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Permission

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Community Participation and Sustainable Forest Management in the Twifo-Hemang-Lower Denkyira District

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Abstract
Community participation is central to the sustainable management of forest reserves. However, forest reserves in the Twifo-Hemang-Lower Denkyira District are disturbed by rural people even under collaborative forest management, which threatens forest sustainability. The study analysed the socio-economic importance of the reserves to the forest fringe communities, participation levels of the communities in reserve protection, and challenges stakeholders face in ensuring sustainable forest management (SFM). The study adopted a descriptive study design to assess community participation in SFM. Both simple random sampling and purposive sampling techniques were used to select the sample for the study. Questionnaire, interview schedule and focus group discussion guide were employed for the primary data collection. The main findings of the study were that forest fringe communities enjoyed some benefits from the forest but this was not enough. Their participation in SFM was only by upholding the forest by-laws. However, a major challenge was the farm raiding by elephants from the forest reserve. Community participation in SFM was at the lowest levels. Some of the challenges encountered by stakeholders in SFM were non-cooperation of community members and access restriction to forest resources. The study recommends that government should not only legally recognise forest ownership rights but also build the capacity of communities to allow higher community participation levels in SFM.

Keywords: Sustainability, forest, management, community, participation

Introduction
Sustainability has emerged globally as a unifying concept in forest resource management. Sustainable forest management (SFM) has been recognised by many international environmental conventions as an essential tool for achieving sustainable development (United Nations Environment Programme, 2002). These include the 1972 Stockholm United Nations (UN) Conference on Human Environment, 1978 World Forestry Congress, 1987 Brundtland Report by the World Commission on Environment and Development (WCED), and the 1992 Rio de Janèrio Earth Summit.

The objective of these conventions was to stimulate the awareness of the need to link conservation of natural resources with the development needs of rural populations who are mostly dependent on the use of natural resources. It was also to strategise means of solving conflicts of interest in natural resource management and consumption since resources are limited in supply, and have multiple stakeholders and uses. Globally, local communities' participation in forest management became a popular approach to SFM (Wor'd Bank, 2004).

In line with this, the European Commission (2004) indicates that community participation ranging from *information sharing, consultation, decision-making* to *initiating action* in forest management is essential for the success of the SFM exercise. These are not mutually exclusive but are aimed at defining the role of forest fringe community members, empowering them as well as building their capacity in carrying out the SFM exercise.

The enormous role of forest fringe communities in SFM has also been acknowledged within Africa. This is evidenced with an increasing number of African countries gradually devolving authority and ownership to community institutions whose spatial spheres fall within forests and who have the interest and capacity to enforce SFM. Hence, participatory forest management is now an established principle in forestry programmes in Cameroon, Gambia, Ghana, Kenya, Malawi, Mozambique, Namibia, Tanzania, Uganda, etc. (Wily, 2002).

Forests, undoubtedly, provide important raw materials for many rural poor who depend directly on them for sustenance (Oduro, 2002). Forests give off some socio-economic benefits that contribute to meeting the needs of the society. According to Jones and Carswell *(*2004*), forests are particularly useful to indigenous and rural people for production and consumption purposes.* In addition, forest resources contribute to the overall economy through employment, energy, tourism, education and trade.

In reciprocity, forest fringe communities are to ensure the protection of forests and forest reserves (Agrawal, Chhatre & Hardin, 2008). This may be carried out through the monitoring of the forests and reserves against illegal encroachers as well as planting of native tree species to ensure their non-extinction within forest reserves. Communities are also to be involved in the formulation processes of policies, legislations, by-laws and general guidelines concerning forestry.

From the above analysis, it can be understood that the level of benefits from forests is an indication of the extent to which forests are valued by society

and subsequently the need to sustainably manage them. Since community participation in SFM includes aspects of land tenure, traditional knowledge, indigenous and community management systems, Odera (2009) has affirmed that community forest management is unlikely to be successful if it does not generate goods and services for the community members.

According to the Environmental Protection Council [EPC] (1991), not only has the rate of forests degradation in Ghana been a major concern since the British colonial era, the nation is unable to sustain the timber in its forests and reserves. Consequently, Ghana's forest cover dwindled from 8.2 million hectares to 1.6 million hectares between 1900 and 1997 (Ghana Forestry Commission. 2002). Ghana's timber industry virtually collapsed with forest reserves losing their entire forest cover during the 1970's and early 1980's under the burden of economic recession (Ghana Forestry Commission, 2002).

The Ghanaian government therefore realised that centralised forest regimes, which excluded local knowledge and traditional practices in forest policy-making and management, did not work in the achievement of SFM. The Parliament of Ghana passed the 1993 Local Government Act (Act 462) which made local authorities responsible for the overall development of their respective areas of jurisdiction, including forest management. The Forest Services Division (FSD) of the Ghana Forestry Commission also adopted an inclusive Collaborative Forest Management programme by involving local communities in the planning, appraisal, implementation, monitoring and evaluation of activities in forest reserves. Community Forest Committees (CFCs) in forest fringe communities were formed to collaborate with the FSD in forest management and benefit sharing.

Notwithstanding the importance of SFM and the many benefits of forests and reserves, forest management has been plagued with numerous problems. These cover environmental, social, and economic issues, thus rendering the journey to SFM extremely difficult (Baffoe, 2007). Issues bedevilling forest management include land tenure, forests conversion to farmlands, illegal logging by timber industries, poor benefit-sharing systems, and weak implementation and enforcement of institutional laws and structures.

The Twifo-Hemang-Lower Denkyira (THLD) District has large areas of forest reserves covering a total area of 288km^2 occupying 25 percent of the entire district surface area. However, the focus of this study was on the Kakum National Park and Pra Suhien Forest Reserve. The Kakum Park was created to provide habitat for well endangered li

Pra Suhien Forest Reserve was created to ensure sustained optimum production of the forest reserve; maintain, enlarge and conserve the biodiversity of the Reserve; and satisfy the rights of local communities through collaborative efforts (Cape Coast Forestry Department, 2010).

The THLD District Assembly's 2006 medium-term development plan reports that economic activities of the forest fringe communities had adversely affected the ecosystem, even under collaborative forest management. The reserves, in terms of quality and species, were largely disturbed by the activities of the rural people through farming, logging and mining which threatened their sustainability (THLD, 2006). The forest loss therefore affected the local communities negatively. They suffered soil and nutrient depletion for agricultural purposes as their major economic activity was farming. It also resulted in the extinction of many of the plant and animal species upon which they depended for food and medicine. Non-Timber Forest Products (NTFPs) such as canes for basketry, bamboo for garden furniture, and tannins for leather works were becoming extinct with consequences for rural life (Institute of Statistical, Social and Economic Research/Department for International Development/World Bank, 2005). The Game and Wildlife Department (2010) as well as the Cape Coast Forestry Department (2010) reported the non-cooperation from the rural people, as the co-managers and owners of the reserves in the SFM programme. This raises doubt about the extent of participation of the forest fringe communities and their commitment to ensuring SFM. The study therefore analyses the socio-economic importance of the forest reserves to the forest fringe communities, the level of participation of the forest fringe communities in protecting the forest reserves, and the challenges stakeholders faced in ensuring SFM.

Theoretical perspectives
The study was guided by theories on Common pool resources (CPR) to understand why individuals engage in collective action arrangements to devise institutions that could cope with CPR problems. In understanding CPR, it is important to make a distinction between open access resources and communal resources. Open (common) access resources connote non individual ownership. In other words, free for all to use. This assumption indicates that there is rivalry in its consumption and difficulty in the exclusion of potential beneficiaries of the resource since they belong to everybody (Bruce, 2000). This makes provision and protection of the resources mostly challenging. In contrast, communal resources refer to tenure arrangements in which ownership is vested in the community by inheritance through a family, clan or tribe. Thus, access to communal resources and its benefits are limited to only community members or discrete parts of a community such as family or lineage. Bruce (2000) indicates that this type of resource is very common in most African traditional societies.

Ostrom (1990) indicated that collective action is needed to overcome forest depletion by limiting the use of common pool resources and managing the resource effectively. Ostrom (1990) further argued that users could agree on common rules and enforce them collectively to ensure a successful SFM. The emphasis on the adoption of the Theory of Collective Action for the sustainable management of CPR depends upon successful interaction and cooperation among stakeholders, including the primary users of the resource. According to Ostrom (1990), collectivisation of common resources ensures equity in forest management which guarantees SFM.

Poteete and Ostrom (2004) however opined that there is no guarantee that every group in any given situation will actually overcome coordination or social dilemma problems. Coordination and cooperation depend, among other things, on the size and heterogeneity of groups. Poteete and Ostrom (2004) therefore propose that success in managing a collective good depends on a small homogeneous group, while failure to overcome collective action problems frequently results in more loss of natural resources. The homogeneity may be in terms of ethnicity, perceptions, occupations, interests, wealth, a defined and bounded resource, and rule enforcement system. Critics such as Heckelman (2004) argue that problems of collective action emerge when there is inadequate information, conflicting interests, or because of the nature of the good.

As an approach to understand collective action, Gibson, Williams and Ostrom (2005) used the rational choice theory propounded by Buchanan and Tullock (1962) which assumes that individuals contribute to a collective action only if their individual expected benefits exceed their individual expected costs. In other words, a group of people or community would choose a collective mode of action when all members find it profitable to act. The value people place on their benefits and losses from development projects is critical in motivating and increasing their commitments towards project sustainability (Gibson et al., 2005).

The rational choice theory argues that a collective action must be composed of individual actions. Olson (1965) has challenged the view that groups of individuals having common interests usually collaborate to achieve them. With rational individuals having an incentive to take a "free ride" in the use of a resource without contributing to its management, it is difficult to mobilise individuals into collective action to manage the common resource. In Olson (1965)'s analysis, free riding is a problem in all but the smallest groups.

Runge (1986) used game theory to explain 'when' and 'why' people cooperate in forest resource management. The theory studies whether there

are incentives for people to participate in forest management and uses the element of cooperation to seek consensus in the management of natural resource conflict since resources are scarce in nature and have multiple uses. Runge (1986) recommends that collective action will be feasible if the people in a group can cooperate.

The degree of voluntary cooperation together with the monitoring of free-riders to ensure collective action plays a key role in the success of SFM. However, for a sustainable collective action in CPR management, Pagdee, Kim and Daugherty (2006) suggest the need to establish and understand resource ownership status, institute a common rule, as well as involve, define and sensitise all stakeholders, especially communities on their roles in SFM. Gibson et al. (2005) also argues that the whole exercise of SFM is about maintaining a balance between people's right to forest resources and ensuring ecological sustainability. As a result, residents in forest fringe communities should be given some rights to guarantee enhanced living conditions. Such rights could enhance their commitment to the sustainable management of forest reserves.

Community participation in sustainable forest management

In India, Agarwal (2001) found that despite women's limited presence as formal members of the Community Forestry Groups (CFGs), many women played an active role in protection efforts. Formally, protection of the bounded forest area is usually done either by employing a guard, with C G members contributing the wage, or by forming a patrol group from among the member households. Agrawal (2001) asserts that only a small percentage of patrols were constituted by both men and women, or by women alone, and there was a rare female guard. However, he found women's informal vigilance to improve protection through the apprehension of intruders both from other villages and from their own village, and saving the forest through fire fighting. According to Agrawal (2001), women contributed substantially to protection of the forests in order to indicate their stake in forest regeneration.

Virtanen (2005) reveals that Community-Based Natural Resource Management (CBNRM) in Mozambique has been paternalist and overly rhetorical. Existing institutions turned out to be relatively inefficient in the CBNRM objectives while outcomes of new institutions initiated under project pressure differ remarkably. Even as some communities failed in the CBNRM exercise, others succeeded in creating a relatively robust management regime by controlling tree exploitation for charcoal burning. Majority of the residents were willing to impose rules on the use of key tainability of the tree resources to continue the

However, full legal control over local natural resources led to the exodus of some households and marginalisation of some stakeholder groups within the community. Interestingly, CBNRM was better successful in the heterogeneous community than in the socio-culturally more homogenous one. The reason was that the homogenous community's project was not able to introduce any economically viable alternatives to the prevailing agricultural activities which were considered destructive. The outcome is therefore at odds with the popular outcome of Cleaver (2000)'s study on institutions which states that socio-cultural homogeneity is an advantage in CBNRM projects.

Conceptual framework
Sustainability of forest management comes through participation of stakeholders, particularly local communities at all levels of intervention from planning, implementation, monitoring and evaluation. The involvement of community members is likely to increase their influence or control over decision-making, and move their involvement up the typology towards collective action. This is to promote community responsibility and ownership.
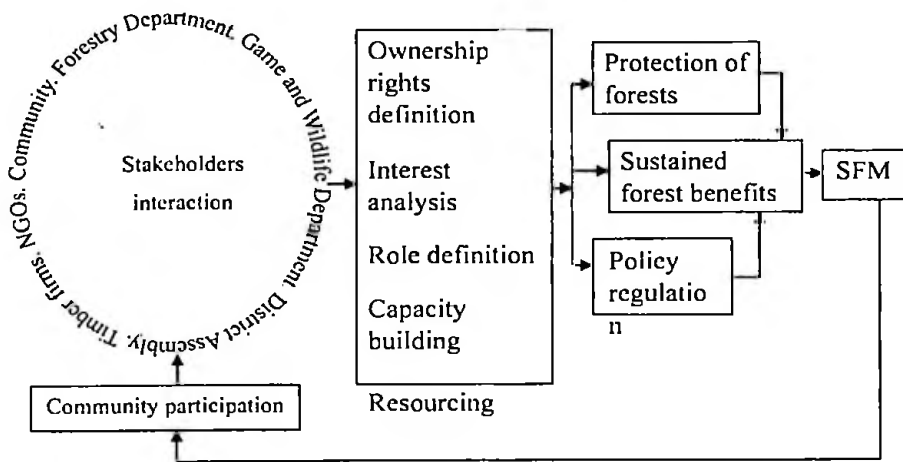
Figure 1: Framework for analysing sustainable management of a common forest reserve
Source: Authors' construct, 2011

For a successful SFM exercise, there is the need to involve the forest fringe communities in the interactions that lead to the definition of the ownership rights of each stakeholder. Successful SFM therefore requires common interaction among the forest fringe communities, timber firms, Forestry Department, Game and Wildlife Department, and NGOs. The community

comprises traditional leaders/chiefs, local associations/cooperatives, farmers, hunters, loggers, carpenters, charcoal burners, chainsaw operators, elites, etc.

