 ^a	1	.004	.007	.004
Continuity Correction ^b	7.146	1	.008		
Likelihood Ratio	8.230	1	.004	.007	.004
Fisher's Exact Test				.007	.004
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 27.10.

b. Computed only for a 2x2 table

8. No evidence of a relationship between age groups and perceptions on whether socio-cultural issues were considered in the scheme or not.

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	.023 ^a	1	.880	1.000	.512
Continuity Correction ^b	.000	1	1.000		
Likelihood Ratio	.023	1	.880	1.000	.512
Fisher's Exact Test				1.000	.512
N of Valid Cases	124				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 27.58.

b. Computed only for a 2x2 table