However, all the stakeholders have different interests in the forest. It is therefore necessary that stakeholders interact and cooperate with one another to bring to bear the various conflicts of interests in the forest reserve which may be harmonised to achieve SFM. Each stakeholder is given a role in the sustainability exercise to avoid the problem of leaving the management of forest reserves in the hands of no one. This calls for building the capacity of the stakeholders through training programmes as well as resourcing them with tools and equipment, buildings, logistics, motor bikes, vehicles, among others, to ensure easy monitoring.

All these are done to ensure the protection of the forest reserve which in turn guarantees sustained forest benefits. Rationally, individuals will contribute to the SFM exercise only if their expected benefits exceed their expected cost. This implies that benefits serve as motivation for stakeholders in SFM. Voluntary cooperation of all stakeholders, monitoring of free-riders and enforcement of policy regulations will promote collective action in successful SFM.

Research methodology
The study employed a non-interventional and descriptive study design focusing on communities on the fringes of forest reserves in the THLD District. Stratified sampling technique was used to group the communities into three strata – communities surrounding the Pra Suhien Forest Reserve (8), communities around the Kakum National Park (43) and communities common to both reserves (2).

Due to the uniformity in the management practices in protecting a particular forest category, four communities were randomly sampled from each of the forest reserves, whilst the two communities common to both reserves were purposively sampled. The sampled communities were:
Kakum National Park – Abrafo Gyaware, Antwikwaa, Abeka Nkwanta, and Afiaso. .
Pra Suhien Forest Reserve – Frami, Bekawopa, Bremang, and Ankaako.
Communities common to both forest reserves – Abrafo Odumase, and Mfuom.

The total number of household heads in the sampled communities was 1,643. According to Krejcie and Morgan (1970), a population of 1,643 requires a minimum sample size of 310 to ensure representativeness.

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However, a total of 328 respondents were used for the study. Proportionate sampling was used to sample household respondents. Random numbers were used to shuffle the names and the number of names was selected to correspond to the sample size for each community.

The total number of household respondents for the Pra Suhien forest region was 167. This comprised 74 household respondents around the Pra Suhien Forest Reserve and 93 household respondents around both forest reserves. These were added to give a clearer picture on the socio-economic importance of the forest reserves to the communities. The total number of household respondents for the Kakum National Park alone was 33.

Two traditional leaders (Chief and 'Abusuapanyin') were purposively sampled from each community for the study. This is because the Chief and the 'Abusuapanyin' play a critical role in the transfer of forest ownership rights to Government. Five women engaged in the collection of food and firewood, and five hunters were selected from each community for a focus group discussion. Hunters were selected to stand in for the men because they derive all the benefits other men obtain from the forests in addition to their hunting business. It was perceived that they could give a clearer picture on both the benefits and the challenges associated with the management of the forests.

One focus group discussion was held in each community. Snowball sampling was used to select both the women and the hunters from the communities. According to Creswell (2002), snowball sampling method is used when the information about a population is scanty. The first hunter and woman engaged in firewood collection were identified upon enquiries from the community members. The identified respondents led the researcher to the identification of other hunters and women for the focus group discussions to be carried out.

The District Planning Officer of the THLD District Assembly, District Game and Wildlife Manager, Director for the Cape Coast District Forestry Department, Directors for Microsfere, and the Ghana Heritage Conservation Trust (GHCT) which are NGOs, and Managers of three timber firms were purposively sampled for the study. The total sample size for the study was 328. This comprised 20 traditional leaders, 50 women (5 from each community) engaged in the collection of food and firewood and 50 hunters (5 from each community) for focus group discussions, as well as 200 household heads, three Heads of District departments, two Directors of NGOs, and three Managers of timber firms.

The study employed survey data collection method (questionnaire and interviewing) and focus group discussion (FGD) to collect the primary data. The data was analysed using Statistical Product and Service Solutions version 17 software. Descriptive statistics such as frequencies and percentages were used. Chi-square test of independence was used to explore associations between variables. An alpha value of 0.05 was used for all inferential analysis.

Results and discussion

Socio-economic importance of the forest reserves

Forest is an important resource that plays a crucial role in the socio-economic well-being of the rural people. Datta and Sarkar (2010) indicate that people's willingness to participate in SFM largely depends on the socio-economic benefits they derive from it. The study found that communities which share boundary with the Pra Suhien Forest Reserve enjoyed some admitted rights such as fetching food, a basic necessity for sustenance from the Forest Reserve. Some of the food items were mushrooms, fruits and snails. Another right of benefit enjoyed by the residents included fetching cultural artefacts such as chewing sticks and sponge, considering the importance they attached to their cultural and traditional systems. These rights were however granted only for domestic consumption, and not for commercial purposes. The results also indicate that some of the respondents did not know all their admitted rights to the Pra Suhien Forest Reserve.

The communities' enjoyment of the admitted rights is likely to improve their commitment to SFM. Deducing from the findings of Gibson et al. (2005), the non-commercialisation of the benefits is also likely to reduce community members' benefits which will in turn affect their commitment to the SFM exercise negatively. Gibson et al. (2005) opine that people will be committed to SFM if their expected benefits exceed their costs. Datta and Sarkar (2010) found that inadequate awareness of specific rights and opportunities of different stakeholders in SFM often reduces the commitment of such groups.

Forty-five (27%) respondents complained that some of the admitted rights of the communities were becoming less important with time. Such rights included access to bamboo for roofing houses, and sponge for cleaning teeth and body. This suggests that the admitted rights of the forest fringe communities should be revised with time to suit the economic and socio-cultural needs of a particular generation and to prevent any unwanted activities that will however threaten the SFM programme. The threat could be in the form illegal activities from the communities anytime their admitted rights depreciate in value with their socio-cultural and economic activities.

Attempts to revise the admitted rights of the forest fringe community members to suit their current needs may help to rekindle their commitment to the sustainability of the forest reserves. The rekindling of the commitment of members of the forest fringe communities in SFM agrees with the submission by Odera (2009) which states that the extent to which a forest reserve is devoid of illegal activities is a reflection of how the communities value the benefits they generate from the forest management programme.

All the respondents (33) from the communities surrounding the Kakum National Park alone admitted to not having any admitted right from the forest reserve. The chief of Antwikwaa reported that the communities had been relieved of the right to access NTFPs from the Kakum National Park. The Game and Wildlife Department confirmed this fact and added that the communities were relieved of that right because of the change in status of the Kakum Forest from a forest reserve to a National Park in 1989. The admitted rights of the communities to the reserves depend on the purpose for which the forest is conserved and any activity that does not conform to the purpose may constrain the goal of SFM.

The curtailing of the communities' admitted rights in the Kakum Forest Reserve constitutes a breach of contract. This is because once the initial agreement to reserve the forest as a production unit where communities had the admitted right to fetch NTFPs had been changed, it might pose a threat to the SFM programme. For instance, all the respondents indicated that they were only informed to desist from exercising those admitted rights. They did not give their consent to the change in purpose of the forest reserve and the curtailing of those rights. The commitment of community members in the SFM activities is likely to be affected if they continue to be restricted from access to forest resources without any proper compensation. The result buttresses the notion of the rational choice theory that people's willingness in SFM is a relation between their benefits and costs.

From Figure 1, thirteen (39.4%) respondents reported that access restrictions to forest resources had increased the cost of living in the communities, whilst 9 (27.3%) respondents indicated that the access restrictions to forest resources had promoted illegal felling of trees. The illegal activities conducted by the communities in the forest reserves may be attributed to the activities of free riders who have the incentive to take a free ride in the use of forest resources without contributing to its management as explained by (Olson, 1965).
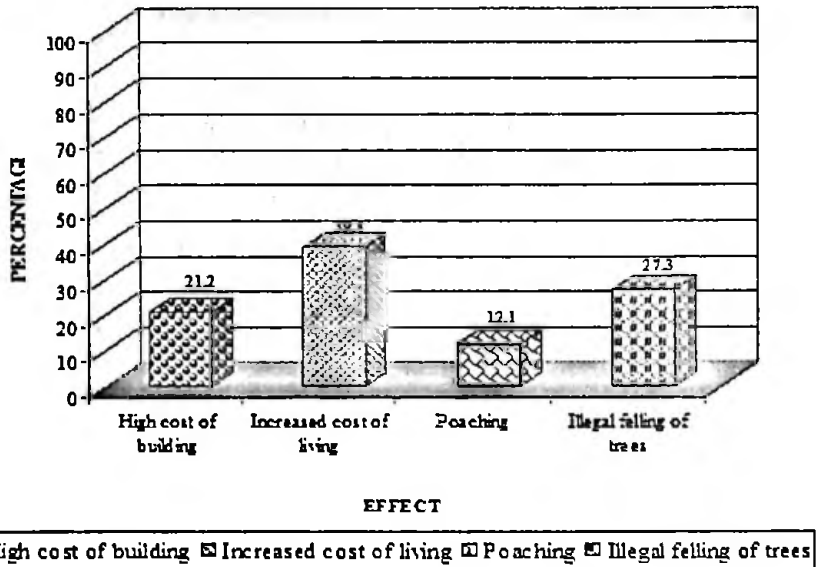
Figure 1: Effects of access restrictions to forest resources on communities
n = 33
Source: Field survey, 2011

The increased cost of living resulting from access restrictions to forest resources may imply that programmes put in place to cushion the communities to adhere to the principles of SFM were not effective to offset the costs the communities incurred in ensuring the sustainable management of the forest reserves. The illegal activities in the forest reserves may also imply that the communities benefitted less from the SFM exercise which would cause the unwillingness of the people to adhere to the principles of SFM as an outcome of the interaction between benefits and costs. This assertion corroborates the view of Buchanan and Tulloek (1962).

A majority (75.5%) of the respondents were not satisfied with the admitted rights of their communities to the forest reserves. Reasons for the dissatisfaction included restriction from harvesting trees for building and community development activities, denial from fetching food items from the forest, and restriction from obtaining cultural artefacts from the Kakum National Park. As described in the conceptual framework, people in a group would not likely contribute to SFM because their net cost exceeds their benefits.

Regarding the nature of the reserves, communities surrounding the Pra Suhien Forest Reserve were to benefit from Social Responsibility Agreements (SRAs) with timber firms, whilst those surrounding the Kakum National Park were to benefit from social responsibility activities from the management of the Kakum National Park. The Forest and Wildlife Policy of 1994 indicates that before any timber firm is given a concession in the forest reserve, it first has to settle its SRAs with the forest fringe communities that are likely to be affected by its activities. Benefits from SRAs are expected to promote infrastructural development in the forest fringe communities. Such benefits are also to complement the admitted rights to spur up development in the forest fringe communities and to renew the people's commitment to the sustainable management of the forest reserves. Figure 2 shows that 42.5 percent of the respondents admitted to not receiving any benefits from the SRAs with timber firms, while 11.9 percent indicated that their communities had benefitted from SRAs through the construction of culverts.

| ☐ No benefits | ☒ Plywood | ☒ Wood |
| ☒ Roofing sheets | ■ Road rehabilitation | ☐ Construction of culverts |
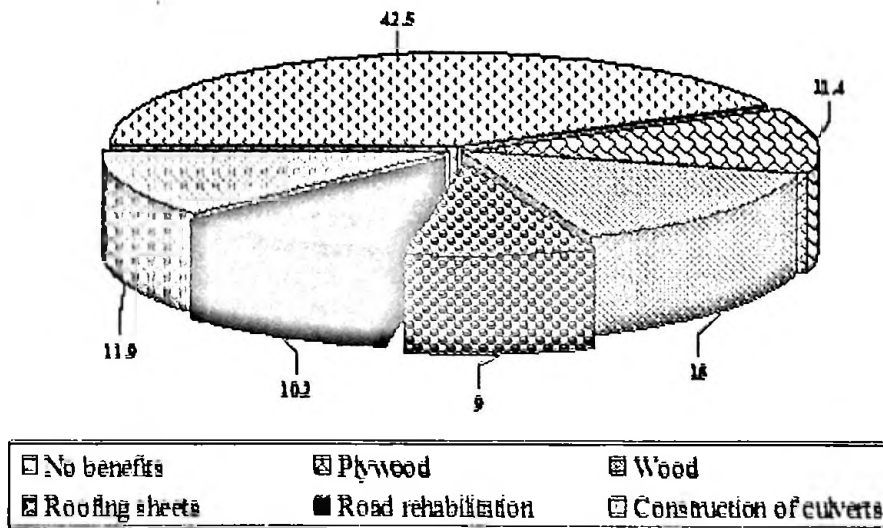
Figure 2: Benefits from SRAs with timber firms
n = 167
Source: Field survey, 2011

The management of the three timber firms and the Forestry Department indicated that the community leaders mostly opted for monetary payments over infrastructural projects in their communities during SRA meetings, accounting for the little physical benefits from the SRAs in the communities. The monetary payments to the traditional authorities were not

also used for physical development in the communities as they were intended. Such benefits were locked up among the traditional leaders. As a result, the traditional authorities benefitted more from the SRAs than the residents in the forest fringe communities. Consequently, some community members illegally harvested trees from the reserves, whilst others condoned and connived with chainsaw operators to fell trees from the reserves for personal benefits. The indication is that community members are less satisfied with their share of benefits from the SFM exercise. The finding is consistent with Buchanan and Tullock's (1962) assertion that people's willingness to adhere to SFM principles is an outcome of the interaction between benefits and costs.

GHCT, a local NGO in charge of the management of the Kakum Canopy Walkway, had instituted programmes to support community development projects. The forest fringe communities apply to the GHCT indicating the projects they need, how such projects could contribute to the improvement of their living conditions, and their budget estimates. This is aimed at addressing some of the developmental challenges of the communities surrounding the Kakum National Park and to renew the community members' commitment to SFM. However, the study revealed that only residents of Abrafo Odumase were aware of and had benefitted from this package. Benefits received from the GHCT include a market facility, community centre and library.

The Game and Wildlife Department in collaboration with Microsfere, an international NGO, had instituted some alternative livelihood empowerment programmes to improve the socio-economic conditions of communities surrounding the Kakum National Park. The programmes included micro credit, soap making, snail rearing, beekeeping, and grass cutter rearing. The introduction of economically viable alternatives to make up the lost right of the communities around the Kakum National Park to the forest resources would make the SFM project more successful (Odera, 2009). However, most communities surrounding the Kakum National Park did not benefit from the livelihood programmes. The Game and Wildlife Department attributed the unequal benefits sharing to inadequate financial support and low budgetary allocations in support of SFM in Ghana.

The study revealed that stumpage fees were paid every quarter to the traditional authorities. At the end of every quarter, the total amount of money realised from every production forest reserve like the Pra Suhien Forest Reserve is calculated and a management fee of 50 percent of the total is subtracted by the Forestry Department. Fifty-five percent of the remaining amount goes to the District Assembly (DA) for development activities in the forest fringe communities. The remaining 45 percent is divided into 45 percent and 55 percent and given to the traditional council and stool land owners, respectively.

The study revealed that none of the traditional authorities in the forest fringe communities had ever benefited from stumpage fees. The reason is that most stool land owners were the same people who formed the traditional council. The 45 percent therefore went to the traditional council represented by the Paramount Chief. It was therefore the responsibility of the traditional council to distribute the money to its sub-chiefs, particularly those in the forest fringe communities. The DA did not also use its portion of the stumpage fees to improve infrastructural facilities in the forest fringe communities. This was because both the traditional council and the DA were not compelled by law to spend part of the stumpage fees in the forest fringe communities. The unfair benefit sharing system in SFM in Ghana is due to weak implementation and enforcement of institutional laws and structures (Baffoe, 2007).

Community participation in SFM

The study found that stakeholders interacted during the meetings of the Reserve Settlement Commission to define the purpose of the forest reserves, ownership rights, various interests, assign roles to stakeholders, and agree on the sharing of benefits. It was also to agree on the payment of compensations to the communities over the transfer of the forest management to the Forestry or the Game and Wildlife Departments, and to address the concerns of the stakeholders. The interaction at those meetings was to streamline the activities of the stakeholders towards SFM.

From the focus group discussions, community members interacted with the other stakeholders to seek redress to the challenges they faced in SFM. They also interacted with the Game and Wildlife Department, Forestry Department, and NGOs to receive training on forest protection activities and other sources of livelihood empowerment programmes. A hunter from Beposwopa stated, "We only get the opportunity to interact with timber firms when timber contractors are on their way out of the communities with the timber". Traditional authorities only interacted with the District Assembly and timber firms to settle SRAs. They also interacted with NGOs for alternative livelihood empowerment programmes.

Forest policies and by-laws containing rules and admitted rights of the local communities were developed and accepted during the Reserve Settlement Commission by all stakeholders. From the study, all the sampled traditional leaders admitted that their communities were represented in the decision-making that led to the acceptance of those rights and forest by-laws.

The by-law for the prohibition of hunting during the close season (31st August – 31st December) was formulated by the Forestry Commission at the

national level without the communities. The outcome was only communicated to the communities, indicating the level of community participation in the formulation of forest policies. The majority (83%) of the respondents admitted to their willingness to adhere to this by-law because of the short restriction period, likely benefits they stood to derive from it, and its minimal impact on their primary activities. The people's willingness to obey a by-law depends on the effect it has on their primary activities and the benefits they expect to gain from it. This confirms the underlying conceptual assumption that people contribute to a collective action only if their expected benefits exceed their expected costs.

None of the respondents participated in the decision-making that led to the formulation and the adoption of the by-law to ban people from entering the Kakum National Park without permission. It was indicated that the by-law was formed because of the change in purpose of the then Kakum Forest Reserve to Kakum National Park at the National level of the FSD. Consequently, 71 percent (142) of the respondents registered their reluctance to uphold this by-law because of the loss of economic resources, medicinal plants, food, and cultural artefacts, as well as feeling cheated in the forest management programme. The community members cost their losses to be higher than their current benefits, hence the unwillingness of the majority to contribute to the collective action of obeying the by-law (Gibson et al., 2005). About 29 percent (58) of the respondents attributed the reasons for supporting the by-law to the fear of legal actions and harassment from the Game and Wildlife Department. This corroborates with Ostrom, Burger, Field, Norgaard and Policansky's (1999) assertion.

For the by-law that prevented community members from entering the Kakum National Park with tools and machines that could destroy wildlife, all the respondents indicated that the information was handed over to them by the Game and Wildlife Department. The communities were not part of the decision-making to enact this by-law. Supporting this fact, 60% (120) of the respondents registered their dissatisfaction with the by-law, whilst 40 percent (80) indicated otherwise. This suggests that the communities around the Kakum National Park did not understand the management plan for a national park such as the Kakum.

All the respondents agreed with the by-law that bans the commercialisation of the admitted rights unless with a licence, even though the communities did not take part in its formulation. This is, especially the case in the Pra Suhien Forest Reserve. Some of the reasons they gave for their satisfaction with this by-law were free access to NTFPs and the assurance of sustainable benefits from the forest reserves, as suggested by Ostrom (1990) and Agrawal et al. (2008).

All the respondents admitted that the communities were not consulted in the formulation of the by-law that prohibits the killing of wholly protected animals. However, they indicated their willingness to support it because they were made to understand the need for such actions in order to help protect the animals from extinction. The understanding of the community members on the importance of a by-law is critical to ensuring their compliance and an effective implementation of SFM.

The only contribution of the forest fringe communities to the forest management policies was through information sharing and their compliance with the by-laws. The communities are less likely to comply with the decisions taken by other stakeholders. The finding is in line with that of Amanor and Brown (2003) who stress that decision-making should involve the primary resource users whose ownership status is clearly established and understood, to ensure more equitable and sustainable forest management.

The study further observed that the Forestry Department had educated CFC members at Bekawopa on the various forest offences and basic forestry protective measures. These included the inspection of permit to harvest trees in the forest reserve and how to arrest an encroacher since the use of weapons was not allowed by the CFC members. The members were, however, not given certificates of membership or resourced. Inferring from the study, the CFC members were willing to do the work as they had educated their community members on some of the by-laws and forest offences. Although the Committee was formally not operational, the members reported that their informal activities had helped to curb illegal activities in the forest reserves. They attributed this to their acceptance by the community members. Illegal activities in SFM are more likely to be reduced if the local people are involved in the management.

It was established that the capacity building of the members of the communities and their traditional leaders was too low to allow them to initiate actions in the SFM process. The majority (96%) of the respondents reported that they had not received any form of training or education on forest protection by the government agencies. To correct this, the Game and Wildlife Department had established a Collaborative Management Research Unit which is expected to educate and train the forest fringe communities in effective SFM.

Table 1 shows gender participation in the establishment of forest camps. Only 22 (17.6%) of the male respondents and 9 (12%) of the female respondents participated in the establishment of forest camps through communal labour. The non-participation of the majority of the respondents in the establishment of forest camps was due to the few number of forest

camps dotted in and around the forest reserves, denying most community members the chance to participate in their establishment.

Table 1: Gender and participation in the establishment of forest camps

Gender	Response		Total (%)
	Yes (%)	No (%)	
Male	22 (17.6)	103 (82.4)	125 (62.5)
Female	9 (12.0)	66 (88.0)	75 (37.5)
Total	31 (15.5)	169 (84.5)	200 (100)

Pearson $\chi^2 = 1.404$ $p = 0.23$
Source: Field survey, 2011

A Chi Square test of independence used to explore the relationship between gender and participation in the establishment of forest camps gave a p-value of 0.23. Since the p-value of 0.23 is larger than the alpha value of 0.05, it implies that the result is not significant. Thus, there is no association between gender and participation in the establishment of forest camps. The implication is that both sexes participated equally in the establishment of forest camps.

The communal labour involved the males engaging in the weeding of the land, with the females engaged in the fetching of water, and masons and carpenters within the communities helped in the construction of the camps. These were done with the hope that some of their community members would be recruited as forest guards by the management of the forest reserves. However, none of such communities had their members recruited as forest guards. The result is likely to discourage members of the communities in the SFM agenda since their efforts did not pay off as they expected.

Challenges stakeholders face in ensuring SFM

The Forestry Department identified delays in the payment of stumpage fees by the timber firms as a challenge it was confronted with in SFM. The stumpage fees were usually paid during or after the harvesting of the trees or the selling of the wood products. Some firms had been in the debtors' records of the Department for more than ten years, whilst others had folded up without paying for the stumpage fees. This could be attributed to the legislation for regulating access to timber and payment of stumpage fees, as explained by Baffoe (2007) that legislation on access to timber resources has been generally skewed in favour of big logging companies and weak enforcement of the law. According to the Forestry Department, such delays affected their budgets and, for that matter, their effectiveness in monitoring

activities in the forest reserves. They also admitted that such delays in payment affected the flow of benefits to the other stakeholders which in the long run reduces their commitments and motivation in SFM. This also explains why some of the communities had not received anything from stumpages.

The Game and Wildlife Department identified inadequate logistics as one of the challenges they encountered in their operations to ensure SFM. The Department is responsible for protecting the Park against poachers, chainsaw operators and other illegal encroachers. These activities require vehicles, motor bikes, fuel, protective boots, uniforms, guns, tents, mattresses, among others. The study revealed that these logistics were inadequately supplied. As a result, there were less forest camps than expected and less forest guards and patrols than required, which is not healthy for SFM. The Department needs to be resourced with adequate logistics and funds to ensure effective SFM.

The District Assembly (DA) explained that they were less engaged in the activities of SFM. The District's Planning Officer said, "We are mostly not invited to participate in stakeholder meetings and activities organised by both government agencies, even though we are expected to play an advisory role to the forest fringe communities and to negotiate on behalf of the communities during SRA meetings with timber firms. On occasions when we are invited, the invitations arrive either late or belatedly". The DA did not get enough opportunity to play its advisory and negotiation roles as expected to promote SFM. The inadequate benefits enjoyed by the communities in SFM and the reasons why the traditional authorities opted for monetary payments instead of benefits that could develop the communities from SRAs may be attributed to this challenge.

The timber firms also pointed out that non-cooperation from the forest fringe communities was a challenge they faced in SFM. The Manager of Yarahin Timber Company remarked, "Some of the communities harbour chainsaw operators to harvest trees from our compartments in the forest reserve when they notice we have not shown up for some time". Another manager annoyingly said, "Some of the chainsaw operators cut reserved tree species which are to be left for the regeneration of the compartments and waste the branches of the tree which are too small to be used in their operations". These affect the profitability, re-licensing for other compartments, and the amount of stumpage fees to be paid by timber firms, which eventually affects the SFM process. Failure of any of the stakeholders in playing his or her role properly will affect the effectiveness of the others in their roles to ensure the success of the SFM programme.

The NGOs identified unrealistic expectations from the forest fringe communities as a challenge they were confronted with in promoting SFM. The NGOs provided development activities in the forest fringe communities, trained people on alternative livelihood empowerment programmes, and provide micro credit services to promote economic activities in the forest fringe communities. All these activities were done to sustain the commitment of the communities in SFM. The NGOs reported that the community members expected to benefit more than what they were receiving. Some of the communities expected to receive pipe-borne water facilities, electricity and asphalt roads as benefits from the forest which, according to the NGOs, could not be delivered through the benefits from the forest reserves. The Manager of the GHCT said, "Some of the communities do not appreciate the assistance we offer to them".

All the sampled traditional leaders admitted that they had not received any compensation from the government for the taking over of the forest management from them. The compensation was to settle the lost rights of the traditional authorities in the forest as a result of its conservation. It was revealed that no compensation had been paid to the traditional authorities. Meanwhile, the rights to farm, harvest trees, hunt, and fetch fruits from the forest had been taken away from the communities by the government. This may be the reason for the reluctance of some of the traditional leaders to report illegal activities in the forest to the appropriate authorities for action.
The forest fringe communities cited unfair access restriction to forest resources as a challenge they faced in ensuring SFM. Access to forest resources is regulated by by-laws governing a particular forest reserve type. Sixty-six percent (132) of the respondents indicated that the restriction of access to forest resources was a loss of their source of livelihood. A cocoa farmer said, "The forest is our source of sustenance, and the denial of our entering the forest reserves and restricted access to forest resources makes life difficult". The illegal activities carried out in the forest reserves may be attributed to the denial of access to forest resources. Thus, the lost rights of the communities may be higher than the benefits they derived from cooperating in SFM.

The forest fringe communities, particularly those around the Kakum National Park, reported of crop or farm raiding by elephants from the Park as a major challenge that confronted them in ensuring SFM. Fifty-six (33.5%) of the respondents around the Kakum National Park complained of having their farms raided by elephants without compensation from the management of the Park. A plantain farmer said, "The elephants severally raided my farm in 2009, resulting in total loss of annual farm produce". The raiding of crops and farms by elephants might plunge members of the communities into poverty. Thirty-one (18.6%) respondents around the Kakum National Park

indicated that the technique of spraying farms with grease and pepper to drive away the elephants was expensive. A farmer at Antwikwaa said, "People are sometimes tempted to attack the elephants to avenge their anger". The attacks on elephants which face threat of extinction pose a threat to a successful SFM.

Conclusions

With a careful study of the summary of findings from the study, the following conclusions were made concerning the participation of forest fringe communities in the sustainable management of forest reserves in the

THLD District:

The willingness and the commitment of the forest fringe communities greatly depend on the benefits they derive from the forest. Forest fringe communities around the Pra Suhien Forest Reserve enjoyed some admitted rights, while those around the Kakum National Park enjoyed social responsibility benefits and alternative livelihood empowerment programmes from the conservation of the forests. Nevertheless, some of the admitted rights were losing their value in relation to the social, economic and cultural conditions of the people.

The communities participated at the information-sharing level in the forest management programme and in few cases at the consultation level, both of which are low levels of participation. They participated in SFM through their access restriction to forest resources, informed decisions about the management of the forest reserves and their compliance with the forest by-laws and regulations. The communities neither participated in the decision-making and policy formulation processes nor initiated any action in SFM. The low level of participation of the communities as owners and partners in forest management does not ensure successful and sustainable management of the forest reserves.

All the stakeholders in the SFM programme encountered challenges. These include inadequate logistics, non-cooperation from traditional and forest fringe communities, unrealistic expectations from community members, non-benefits from stumpage fees and SRAs, as well as crop and farm raiding by elephants from the forest reserves without any compensation from the government to forest fringe community members who were affected. These challenges, coupled with the low level of community participation and limited benefits the communities derived from the management of the forests, posed a major threat to SFM in the THLD District.

Recommendations

It is recommended that the Forestry Department and the Game and Wildlife Department revise the admitted rights of the forest fringe communities with time and technological advancement to suit the economic and socio-cultural needs of a particular generation. This will enable the community members to appreciate the benefits from the forest reserves, prevent any illegal activities that threaten the SFM programme, and rekindle their commitment to the sustainability of the forest reserves.

The THLD District Assembly and the Forestry Department should discourage the traditional authorities from opting for monetary payments during SRA meetings but encourage infrastructural development in the forest fringe communities for the benefit all community members. The benefit-sharing system should be transparent and accountable.

Government should revise the nature of the distribution of stumpages to benefit sub-chiefs, by putting in place regulations as to how the disbursement of stumpages for the sub-chiefs would actually get to them. This will help to improve the communities' participation in the forest reserve management exercise.

Forest fringe communities should be involved in the decision-making on forest management issues and forest by-laws and regulations formulation processes. However, stakeholders, particularly community members and traditional authorities, require greater capacity to exercise their rights and execute their responsibilities in SFM. The Forestry and the Game and Wildlife Departments and NGOs should therefore build the capacity of community members and traditional authorities to ensure meaningful participation.

The government and NGOs should support the Forestry and the Game and Wildlife Department with additional budgetary support to facilitate their optimal functioning and to resource communities with the necessary tools and equipment for effective SFM.

Policy-makers should reconsider issues of contention in SFM by ensuring that the farms are not raided by elephants.

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Children as 'Invisible' Contributors to Household Income in Ghana

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Abstract

Poverty reduction in Ghana has attracted varied approaches. Over the recent past decade, the government implemented a number of programmes tailored to reduce income poverty. These include the Livelihood Empowerment Against Poverty (LEAP), School Feeding Programme, National Health Insurance Scheme and Capitation Fund. Recent data on poverty indicate that Ghana has achieved the Millennium Development Goal 1 (MDG 1). Beyond these poverty reduction programmes are children who contribute immeasurably to household income which could lead to household poverty reduction, yet are largely unnoticed and least focused. The paper used both survey and qualitative data from a child-mobility research in four different settlement types in the Central and Brong Ahafo Regions to assess the contributions of children to household income. The findings revealed that a week preceding the survey, 55% of the children assisted parents/guardians on the farm, about 25% sold at the market (largely by hawking) and less than 3% took care of herds in the fields on behalf of their parents. Some of the children who sold earned between GH¢7 and GH¢15 per day to support household income. In addition, the children undertook varied household activities including caring for younger siblings to enable parents to have adequate time to engage in socio-economic activities. Children's involvement in the socio-economic space needs to be further explored as a means of formally evaluating and reconceptualising their contributions to household income and possibly poverty reduction. By so doing these 'invisible' contributors can be properly recognised and acknowledged. Consequently, this will activate the necessary offices, structures and systems to regulate their activities and contributions legitimately.

Introduction

The quest to reduce (economic) poverty in Ghana saw the implementation of various programmes towards reduction of household poverty as well as wealth creation among the economic poor. Over the last decade, the government intensified her efforts to reduce poverty which undoubtedly, is a necessary developmental concern. For instance, the introduction of the

Livelihood Empowerment Against Poverty (LEAP),Capitation Fund and National Health Insurance Scheme were targeted to reduce the financial stress poor households are likely to face while one of the objectives of the School Feeding Programme is to create wealth for rural food crop farmers. These poverty reduction interventions have, to a large extent, contributed immensely to Ghana's achievement of the Millennium Development Goal l (United Nations Development Programme, 2012).

One category of the Ghanaian population that contributes to household income generation and to a large extent poverty reduction directly and/or indirectly is children. Traditionally, and contemporarily, children contribute in diverse ways to household income legitimately. As social assets, over 97% of children in Ghana provide direct economic services at the farm, market and other economic centres as household heads or under the dictates of their parents (Esia-Donkoh and Mariwah, 2011; Ghana Statistical Service (GSS), 2008). For instance, the Ghana Living Standard Survey (Round Five (5)) shows that almost 13 % of children aged 7 to 14 are economically active (GSS, 2008). Similarly, children play diverse domestic and non-economic roles to enable their parents and guardians to practice their economic endeavours (Esia-Donkoh, Abane and Esia-Donkoh, 2011).
A critical review of household income and poverty reduction literature such the poverty studies and Ghana Standard of Living Surveys shows that children's contribution is usually less emphasised and highlighted to an extent to inform policy direction. Literature available that touches on this subject more or less provide statistics about child employment but scarcely discusses children's socioeconomic activities that contribute to household wealth creation or poverty reduction or both. Perhaps, the difficulty to do this is as a result of constitutional frameworks and international conventions regarding children and work. It is therefore not uncommon for some writers to conceptualise, perceive and generalise all child work as labour. This continually makes children as 'invisible' contributors to household income.
However, it must be stressed that not all the work children engage in constitute child labour. While some provide a platform for the development of children to adulthood, others contribute to household 'socioeconomic' survival (UNICEF, 1997; United Nations, 1989; Fyfe, 1989). For example, there are considerable population of children who work after school on temporary or permanent bases. This has initiated the call to re-examine and re-conceptualise childhood (Esia-Donkoh and Mariwah, 2011) and also to discuss and emphasise the relevance of children's contributions to household income and/or poverty reduction (Esia-Donkoh, Abane and Esia-Donkoh, 2011).

This has encouraged the debate about the need for the re-conceptualisation of childhood based on the various domestic and economical activities

children contemporarily engage in. This rationalised views about the rights of children, and their economic contribution to household income have had varied discussion in the literature (see Agbényiga, 2012; *Clerk, 2012;* Mariwah and Esia-Donkoh, 2011; Boakye-Boaten, 2010). For instance, in his recent comprehensive analysis of childhood, Jenks (1996) focused on a time scale between the pre-Christian era to the 20th century. Given the current social and economic trends in the 21st century, the need to do a broader scale of study to assess the role children play especially in economic enterprises to contribute to household income is imperative within the context this study is situated.

Like Jenks and other earlier writers such as Kehily (n.d.), childhood has been conceptualised as a social construct. Thus, the society constructs the roles and responsibilities of children taking into account the socio-cultural and economic dimensions pertaining in the society. Suffice to say that as society changes in these dimensions, it reconstructs its conception about childhood. This current study contributes to the re-conceptualisation debate based on recent data on children's activities in Ghana in the 21st Century. The paper explores the various socio-economic activities children engage in, analyses the contributions of children to household income and finally argues for the re-conceptualisation of childhood to reflect contemporary roles children play.

For the purposes of this current study, the paper uses income generated by children from economic enterprises in the two ecological (coastal and forest) zones in the country as a basis to explain children's contribution to household income and to some extent poverty reduction. The paper is structured basically into six main parts. These are the introduction, conceptual and theoretical issues, data sources and methods, results, discussions and conclusion and recommendations.

Conceptual, legal and theoretical perspectives

Children constitute critical component of population in the world and to every government. It is therefore not surprising that there is the consistent global, regional and national effort towards their development and welfare. Among these efforts is the creation of institutions and structures as well as enactment of legislative instruments. Generally, the United Nations Convention on the Rights of the Child (1989) and specifically, the 1992 Constitution of Ghana and The Children's Act (Act 560) of Ghana (1998) largely govern affairs of children in the country.

The United Nations Convention on the Rights of the Child has three broad categories of rights: provision, protection and participation. Critically, the issue of participation transcends into the domains of socioeconomic

activities. Therefore, economic participation of children in farming, fishing, and other enterprises as well as domestic (or housekeeping) involvement of children also need recognition.

It is undoubted that household poverty is the cause of child work. Similarly, it is unarguable that children contribute to household survival. This has evidently been highlighted by the International Labour Organisation (ILO). Poverty, however emerges as the most compelling reason why children work. Poor households need the money, and children commonly contribute around 20 – 25 % of family income. Since by definition poor households spend the bulk of their income on food, it is clear that the income provided by working children is critical to their survival (ILO, 1997, cited in Rose (1998)).

Thus, based on ILO's assertion, the survival of households to a large extent depend on the socioeconomic contributions of children. It must be emphasised here that the account of contribution need to be legitimate and legal. In fact The 1998 Children's Act as well as the 1989 UN Convention on the Rights of the Child explicitly prohibits children from participating in any work that affects the health, education and/or development of the child. The ILO defines such a work as child labour. A child, in this perspective is any person less than 18 years. Even though in The Children's Act, the minimum age of employment is 15 years, the law allows children above 13 years to engage in light work.

The issue of age however becomes a concern when discussing subjects such as this. For instance, culturally, puberty marks the beginning of adulthood irrespective of one's chronological age. There are also instances where physical and mental development of some children surpass those older than them. It is therefore not surprising to see children less than 13 years engaged in economic activities in Ghana (GSS, 2008) and elsewhere (Understanding Children's Work Project, 2006).The relativity associated with the concept of childhood challenges the status quo and normative definitions available.

Literature on children's contribution to household income and poverty reduction is limited in general and particularly in Africa. This may be attributed issues surrounding child work and child labour (Bala-Donkoh and Mariwah, 2011). Few literature available however indicates that children's contributions to household income or poverty reduction are related to the incidence and patterns of work, and at times, future employment prospects (Johnson and Line, 2000). In Ghana, agriculture engages more than 89 % of the services of close to five million children between the ages of seven and 14 years. The others work in other areas such as trading, fishing and the hotel and restaurant sectors (GSS, 2008). In most instances, children are not paid

or and under paid for services rendered. This may be attributed to the fact that most of these children are family workers (Morrow and Vennam, 2009; Johnson and Lino, 2000).

Nevertheless, the Fifth Ghana Living Standard Survey provides an account about economic gains of children as a result of work. While boys are more likely to be employed, girls are more likely to receive higher wages. The report indicates that about 80 % of the children worked for less than 40 hours per week with an average hourly wage of 29 Ghana pesewas seven days preceding the survey. While girls received 32Gp which is 70 % of hourly wage of adult females, their boy counterparts received 27Gp which is 40 % of hourly wage of adult males (GSS, 2008).In a similar study in the USA, Johnson and Lino (2000) realised that teens who were employed between less than 10 weeks and more than 10 weeks per year received between $2,000 and $5,000 depending on the sector which employed them.

Issues of low educational attainment have been raised in relation to child work (Esia-Donkoh et al., 2011; Johnson and Lino, 2000). In as much as the current study recognises that children below and above 14 years who are engaged for more than 14 hours and 42 hours in productive tasks is a concern, it also admits that this should not cloud their contributions to household income generation and poverty reduction. Perhaps, there is the need now to consider their contribution in order to develop a framework which would then accommodate children's economic engagement without any detrimental effects.

Understanding childhood and the roles of children continues to be contentious largely because of political claim of culture and the notion of identity. Given the consistent increasing rate of globalisation and the changing roles of children within the social, cultural, economic and political domains and constructs, it has been argued that issues of childhood should be understood within cultural and social contexts. That is, childhood should be contextualised rather than universalised. Analyses by authors such as Aries' historical analysis in 1962, Qvortrup's structural analysis in 1994 and Jenks' historical analysis in 1996 (Horowitz 1995; Meece, 1997; Santrock, 2005) provide a broader platform for further discussion on the subject.

Like the other authors, Jenks' analysis is critical to this study. He studied the understating and conceptualisation of childhood from pre Christian era to the 20th century era. Using a time dimensional framework, he came out with six main stages. These are the infanticide mode, abandoning mode, ambivalent mode, intrusive mode, socialisation mode and helping mode. Each stage explains how people in that era perceived and therefore assigned roles to children. The last stage of Jenks' analysis comprises the admission

of children's rights and the enactment of legislative instruments to acknowledge, protect and enforce such rights. The paper is of the opinion that there is the need for a seventh stage because of the 21st century time dispensation which is characterised by changing roles and activities of children especially in the political and socio-economic domains.

Agbényiga (2012) has also done a comprehensive historical analysis of images of childhood from the Ghanaian context. He reviewed the images of childhood in the pre-colonial era, colonial era, post-colonial era and the continuity of childhood in contemporary Ghana. Like Jenks, he also pointed out that images of childhood have changed from a traditional understanding to universalised perspective with broadened legislation and framework. His conclusion was in support with others that 'changes in images of childhood in Ghana have been viewed in terms of the inconsistency between the reality of children's everyday experience across gender, religions, and class and the promise in policy which is interpreted to bring more harm than progress (see Clerk, 2012; Ame, 2012). There is therefore a support for the call for changes on the local level so that the gap in images of children between Geneva and Ghana could be narrowed to reflect the local framework for the realisation of children's rights and understanding of their experiences.

Earlier, writers such as Veerman (1992, cited in Agbenyiga, 2012) have shown that there has not been a static and singular perspective of childhood even in the history of America, and that, the image of childhood has changed over the last century and comes with varied conceptualisation in different contexts. Among the issues discussed in a study by Bruscino (2001, cited in Agbényiga, 2012) in a village in Northern Ghana, two are relevant to this paper. The first issue is that even though the Convention was to affect children, their input was not considered. The second issue is that Ghana, like any other developing country, needs a legislation which would permit children to work but under certain conditions. Thus, given the changing image of childhood, legislation of children's rights must reflect their everyday activities and experiences as well as how the societies treat them (Agbényiga, 2012) for the benefit of both the child and the household.

The research is guided by an adapted version of the Wennekers and Thurik Model (Wennekers and Thurik, 1999). The original model was used to synthesise disparate strands of literature to link entrepreneurship to economic growth. For the adapted model, an attempt was made to describe child work and children's contributions to household poverty reduction. The (adapted) model has four key variables, namely level of analysis, household conditions to work, crucial reasons to work and effect on entrepreneurship. Each of these variables is explained by a corresponding activity or description. These are:

the individual (or the child),
the characteristics of children and parents in a household (such as age, sex, educational status and occupation),
contributions to household income, and
effect on household (Figure 1).

This model is premised on the assumption that children irrespective of sex and residence contribute to household income which by extension, also contributes to the reduction of household poverty. Thus, the unit of analysis is children. The household conditions to work variant is explained by the characteristics of the children and parents. Evidence indicates that household poverty is the crucial reasons children work. Children who work therefore contribute to household income which goes a long way to reduce household poverty. The model also explains the issue of entrepreneurship. Relevant to the study is the fact that traditional children learn both domestic and economics skills and abilities from their parents (Agbényiga, 2012; Rattray, 1933).
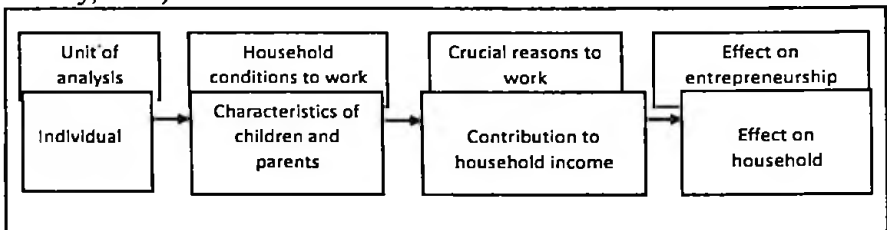
Figure 1: Children's contributions to household poverty reduction model
Source: Based on Wennekers and ThurikModel (1999)

Data sources and methods
Data were sourced from a five-year, multi-country research project titled 'Children, transport and mobility in sub-Saharan Africa comprising Ghana, Malawi and South Africa. For details of the project and its research design and methodology (which concern Ghana), see Porter et al (2010, 2011). Both qualitative and survey data were collected by trained staff from the University of Cape Coast (the implementing institution in Ghana). The survey data was used for descriptive purposes to complement the qualitative data. The data were collected from four purposively selected settlements namely, urban, peri-urban, rural and remote rural settlements from two main ecological zones: coastal and forest zones. The selection of the research zones and settlements was influenced by spatial dynamics, socio-economic characteristics and access to basic social services such as health facilities,

schools, telecommunication and transport.

The settlement types were categorised based on the availability of social services. Thus, an urban settlement was defined as a type of settlement where all the basic social services are available. A peri-urban settlement was defined as a type of settlement where some of these social services are available. A rural settlement and remote rural settlement on the other hand were referred to as a settlement with at least one and none of the basic social services available respectively.

The respondents that were drawn from these settlements constituted children aged 9to 18 years. In-depth interviews and focus group discussions (FGDs) were employed to collect data from in-school and out-of-school children, parents, settlement leaders, (head) teachers, health workers, transport operators and assembly men and women. In all, 150 interviews/focus group discussions were conducted. It must however be emphasised that the qualitative data are focal to the analysis of this paper. Notwithstanding, the paper also draws from survey data which was collected in the same ecological zones and settlement sites. The interview schedule was used to collect this data from 1000 children. Five hundred respondents participated in the survey in each ecological zone comprising 125 respondents from each settlement site. The rationale for the sample size was to allow for adequate statistical application to the data at least at each site (see Hair et al., 1987).

The project relied on field assistants from the University of Cape Coast. They were made up of lecturers, research assistants and post graduate students from the Departments of Geography and Regional Planning and Population and Health. One week was used to train the field assistants after which pre-test and pilot study were conducted purposely to assess the reliability and validity of the instruments as well as the possible administrative and logistic challenges that were likely to be encountered in the actual field work for remedial actions. Apart from the out-of-school respondents who complained of loss of income as a result of time they spent to be interviewed, there were no challenges to study.

The study is largely situated within the qualitative framework. Narratives are used to substantiate issues under discussion after making general assessment of such issues. The Nu*dist (version 7) application was used to analyse the data. In addition, basic descriptive statistics was employed for descriptive analyses. Cross-tabulations, frequencies and percentages were used. The Statistical Product for Service Solution (SPSS) (version 17) was the application used for the descriptive analysis.

Limitation of the study

Although broader in scope, the study did not conduct a baseline survey to make a comparative analysis about how children's contributions to household income have resulted in poverty reduction. It also did not focus on the percentage contribution of income by children in each household surveyed and interviewed. Therefore the study could not employ quantitative statistics to make a generalised conclusion that there is a correlation between children's contributions to household income and poverty reduction in the study areas.

Results

Background characteristics of respondents

The background characteristics of the children considered for analyses in this study were sex, age, type of settlement, educational status, occupation and life status of parents. In all, about 53% of the respondents were females (Table 1). Nearly 52% of the girls interviewed lived in the coastal zone while a little over 51% of their male counterparts resided in the forest zone. At least, more than 20% of all the respondents lived in an urban, peri-urban, rural or remote rural settlement.

Specifically, there were slightly more female respondents interviewed in the urban and peri-urban settlements at the coast   respectively.

However, there were generally more males interviewed at the peri-urban settlements in the forest zone than any other types of settlement in all the two ecolo...

Table 1: Background characteristics of respondents by ecological zone, settlement type and sex

| Ecological zone | | Settlement Type % (N) | | | | Total % (N) |
		Urban	Peri-urban	Rural	Remote rural	
C...	Female	29.0 (79)	24.5 (67)	25.3 (69)	21.2 (58)	100 (273)
	Male	20.4 (46)	25.8 (58)	26.7 (60)	27.1 (61)	100 (225)
	Total % (N)	25.1 (125)	25.1 (125)	25.9 (129)	23.9 (119)	100 (498)
Forest	Female	29.0 (74)	29.8 (76)	24.7 (63)	16.5 (42)	100 (255)
		3.3 (55)	36.8 (91)	24.7 (61)	16.2 (40)	100 (247)
		2... (50)	33.3 (167)	24.7 (124)	16.3 (82)	100 (502)

Source: ... (Child mobility survey (2005).

                                           ...lled in school. Specifically, nearly
                                      ...ively were enrolled in school a
                                           20% attended public

Primary and Junior High School (JHS). With respect to their parents, the majority of them were reported alive. For instance, about 94% of the respondents indicated that their mothers were alive while 91% and 87% of the girls and boys said that their fathers were also alive. The major occupation of these parents was farming. However, about a third (30%) of the mothers were engaged in petty trading.

Children's domestic-related tasks

Children play diverse roles consciously and unconsciously or directly and indirectly to the survival of their families or households and increase the income of their parents (and at times their own selves). Usually, they take up major domestic roles such as fetching water, washing clothes of parents and other siblings, going to the mill with loads of grains and caring for younger siblings. To some extent, children performed these tasks to enable their parents engage in some economic ventures. Nevertheless, these contributions if not quantified economically would not be relevant to assessing children's contributions to household income. Some of the reported contributions are as follows:

I carry items such as rice, beans, tin tomatoes and other wares to the market in the morning. My guardian sells these items. In the evening, I go to the market to pick the items which were not sold back home (Male, 15 years, coastal, urban).

I am the female in the house. My sister goes to farm and comes late in the day. I also take care of the three children of my sister while she is at the farm. I am the only female in the house apart from my sister so I do most of the domestic activities including cooking (Female, 13 years, forest, urban).
There are yet other tasks that the respondents performed a week preceding the study which are domestic-related, but by extension, contribute to the survival of the household. For instance, some of the children carried non-farm wares of the parents to the market, while others were engaged in the porterage of food crops, fuel wood and charcoal from the farm to the house and/or the market.

Children's economic-related tasks

Children also serve as a crucial resource to many household occupations (Cockburn, n.d.). With majority of their parents engaged in farming and farm-related activities, the respondents participated meaningfully in most of these activities. In fact, most of the children were engaged in one economic-related activity or the other. Principally, some children reported working on the farm and selling at the market. Other tasks the respondents engaged in included gathering forage and pasture for animals and livestock

herding. It was realised during the in-depth interviews and focus group discussions that children work in diverse economic sectors because of diverse reasons. One of the settlement leaders in the forest zone remarked that:

Children are involved in economic activities either to cater for themselves or the family as a whole. Some of the parents are old or invalid so the children in such households work to feed the household in general... some of them farm, provide labour at poultry farms while others serve as are casual labourers weeding around some peoples' houses for money and at times food (Male leader, 59 years, forest, rural).

The study noted that children engaged in varied economic activities including weeding on farms, working at poultry farms, carrying loads and hawking as well as harvesting crops. For purposes of this study, these have been categorised into two main economic activities based on dominance in all the ecological zones as well as the types of settlements. These are farming and selling. Both males and females at varied ages were enga ged on the farm and at the market to contribute to household income at one hand as well as personal income for survival.

Working on the farm

Working on the farm is not an uncommon phenomenon in Ghana particularly and Africa in general. Literature available indicates that children usually assist their parents in household occupations (Esia-Donkoh et al., 2011; Morrow and Vennam, 2009). It is therefore not surprising that more than half (54.8%) of the children worked in the field a week preceding the survey. More than 50% of the respondents were involved in farm activities in the coastal and forest zones. A substantial number was also engaged in similar tasks in most of the settlements studied (Table 2).

Table 2: Children's farm work per day by ecological zone and settlement type

Type of settlement	Work per day in ecological zone % (N)		Total % (N)
	Coastal	Forest	
Urban	9.4 (3)	90.6 (29)	100 (32)
Peri-urban	47.0 (77)	53.0 (87)	100 (164)
Rural	50.5 (101)	45.5 (99)	100 (200)
Remote rural	59.2 (90)	40.8 (62)	100 (152)
Total % (N)	49.5 (271)	50.5 (277)	100 (548)

Source: Child mobility survey (2005)

Similarly, within the context of the ecological zones, there were substantial numbers of males (307) compared to females (237)who were engaged in farm and farm-related activities a week preceding the survey. At the coastal and forest zones, most of the male-children were engaged in farming at the rural and peri-urban settlements while other female-children worked on the farm at the rural settlements in both ecological zones (Table 3).

Table 3: Children's work on the farm by ecological zone, settlement type and sex

Working on the farm in ecological zone by sex		Settlement Type % (N)				Total % (N)
		Urban	Peri-urban	Rural	Remote rural	
Coastal	Female	0.8 (01)	31.7 (38)	37.5 (45)	30.0 (36)	100 (120)
	Male	1.3 (02)	26.2 (39)	36.9 (55)	35.6 (53)	100 (149)
	Total % (N)	1.1 (03)	28.6 (77)	37.2 (100)	33.1 (89)	100 (269)
Forest	Female	8.6 (10)	25.6 (30)	39.3 (46)	26.5 (31)	100 (117)
	Male	12.0 (19)	35.5 (56)	32.9 (52)	19.6 (31)	100 (158)
	Total % (N)	10.6 (29)	31.3 (85)	35.6 (98)	22.5 (62)	100 (275)

Source: Child mobility survey (2005)

Children's core work on the field comprised weeding, planting and harvesting of crops. In addition to these, it was realised from the study that more than 73% of the respondents carried loads on the head to and from the farm. Specifically, about 77% girls and 71%boys carried loads a week preceding the survey. On the basis of settlement type, more than 70% of all the respondents except those in urban settlement (53%) carried loads to work on the farm. Among all these respondents, more than 89% in the coastal zone carried loads to similar destinations for the same purposes.

Sale of wares
Children also reported selling different types of farm and finished products. The survey results showed that more than one-fifth of the respondents were engaged to sell. Some of the respondents sold in all the days of the week preceding the survey. While undoubtedly, girls were more engaged in selling, there were more respondents who sold at the forest zone and urban settlements than in the other settlements studied (Table 4).

Largely, female children are often engaged to sell for and on behalf of their parents, usually mothers. However, there are instances where children sell to cater for their personal needs and that of the larger household (Esia-

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Donkoh et al., 2011). One of such children was a 14-year old female who sells charcoal to take care of her personal and household needs in one of the peri-urban settlements in the coastal zone. She indicated that:

The charcoal business is my own business. I used to sell with my mother. Now I am on my own but the money I get is for me, my younger siblings and my entire household too.

Table 4: Selling per day by ecological zone and settlement types

Type of settlement	Selling per day in ecological zone %		Total % (N)
	Coastal	Forest	
Urban	53.4 (39)	46.6 (34)	100 (73)
Peri-urban	52.7 (29)	47.3 (26)	100 (55)
Rural	12.8 (18)	87.2 (34)	100 (52)
Remote rural	45.5 (5)	54.5 (6)	100 (11)
Total % (N)	47.6 (91)	52.4 (100)	100 (191)

Source: Child mobility survey (2005)

Slightly more children were engaged in selling in the forest zone a week prior to the survey. As usual, girls were generally found selling. Selling was more common among females in both ecological zones and settlement types except in rural and remote rural areas in the coastal zone and rural settlements in the forest zone (Table 5). The variation may be explained by the types of wares such as fuel wood and food crops which constitute the heaviest types of items sold in such settlement types.

Table 5: Children's selling activities by ecological zone, settlement type and sex

Selling in ecological zone by sex		Settlement Type % (N)				Total % (N)
		Urban	Peri-urban	Rural	Remote rural	
Coastal	Female	43.5 (30)	33.3 (23)	17.4 (12)	5.8 (4)	100 (69)
	Male	40.9 (9)	27.3 (6)	4.6 (1)	27.3 (6)	100 (22)
	Total % (N)	42.9 (39)	31.9 (29)	14.3 (13)	10.9 (10)	100 (91)
Forest	Female	38.9 (21)	31.5 (17)	24.1 (13)	5.5 (3)	100 (54)
	Male	31.0 (13)	21.4 (9)	40.5 (17)	7.1 (3)	100 (42)
	Total % (N)	35.4 (34)	27.1 (26)	31.3 (30)	6.2 (6)	100 (96)

Source: Child mobility survey (2005).

Children's contribution to household income

Children contribute to household income directly, indirectly and diversely. As have been espoused earlier, their engagement in domestic and economic activities contributes substantially to their household income. The survey results showed that majority of the respondents who were engaged in economic enterprise a week prior to the study were either under paid or not paid for.

However, the in-depth interviews and focus group discussions revealed that across all the ecological zones and in the various types of settlements, children were engaged in economic activities that brought income ranging between GH¢2.00 and GH¢5.00 per day or more than GH¢50.00 per year to their households. Some of the contributions were found to a large extent regular. A few instances are cited below.

I have a farm...Last year, when I harvested and sold my crops, I had GH¢90.00...I remitted my fatherGH¢50.000 to assist him take care of my other household members especially my siblings(Male, 18 years, remote rural, forest).

My parents are farmers...Apart from working with them, I work for other people too. I weed around their houses. Usually, I receive GH¢ 2.00 per day. Sometimes too I get GH¢4.00. I give all the money I receive to my mother. She buys clothes and school items for us(Male, 15 years, rural, forest).

I sell charcoal. It is a household business. I sell for my parents. I also have the liberty to sell my own charcoal. A big bag cost GH¢7.00 ; the farm but GH¢8.50 and GH¢15.00 if it is nearer to the roadside and at the market. I get between GH¢1.00 and GH¢2.00 profit per bag of charcoal. On a good day, I sell about five bags a day. I keep my profit and use it to buy books, bags and other school items as well as other personal needs (Female, 14, peri-urban, coastal).

It is clear that children go beyond the domestic spheres to contribute economically to household income on one side and the other side generating their own income. In so doing, some amount of wealth is created. This can be essential for sustainable poverty reduction.

Child entrepreneurship

Both the pilot and the main study revealed that some of the parents consciously or unconsciously encouraged their children to develop certain entrepreneurial skills and abilities especially in trading. There were instances where some of these children added other wares to that of their

parents to sell alongside. In this case, they sell the wares of their parents as well as their own wares to generate personal income. One of such entrepreneurial capabilities was exhibited by a 14 year old female primary pupil in a peri-urban site at the coastal zone. This child sold with her mother for a while and later started her own charcoal business when the mother was no longer able to take care of all the domestic and academic needs of the household.

I realised that my parents were not able to meet all our needs so I decided to start my own business to buy and sell charcoal. Charcoal seems to be the main product to sell here. I started selling in Elmina and my mother encouraged me... After sometime I told my mother I would like to sell in Cape Coast to see how the business is at the place too. She agreed...That is how it began in Cape Coast. Selling in Cape Coast is more lucrative than at Elmina. My other siblings also sell charcoal. But they sell at Elmina. We share the profits equally. We also give some to our parents. My mother keeps our money on our behalf and all our needs are bought with our savings.

Children's participation in economic activities and demonstrating of entrepreneurial abilities are worth studying. The above quote shows how some children (female) can learn from their parents the necessary skills and abilities to start their own enterprises, and further identify new business niches. Similar skills were also demonstrated in some of the farming communities especially in the remote rural and rural settlements where some children had some plots of farmlands demarcated to them by their parents to cultivate vegetables and other food crops. Other children mostly in the forest zone were trained to hunt for animals using guns and dogs. They usually engaged in this activity after school and whenever they went to the farm. Grasscutters, birds and other animals were hunted and killed and sold to generate personal and household income. As depicted by the framework used for this study, household conditions and reasons to work are linked to entrepreneurial skills and development (see Rattray, 1933).

Discussion
Understandably, children all over the globe and specifically in developing countries play various economic roles directly or indirectly to contribute to the survival of households. As illustrated by the framework adapted for this study, children more or less work in economic arenas that are common to their parents and household. The knowledge of children's contributions to household income is not in contention. But how these contributions translate to household poverty reduction has rarely been researched into or carefully ignored.

Theoretically, household income and poverty are inversely related. Therefore, holding all other things equal, an increase in household income reduces poverty. As shown in the framework, there is an impact of children's contributions to household income on household poverty reduction. The call is how to make these contributions (to poverty reduction) visible in poverty reduction analyses. In doing so, two issues may arise. The first is how to define the work children engage in as legitimate and not child labour. In as much as the paper advocates for the acknowledgement and further computation of contributions by children to household income, it also recognises issues that bother on legitimacy and legality. For instance, there are national, regional and international frameworks that govern and regulate the activities of children including work. Making children's economic contributions to household income 'visible' takes into cognisance issues of child labour and child skill development (Esia-Donkoh and Mariwah, 2011; Esia-Donkoh et al., 2011; Mariwah and Esia-Donkoh, 2011; Porter et al., 2011). This is critical to avoid the tendency of rationalising an illegality (child labour).

The second critical issue for consideration is the analysis of children's contributions to household income (and possibly poverty reduction) at both the micro (household) level and macro (national) level. In developing countries such as Ghana, where governments do not have sustainable social welfare system to support the dependant categories of the population (children and the aged)economically children will continue to constitute both economic and social assets in this regard. The tasks children engage in, their contributions to personal and household incomes, and remittances sent to siblings and parents in other social and geographical contexts serve as basis for recognition, acknowledgement and (re) conceptualisation of childhood. Age therefore does not provide the best of measure to evaluate and conceptualise childhood. This makes the call for the re-conceptualisation of childhood imperative. Thus, an eclectic analysis, that is, drawing from various contextual/social constructs becomes appropriate compared to a single standardised universalised definition (Clerk, 2012). This will enable the sustainable contribution of children to household income and poverty reduction to be accounted for and reflected in local and national programmes. The call for a context-specific (re)conceptualisation of childhood rather than the adoption of the existing international universalised framework seems appropriate.

Closely related to the issue of re-conceptualisation of childhood are the legal and operational definitions of some of the key concepts used in international frameworks. For instance, in the United Nations Convention on the Rights of the Child, participation is one of the critical broad

classifications. Participation of children in the economic sphere is scarcely envisaged in the Convention, but its discussion is critical given the roles and contributions of children to household survival and income. Apart from the protection and provision components which have well been discussed and rationalised adequately, parents' roles and influence in the participation of children in both social and economic domains are worth flagging. As has been recognised, some of the activities children engage in usually under the supervision of their parents (Casabonne, 2006) provide a platform for positive child development and gradual initiation into adulthood (Esia-Donkoh and Mariwah, 2011; UNICEF, 1997; Fyfe, 1989). This to some extent explains the role of parents in the development of entrepreneurial skills of their wards.

Also related is the view that there is the need for a review of Jenks' historical analysis of childhood. The paper advocates for a seventh stage given the activities children engage in, their contributions to household income (and poverty reduction) and the demonstration of entrepreneurial ability. The study and literature available indicate that children are playing roles beyond the helping mode (described as a stage in the 20th century). The paper therefore advocates for a seventh stage to be described as the participation mode to reflect children's contributions in the 21st century.

Finally is the wages children receive or do not receive after work. Perhaps, adults still see children's economic roles as part of the socialisation process (Boakye-Boaten, 2010). This cultural orientation contributes to the inadequate wages paid to them, if any. In some instances, these contributions are not recognised at all or are taken for granted by adults. With the cultural perception that children are to be seen and not heard, they find it difficult to exercise any effective agency to seek or bargain for better wages. As a survival strategy, children might be unwilling too to challenge the status quo. These explain the need for a formal admission and acknowledgement of the need to activate the necessary systems and structures to compute the contributions of children to household income in Ghana without having detrimental effects on the education, health and development of children.

Conclusions and recommendations
Children's economic endeavours and their contributions to household survival and income are important to national development in general. All over the globe, children are engaged in both domestically and economically for personal and household gains. What has most importantly been missing within this context is the recognition and acknowledgement of such contributions at the micro and macro levels in many developing countries such as Ghana. The difficulty perhaps relates to conceptualisation of

childhood and child work or labour. Generally, conceptualisation from the international domains at times cloud local images constructed about children, and hence, conflicts with any attempts to any formal admission and computation of their contributions to poverty reduction.

If analysis of childhood in general centres on the societal construct of the concept, then it becomes appropriate to review such conceptualisation from time to time when children's roles, responsibilities and contributions change. Since over the recent decades, children's activities in Ghana and likely elsewhere in Africa have changed owing to the growing trends of modernisation and its associated economic activities, it becomes necessary the Ghana recognises this changing trends. This will then allow for further exploration of child work and its consequent relevance to household and national income as well as poverty reduction programmes. This is critical because children's contributions to household income could translate to household poverty reduction.

Specifically, the systems and tools used by the Ghana Statistical Service in particular to generate and assess national incomes, poverty assessment and living standard studies must incorporate tools to assess the contributions of children to household income and poverty reduction. Additionally, as part of its mandate, the Ministry of Gender, Children and Social Protection with its affiliate Departments must develop or activate the appropriate structures to ascertain the diverse economic activities children engage in, and how such activities contribute to household income and poverty reduction without jeopardising their health, education and development.

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Implementation of the Community Education Teaching Assistants Module of the National Youth Employment Programme: Outcomes and Challenges in northern Ghana

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Abstract

This paper analyses the outcomes and challenges of the Community Education Teaching Assistants (CETAs) module, one of the modules of the National Youth Employment Programme (NYEP) which the Government of Ghana (GoG) started implementing nationwide in 2006 as part of its poverty reduction programme. The paper draws on the livelihood framework for analysing how far the module provides a meaningful and or sustainable means of living, the very core objective of every livelihood. It draws on qualitative data from in-depth interviews and focus group discussions of key personnel and beneficiaries of the programme. It also draws on secondary data, both qualitative and quantitative data for analysis. The results show that the programme has achieved some modest livelihood outcomes. First, District Employment Task Forces (DELTA Forces) were constituted and reactivated to improve on their performance in implementation of the module. Secondly, the module provided only temporary employment for most CETAs. The majority of CETAs are laid off after two years per their contractual terms ill-prepared to make a sustainable living. Thirdly, the phase out plan to latch CETAs onto the Untrained Teacher Diploma in Basic Education (UTDBE) programme for professional teacher training is benefiting only a few CETAs. These outcomes were largely shaped by challenges in the governance of the programme. To this end, the module largely provides short term relief to CETAs. In the long term, it does not provide a sustainable means of livelihood for most CETAs, except the few beneficiaries of the UTDBE programme. The paper therefore, recommends institutional reforms for improving governance and enhancing financial sustainability of the module at the district level.

Introduction

This paper adapts the livelihood framework for analysing livelihood outcomes of the Community Education Teaching Assistants (CETAs) module of the National Youth Employment Programme (NYEP) in Ghana. In 2006, the Government of Ghana (GoG) initiated the National Youth Employment Programme (NYEP), a nationwide initiative to provide employment for the youth and at the same time address the problem of limited staffing in the social services sub sector, specifically the education and health sectors (GoG, 2006). The subject of interest in this paper is the

education component which is implemented through the Community Education Teaching Assistants (CETAs) module. The module aims at offering employment to the youth who have Senior High School (SHS) education as non-professional teachers in basic schools at the district level nationwide.

Following the introduction of the CETAs module at the district level, non-governmental organizations (NGOs) working in the area of education took interest in understanding how it was implemented, the challenges associated with implementation and how they could support implementation. One of such NGOs is the Northern Network for Education Development (NNED) which took interest in supporting implementation of the CETAs module in the three northern regions. Hence, in 2009, NNED conducted a study on the implementation of the module in five selected districts in northern Ghana. The study revealed several management problems confronting implementation of the module. In response, NNED sought funding to support implementation of the module in a one year project captioned CETAs Plus in four districts located in northern Ghana. The districts include Gushiegu and Karaga districts in Northern Region, Nadowli District in the Upper West Region and Builsa District in the Upper East Region. This paper considers the implementation of the CETAs module in the four project districts and takes into account the role of CETAs Plus in supporting implementation. To this end, the key question that this paper explores is thus: what are the outcomes and challenges of the CETAs module vis-à-vis livelihood sustainability of the beneficiaries?

For the purpose of addressing the issues in a systematic manner, this paper is structured in five sections, the first being this introduction. The ensuing section examines the context in which the study was conducted. In section three, a conceptual framework drawing on the livelihood framework is presented. This is followed by a presentation of the methodology and results in sections four and five respectively. The discussion and recommendations for improving the sustainability of the programme are presented in sections six and seven respectively. The paper is then concluded in section eight.

The study context: The NYEP and CETAs Plus

This paper examines the implementation of the CETAs module within the context of the NYEP programme and the CETAs Plus project. The implementation of the CETAs module was started in 2006 at the district level by the Government of Ghana (GoG). The NYEP policy stipulates a number of key issues pertaining to the CETAs module (Ghana, 2006: 40):
Overall, the objective is to create voluntary employment opportunities for the youth, both men and women with basic passes at the SSS level as

volunteer CETAs. Volunteers have to be of good character and committed to teaching pre and basic school level pupils for at least one year, working with trained teachers. The policy also stipulates a resource support package including allowances and logistics such as bicycles, bags, and notebooks to support the work of the volunteers. The policy also stipulates that District Employment Task Force through the District Directorate of Education will have immediate responsibility for implementation at district levels.

The implementation of CETAs Plus was started in 2011 by NNED with funding support from STAR Ghana. CETAs Plus was implemented with a view to achieving the following objectives:
To lobby four (4) District Assemblies to commit part of their discretionary funds and other sources for a sustained In-service Training (INSET) for all CETAs in their districts and to also involve GES more in the selection and recruitment of CETAs;
To promote responsive governance, accountability and participation in the implementation of the CETAs module through strengthening four (4) DELTA forces;
To institute a mechanism for ensuring that the next replacement cycle (2012) for CETAs was responsive to at least 40 CETAs from four (4) districts who were training to become professional teachers under the UTDBE and;
To increase attendance and time on task of at least 160 CETAs from 4 districts through the use of community score cards by School Management Committees (SMCs) and Parent Teacher Associations (PTAs).
After a year of implementation, CETAs Plus ended in April, 2012 and was largely assessed as successful despite some outstanding challenges affecting implementation (Derbile, 2012).

The livelihoods framework and conceptual overview

This paper draws on the livelihood framework for analysing the outcomes and challenges of the CETAs module as it relates to livelihood sustainability of beneficiaries of the programme. The basic livelihood approach illuminates the integrated nature of livelihoods. In this context, a livelihood is defined as all that it takes to make a living. These essentially include what people do to make a living, the resources and capability they employ and the wider environmental factors, specifically the risks, institutional and policy factors that may either affect efforts at making a living positively or negatively (See Chambers and Conway, 1992; Ellis and Freeman, 2005; Long, 1997; Appendini 2001; De Haan and Zoomers, 2005). In the pioneering work of Chambers and Conway (1992), a livelihood is complex and comprising four interrelated parts. The first two parts include the people's livelihood capabilities and the activities they do. The third are the assets, which are the resources - comprising their stores and resources

(tangibles) and their claims and access (intangibles) which together provide the material and social means, respectively. Finally, the fourth is the very essence of a livelihood, that is the gains or outputs, which is the living that people gain from what they do. In the livelihoods approach, the portfolio of tangible and intangible assets is the most complex component. They present the opportunities and at the same time constraints within which people construct and contrive a living, using physical labour, skills, knowledge, and creativity (Chambers and Conway, 1992:9). These skills may have been acquired and or inherited (eg. within the household) and passed on from generation to generation as indigenous technical knowledge, or through apprenticeship, or more formally through education or extension services, or through experimentation and innovation. A livelihood may be defined at different hierarchical levels but the household is the commonest descriptive level. To further examine the livelihoods framework, the household level is adapted for description of assets (resources) (Table 1).

Table 1: A description of livelihood assets at the household level

Component	Description
Stores & resources	Tangible assets of the household; **Stores** include food stocks, stores of values such as jewellery, textiles and cash savings; **Resources** include land, water, trees, and livestock. Also, farm equipment, tools, and domestic utensils; **Assets** are often both stores and resources.
Claims & access	Intangible assets of a household; **Claims** are demands and appeals for material support or access often at times of stress or shock, or other contingencies. Such support may take many forms- food, implements, loans, gifts or work. Claims may be made on individuals, relatives, neighbours, chiefs, social groups or communities, NGOs, government or international community - programmes for drought relief or poverty alleviation. Often based on combinations of right, precedent, social convention, moral obligation and power; **Access** is the opportunity (in practice) to use a resource, store or service or to obtain information, material technology, employment, food or income. Services include transport, education, health, shops and market. Information includes extension services, radio, television, and news papers. Technology includes techniques for cultivation and new seed. Employment and other income — earning activities include rights to common property resources (CPRs) such as fuel wood or grazing on state or communal lands.

Source: Derived from Chambers and Conway (1992:9-11)

This basic framework set the stage for modern livelihood studies and many researchers have adapted it for improving understanding of different aspects of livelihoods. The basic livelihood framework as proposed by Ellis (2003a, 2003b) is an extension that brings into prominence the environment as either a facilitating or hindering factor in the effort to make a livelihood.

The DFID livelihood framework, a widely used livelihood approach, defines the environment as comprising – (1) the institutional environment including informal and formal practices, rules and norms that shape and in turn are shaped by individuals and (2) the vulnerability context described as the shocks, trends and seasonality factors originating from the external environment and out of control of the individual or household (Pain & Lautze, 2002).

Since the pioneering work of Chambers and Conway, the sustainable livelihood approach has become even more relevant in today's development trajectory. This is because the main objective of livelihood is the search for more effective methods of supporting people in ways that are meaningful to their daily lives and needs (Appendini, 2001; de Haan and Zoomers, 2005). This paper therefore adapts the livelihood framework as conceptual guidance for analysing the livelihood outcome of the CETAs module (Figure 1). The framework assumes that the implementation of the policy presents the nexus between the policy and the livelihood outcomes.

Figure 1: Conceptual framework: CETAs module and livelihood outcomes

National Youth Employment Programme:

Community Education Teaching Assistants (CETAs) Module

Implementation:
Target beneficiaries
Institutional framework
Activities
Governance
Resources
Opportunities
Environment

Livelihood outcomes
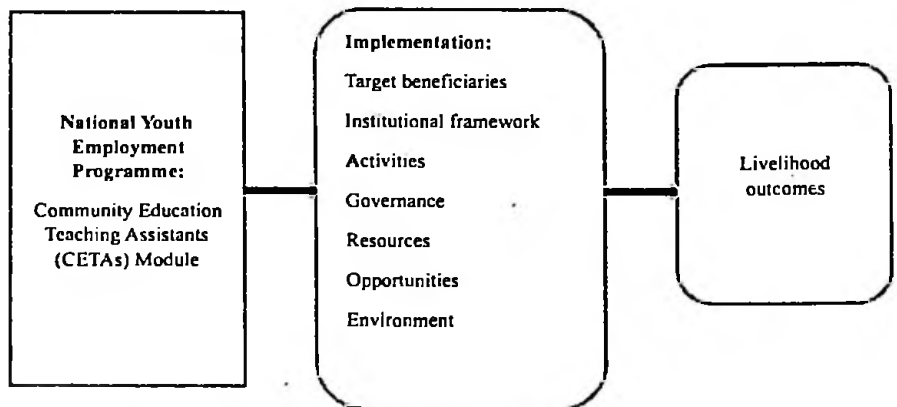
Source: Author's construct

In the framework, a broad spectrum of issues related to implementation include the identification of the target beneficiaries, the institutional framework for activity planning and governance, and the resources and opportunities arising from implementation within the wider environment. To this end, the framework is adapted for understanding if the implementation of the module addresses the core objective of the livelihood framework: whether the CETAs module provides sustainable livelihood opportunities to beneficiaries.

The methodology

This paper draws on two interrelated studies that combined both qualitative and quantitative research approaches to data collection and analysis. These studies included first a needs assessment of the DELTA Forces in CETAs plus project districts in October 2011 (Derbile, 2011) and an end of project evaluation of the CETAs Plus project in June 2012 (Derbile, 2012). The studies were participatory and this ensured that the perspectives and insights of all stakeholders, beneficiaries and project implementers, were taken into consideration in the evaluation and assessment of outcomes of the programme. Although the paper draws on both qualitative and quantitative data, it draws more on the former and the evaluation study in order to shed in-depth insights on the outcomes of the CETAs module.

The sampling frame was mainly informed by purposive sampling. The studies were conducted in districts in which the CETAs module was being implemented by the DELTA Forces and supported by CETAs Plus project. These districts included Karaga and Gushiegu districts in the Northern Region, Builsa District in the Upper East Region and the Nadowli District in the Upper West Region. The geographic spread of the project districts also ensured diversity of ethnic groups in the sample. This includes the *Dagaaba* from the *Nadowli* District, *Builsa* from the *Builsa* District and *Dagomba* and Konkomba (e.g. Zamanshegu) from *Gushiegu* and *Karaga* districts, respectively.

All sampled districts, institutional and or governance structures and individuals and or groups were sampled mainly because they were directly involved as beneficiaries and or implementers of the project. Specifically, project districts and management of CETA plus were the focal points for empirical data collection and analysis for the evaluation. Thus, field data was collected from the four project districts on the following purposively sampled governance structures and or individuals or groups:

At the school management level, twenty four (24) schools, six (6) schools per district were included in the sample and data collected from the following: Community Education Teaching Assistants (CETAs), Head Teachers and teachers, members of Parent Teacher Associations (PTAs), members of School Management Committees (SMCs) and Community opinion leaders.

At the project management and district levels, the sample included: Northern Network for Education Development (NNED) as represented by project management staff; NNED consortium members as represented by HAYTAFORD, SONIDA and NOYED; DELTA Forces ; Ghana Education Service(GES) as represented by Directors and Circuit Supervisors and; and District Assembly as represented by the NYEP Coordinators.

Although the studies assessed the implementation of the CETAs module as implemented by NYEP, the type of data that was collected for the purpose of the evaluation was shaped by the Terms of Reference (ToR) for the evaluation of the CETAs Plus project. Akin to qualitative approaches, the evaluation process was guided by the need for flexibility, flow and exploration of issues around the scope of the evaluation as follows:

The relevance of the CETAs module and the project

The impact of the CETAs module and the CETAs plus project

The efficiency with which the module and project was implemented

The effectiveness with which the module and project was implemented

The sustainability of the module and the project

The innovations and replicability in module execution and project design

Lessons from implementation of the module

In all, three methods of data collection were applied for collecting data from sample respondents and or different sources. These specifically included review of secondary data from official documentation, in-depth interviews and focus group discussions (FGDs). Such triangulation of methods and sources enhanced accuracy of findings and improved validity of the findings.

A desk study and review of project documentation was done as an entry point for the evaluation study. The purpose was to review project documentation for understanding the key issues in project implementation. It was also to take stock of progress in implementation and the challenges arising from implementation. This enabled the project evaluation team to tease issues arising from implementation for critical attention in the project evaluation. The documents that were reviewed included the main proposal, results matrix, activity and quarterly reports, CETA scan reports, CETAs needs assessment and training reports and other project relevant documentation. Any form of documentation or records from NNED consortium members and or partners including GES and NYEP were also reviewed. The reviews were guided by a secondary data review checklist.

In-depth interviews were suitable for generating in-depth understanding on the issues arising from the implementation of the module. For this purpose, in-depth interviews were applied to a relatively smaller sample of key informants who have in-depth knowledge and understanding of the CETAs module and CETAs plus because of their roles in implementation and or as beneficiaries of the project. Interview guides were used for aiding these in-depth interviews. For every target group, a different interview guide was prepared for the purpose of enhancing suitability of the instruments. In all, 73 in-depth interviews were conducted among purposively sampled key informants fairly distributed across study districts (Table 2).

Table 2: Sampled key informants for in-depth interviews.

Type of Informant	Number
CETAs	24
Head Teachers	6
Members of PTA	4
Members of SMCs	4
Community Opinion Leaders	4
Staff of NNED.	3
Members of DELTA force	16.
District Directors of GES	4
Circuit Supervisors	4
NYEP Co-ordinators	4
Total	73

Source: Field Studies, May 2012

Focus Group Discussions (FGDs), a Participatory Rural Appraisal (PRA) method was also applied to facilitate in-depth discussions and consensus around emerging issues. For each target group of discussants, a separate FGD guide was used for aiding the moderation of the discussions. Thus, FGDs were conducted among four categories of respondents. These included the following: 6 FGDs among Trained Teachers in schools where CETAs teach, 6 FGDs among parents of school communities, with at least one FGD conducted among male discussants and another among female discussants in each project district; it also included 4 FGDs among selected CETAs, one from each district for purposes of clarification and validation of issues arising from the evaluation.

The data that was collected from the application of varied methods were also analysed by means of both qualitative and quantitative methods of analysis. These included the use of content analysis of project documents, both qualitative and quantitative data, the use of systematic descriptions for the analysis of qualitative data, and the use of quotations and paraphrasing for analysis of qualitative data. Tabulation and percentages were also used for the analysis of quantitative data.

Results and discussion

Outcomes of implementation of the CETAs module
This paper examines three key outcomes of the CETAs module. These include (1) the constitution of DELTA Forces; (2) short-term employment

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for the youth and (3) the provision of professional training through the Untrained Teachers Diploma in Basic Education (UTDBE) programme.

Establishment and restructuring of the DELTA Forces

First, one key outcome of the CETAs module is the establishment of DELTA Forces for overseeing overall implementation of the programme. Per the NYEP guidelines, DELTA forces are responsible for the overall implementation of the module at the district level. However, some of these structures were either dormant or non-existent four years into implementation of the programme. Hence one key outcome of CETAs Plus was support for the restructuring and or reconstitution of the DELTA Forces in the four project districts. For instance, in the Karaga District, DELTA Force was not in place. However, through support from CETAs Plus, the DELTA Force for Karaga was put in place to oversee implementation of the module in that district. In Nadowli and Builsa districts, DELTA Forces were in place but they were inactive and dormant. Through the facilitation of a series of stakeholder meetings and awareness creation under CETAs Plus, the DELTA Forces in these districts became active and improved in their functioning. In the reconstitution and activation of DELTA Forces, NNED made a conscious effort through advocacy among stakeholders to increase female representation on the DELTA forces. By policy, the DELTA force membership includes District Directors of Education. However, with the exception of Nadowli and Gushiegu districts where the District Directors of Education were females, and automatic members of the DELTA force, the other districts did not have females on their teams. Hence, the advocacy under CETAs Plus led to an increase the number of women on DELTA Forces in the four project districts (Table 3).

Table 3: DELTA force members by district and sex

District	Male	Female	Total
Builsa	7	1	8
Gushiegu	6	2	8
Karaga	8	1	9
Nadowli	5	3	8
Total	26	7	33

Source: Field Study, June, 2012

The results show that DELTA Forces played several roles in the implementation of the CETAs module following restructuring and activation (Box 1).

Box 1: Roles and responsibilities of DELTA Forces

Planning, recruitment, selection, training and monitoring of CETAs;
Offering guidance and counselling to CETAs;
Ensure the effective functioning of CETAs and that they do their work well;
Building the capacities of CETAs;
Supply logistics in support of the functioning of CETAs;
Ensure that CETAs are well trained before they are posted to their respective schools;
Make sure that remuneration of CETAs is paid on time;
Guide CETAs on career development;
Highlight the challenges of CETAs and find ways of addressing them;
Arrange incentive packages for the CETAs;
Mobilize funds from the District Assembly for the training of CETAs;
Examine the policy guideline and modify them to suit the district's peculiar situation.

As a result of the restructuring, collaboration and working relationships between the DELTA Forces and key stakeholders including the District Assembly and GES, implementation also improved. For instance, improved collaboration between the DELTA Forces and the District Assembly led to the Social Services/Education Sub-Committees in the four project districts committing themselves to supporting GES budgets for In-service Training (INSETs) targeted at CETAs. These commitments culminated in the signing of MOUs between the District Assemblies and DELTA Forces. In furtherance of this commitment, the Karaga District Assembly set up a technical committee with the consent of GES and the NYEP secretariat to support the DELTA force develop a training programme and budget for organizing INSETs for CETAs. To this end, the Nadwli and Gushiegu districts have already disbursed GHC 10,000 to the DELTA Forces for INSETs (See NNED, n.d.).

Short-term employment for CETAs

Secondly, the CETAs module has provided short term employment, two-year contractual term for some unemployed youth who have filled vacant teaching positions in basic schools. From the analysis, CETAs enrolment increased consistently in the three districts between 2009 and 2011 (Table 4). In 2009, total enrolment was 628 and this increased by 45% in 2010 and then by 12% in 2011.

Table 4: CETAs recruitment and enrolment (2009-2011)

District	2009				2010				2011			
	M	F	PWD	T	M	F	PWD	T	M	F	PWD	T
Builsa	125	141	6	272	189	269	4	462	189	269	4	462
Nadowli	106	95	4	205	152	80	0	232	65	43	2	342
Gushiegu	128	22	1	151	168	50	0	218	168	50	0	218
Total	359	258	11	628	509	399	4	912	422	362	6	1022

Source: Kavaarpuo (2011)
Notes: Male (M); Female (F); People with Disability (PWD); Total (T).

The CETAs module provides only temporary employment in the short term and therefore, constitutes a subject of contention as to its value in real employment. For instance, the NYEP coordinators at the district level perceive the CETAs module as providing employment to the unemployed youth particularly in rural but also peri-urban communities. On the other hand, respondents from GES generally asserted that the CETAs module did not provide employment in a meaningful way because of its temporary nature. However, community perspectives corroborated the assertion that the CETAs module provided employment and a meaningful livelihood for CETAs. FGD discussants particularly observe that:

The CETAs module provided employment for the youth in the community;

Enable CETAs support their families. This is because CETAs were using their allowances to make family investments and support family expenditures;

Some CETAs even used their allowances to finance their marriages;

That, CETAs added value to themselves and their society. The fact that they were working means that they were responsible youth and commanded respect in the community. Also, as the saying goes, 'the devil finds work for idle hands'. Those youth that were engaged in vices such as excessive drinking, smoking, etc. stopped because they had work as CETAs and needed to be role models.

Finally, it also helped some CETAs further their education for future employment.

Long-term employment through professional teacher training for CETAs
Thirdly, by design, the CETAs module provided an exit plan for CETAs for dealing with the two years contractual term through the UTDBE programme. The UTDBE programme is a bridge-in programme that CETAs enrolled in for a four year professional teacher training programme in

Teacher Training Colleges. In most instances, candidates that were employed as CETAs had weak passes and or no passes in some of the basic subjects and as such did not qualify for admission into tertiary institutions. Hence, during the two years contract period, CETAs have two options – first, an option to study and re-sit their examinations for improving their results for qualification and admission into tertiary institutions or secondly, enrol in the UTDBE Programme in Teacher Training Colleges, the latter being the subject of interest and analysis. This paper takes particular interest in the UTDBE programme for the simple reason that – such an option engenders continuity and builds on the CETAs module for professional training and career employment in the teaching field. As part of the policy design, the UTDBE programme provides an exit strategy and a spring board for professional training and long term career opportunities for CETAs in the future.

A number of CETAs were taking advantage of the opportunity to enrol in the UTDBE programme to be trained as professional teachers. The results from the project districts showed that there were about 177 CETAs on the UTDBE programme undergoing training to become professional teachers (Table 5).

Table 5: Number of CETAs on the UTDBE Programme in Project Districts

District	Male		Female		Total
	No.	%	No.	%	No.
Nadowli	19	54	16	46	35
Karaga	27	73	10	27	37
Gushiegu	29	73	11	28	40
Builsa	26	40	39	60	65
Total	101	57	76	43	177

Source: Field Survey (2012)

This also suggest that only small proportion of CETAs, about 177 (30%) of CETAs accumulatively, were being trained and or had gone through professional teacher training (Table 5). These were also the CETAs who had long term employment and livelihood opportunities through the module. However, one challenge remained – the two years contractual term meant that CETAs on the programme ended their employment terms while they were still on the UTDBE programme when most of them depended on their allowances to finance their training. Thus, one strategic outcome of the CETAs plus was it successful **advocated at the local level for retention of**

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CETAs on the UTDBE programme after their two years contract term ended. This was a clear innovation for three reasons:

The NYEP policy did not make provision for extension of contract tenure for supporting CETAs on the UTDBE programme, given that all CETAs were meant to be replaced after the two year contractual term;

NNED was proactive and with foresight lobbied NYEP coordinators to support the call for retention through memos. Logical arguments were advanced in the memos to justify exemption of the rule in support of contractual extensions for CETAs. This was particularly strategic given the "risks" that decisions to renew or not to renew could be influenced by party politics at the local levels. To this end, getting the NYEP coordinators to support the exemption to the policy was central for mobilizing local level support for the retention of CETAs;

It was also strategic because it represented a rational way of expending scarce resources – that if some initial investments had been made on CETAs in the short term; investments should be extended in support of long-term human resource development for the education sector. Thus, CETAs from all four project districts have benefited from advocacy and policy support activities of the CETA plus project. For instance, in a memo dated 1st March, 2012 and addressed to the NYEP Coordinator, NNED advocated retention of CETAs in the 2012 replacement cycle in the *Builsa* District, including other project districts:

Per the NYEP policy guide, all CETAs and NYEP beneficiaries are to serve for a period of two years after which they are to be replaced. ......The education programme should be exempted given the key roles CETAs are playing in providing quality education to children in deprived areas. Some are even manning whole schools and have gained experience, developed interest in the teaching profession and enrolled onto the UTDBE programme to be trained as professional teachers. Thus, the CETAs plus project is appealing for relaxing the withdrawal clause and those CETAs on the UTDBE programme, considered a second chance in the next replacement circle in your district. We are seeking similar outcomes in the 3 other project districts and would want to request your humble office to update us on the replacement cycle which is due to take place in this year 2012 (Signed: Project Officer, NNED, 2012:1-2).

In response to the NNED memo, the NYEP Coordinator in a memo dated 12th March, 2012 stated that the contract extension of beneficiaries as requested by NNED may be extended for one year subject to formal confirmation.

This extension of the contract of CETAs has been useful in getting them pursue the UTDBE programme. However, there are mixed responses on how CETAs on the UTDBE programme were supported at the district level. For instance, in Gushiegu District, CETAs contracts were extended to enable them benefit from allowances while on the UTDBE programme. In the Builsa and Nadowli districts, GES absorbed CETAs on the UTDBE programme as "Pupil Teachers" to enable them stay on the job and finance their training. In Nadowli, CETAs who gained admission for the UTDBE programme were given priority in employment as 'pupil teachers' over other applicants seeking same employment opportunity. Accordingly, CETAs who were engaged as 'pupil teachers' received much higher allowances than what is offered in the CETAs module itself. Hence, CETAs who are engaged as pupil teachers have better financial support but also much regular salary. Through the different arrangements for financial support, a modest number of CETAs have successfully completed their studies to become trained professional teachers. In the Karaga District for instance, 6 CETAs are reported to have graduated from the UTDBE programme, while 15 have graduated in Gushiegu District successfully.

Challenges of the CETAs module
The implementation of the CETAs module in project districts has been adversely affected by some challenges. This paper takes a closer look at four key challenges that have affected outcomes of the module. These include ineffective functioning of DELTA forces, weak stakeholder collaboration, limited community participation and financial limitations

Ineffective functioning of the DELTA Forces
One of the challenges that has affected implementation of the CETAs module is the ineffective functioning of the DELTA Force responsible for overall implementation at the district level. Although DELTA Forces were inaugurated in every project district, did not function as expected. There were no regular meetings and most members of the DELTA Force did not know their responsibilities. A DELTA Force member who was interviewed in the study asserted that:

Since the constitution of the committee, we have never met and so how will I know the challenges confronting the committee. If I should guess, the lack of funds may be the reason for the inability to organize meetings.

The factors affecting operations of DELTA forces at the district level include the following:

Over-burdened committee members. Some members complained that they were already overburdened with responsibilities from their mother

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departments. This makes it very difficult for them to attend scheduled committee meetings. As such they send representatives (sometimes different representatives at different times) which do not augur well for continuity. As a Deputy District Coordinating Director said: 'many of us are departmental heads and as such fully engaged, so no time';

Lack of motivation, particularly financial incentives for committee members. Some members were of the view that DELTA Force meetings were "dry meetings". That is, no refreshment or lunch was served during meetings and this did not encourage members to sacrifice their time to attend the meetings;

Lack of funds for the functioning of the DELTA Force. In particular, CETAs have no allocation from the District Assembly Common Fund. This limits access to funding in support of the work of DELTA Force and hence, the difficulty in organizing its activities. For instance, training of CETAs is always done in a rush (a week or two) in some districts; instead of an extended period which would enable trainers to effectively handle the training. In other districts like Nadowli, CETAs were yet to be trained because of the lack of funding;

Unclear ownership of the CETAs module. Another is that it is not clear whether it's the District Assembly that is responsible for CETAs, Ghana Education Service or the National Youth Employment Programme. This ownership dilemma also makes budgetary lines unclear and thus affecting funding for DELTA Force activities at the district level especially that, funds from the Ministry of Youth and Sports was not regular. This lack of clarity in ownership also weakens the commitment of its members towards discharging their roles and responsibilities.

Gender consideration in the constitution of the DELTA Force was not good enough. There were only a few females and in some cases no female DELTA Force members at all at the district level.

CETAs plus helped to improve the function of the DELTA Forces but there are still structural problems that affect their operations. Even after CETAs Plus, there are still mixed views regarding functioning of the DELTA Force in all the four (4) districts. For instance, Builsa generally reported that DELTA Force fared well. Gushiegu, Karaga and Nadowli districts reported improvements in functioning but were emphatic that there were problems with the functioning of the DELTA Forces. These challenges included inability to organize regular meetings to discuss issues of implementation and to be responsive to issues affecting execution of the module. The NYEP coordinators therefore, seem to be running a "one person show", rather than DELTA Forces effectively assuming a steering and governance role.

Weak stakeholder collaboration in implementation

Another challenge affecting implementation of the CETAs module is weak stakeholder collaboration between NYEP, DA and the GES mainly due to some extend of politicisation of the programme. The different partners, including the NYEP, District Assembly and GES fairly understand their roles in the recruitment, management and delivery of the CETAs module. However, politicisation of the recruitment process is a problem undermining stakeholder collaboration. For instance, the NYEP Coordinators are reported to be in charge of everything. In both Karaga and Nadowli districts, the coordinators solely did the recruitments of CETAs while GES ensured postings. Most responses from districts indicated that, the collaboration is mainly "paper work". The NYEP Coordinators together with party chairmen and functionaries recruited and posted CETAs. As a result, CETAs did not show allegiance to GES supervisors as they claim they were employees of NYEP and not GES. Generally, there was some amount of collaboration but all was not well with the collaboration. Excerpts from some responses on collaboration show the following:

The collaboration is not good at all. Many decisions concerning CETAs are normally handled by the NYEP coordinator alone. The NYEP does the recruitment and sends the list to GES for posting to various schools. Politics has come to spoil everything (Circuit Supervisor, GES, Builsa District).

It has not been good. This is because of political interference. Recruitment is basically done by the NYEP coordinator and on the part of controlling them it is not good enough (Circuit Supervisor, GES Karaga District).

No. What I am aware is that the NYEP coordinator is in charge. I am not aware of any of such partnership (A CETA from Builsa District).

Limited community participation in implementation

Yet, another challenge affecting the implementation of the CETAs module is limited community participation which can adversely affect sustainability of the programme. This lapse seems to have been caused by a lack of provision and or clear conceptualization of a role for the participation of beneficiary communities in execution of the module. The results reveal limited cases of community participation. For instance, assembly men/women in some school communities play a critical role in the monitoring of CETAs. A NYEP coordinator also cited an instance in which an assembly person reported a CETA for disciplinary action for absenteeism. Aside the incidence of such isolated cases of community participation, no room has been made for community participation in a systematic and meaningful way. For instance, respondents from Builsa could not identify significant roles PTAs play in the implementation of the CETAs module. This was partly due to the lack of information and limited awareness about the module on the part of parents. Similarly, chiefs and their council of elders who play an important role in community governance

are not involved in any meaningful way in the implementation of the module. Results show limited participation of communities across the four districts. This was in reference to parents and PTAs, chiefs and council of elders, opinion leaders, and women groups. Excerpts of some discussants during FGDs showed limited community participation in implementation:

We play no role. We only encourage them, when our children complain to us that the "Kufuor Teachers", meaning CETAs don't come to school. We also complain to their head teachers to do something about it.

We report to the headmasters about CETAs who do not attend school regularly.

Only party members are enrolled in the project, they are often enrolled through the effort of party chair men and other hard core party supporters who are well known in the community. The community does not play any meaningful role in CETA recruitment.

There is conflict between the roles of GES and NYEP officials. What can we do?

CETAs, don't respect GES circuit supervisors because they show allegiance to NYEP not GES.

Nonetheless, the results also show a potential for community participation as a means to supporting the sustainability of the programme. Under CETAs Plus the use of community score cards in the Builsa District improved community participation in the monitoring of CETAs in schools. The results also show that traditional authorities, chiefs and their council of elders can play a role in solving disciplinary problems concerning CETAs and mobilize resources for improving incentive packages for motivating CETAs at the community level.

Uncertainty in Financial Sustainability

Finally, another challenge affecting implementation of the CETAs module is the lack and or uncertainty of financial sustainability of the programme. CETAs complain of small size of their allowances but also irregular and delayed payments. Under current arrangements, CETAs are paid GHC 80.00 monthly allowance and this has not been reviewed to reflect increments in the minimum wage and general price changes in the country since 2009 (See Kavaarpuo, 2011). Excerpts from CETAs across the districts shed light on the fact that the allowances paid is inadequate to support a meaningful living under current economic conditions:

"Oh! The way we are suffering... can you imagine that from January to June, they have not even paid us for one month?"

"It appears they are actually not committed to implementing the programme. This is because of the delay in the allowances."

"Payment not regular and allowances too small."

"Some of us are made to handle full classes without anybody's assistance, the allowances are not paid regularly and because of this we can't use it for anything better. Allowances are insufficient"

Delays in payment of allowances were reported as a common problem across all project districts. This has indeed become a disincentive to CETAs. A CETA from Nadowli District lamented the effect of delays in payments of allowances. According to her:

Life is really getting tough for some of us (CETAs). It is indeed tough for me. We were told the allowances would help us further our education, but some of us risk being withdrawn from the UTDBE programme for non-payment of the required fees for almost two sessions running. While this is the case, the tag of being paid allowances blocks any support from our relations for our upkeep.

The point is that delayed payments of allowances adversely affect CETAs quality of life. It is a disincentive for CETAs and this is likely to affect interest and sustainability of the programme. For CETAs, it has become difficult to sustain themselves on their allowances. The worst affected are CETAs enrolled in the UTDBE programme, an aspect of the module that is central to enhancing long term employment and livelihood sustainability.

Discussion

This paper adapted the livelihood framework for analyzing livelihood outcomes and challenges arising from the implementation of the CETAs module of the NYEP programme.

According to Chambers and Conway (1992), the core of the livelihood approach is the living that one makes out of the livelihood. Hence, the key question that guides analysis in the ensuing section is whether the implementation of the CETAs module provided an opportunity for the youth to make a meaningful living given the manner in which it has been implemented since 2006.

The GoG provided the financial resources for the implementation of the CETAs module. As a national programme for poverty reduction, financial resources for running the programme, including payment of allowances were mainly provided by GoG through the Ministry of Youth and Sports. The implementation of the module also received some financial support from the district assemblies in project districts. In addition, the module also received some financial and capacity development support from NNED through the CETAs Plus project. To this end, the policy provided the institutional framework for implementation at the district level. These included the DELTA Forces, the District Coordinators of NYEP and in

particular, other collaborating stakeholders including the District Assemblies and GES. As the results clearly showed, the DELTA Forces in collaboration with other implementing partners have drawn on the financial resources provided for the programme for carrying out stipulated activities in the execution of the module. These have already been enumerated but they generally include the establishment of the DELTA Forces, stakeholder collaborations, recruitment and placement of CETAs, organization of INSETs for CETAs, payment of allowances, and support for the UTDBE programme. The role of these different institutions show that institutions matter in the policy and practice of development for sustainable livelihoods in several ways. For instance, institutions are said to bind actors and link stakeholders to access capital of different kinds and also provide the means of exercising power. These collectively define livelihood gateways (Davies, 1997). According to Scoones (1997), it is important to understand institutional processes because they may be tied to creating opportunities and barriers in providing sustaining livelihoods, and shed light on the processes which underlie sustainable livelihood outcomes.

The core outcome of all these activities in the context of the livelihood framework was to provide a meaningful means of living for the unemployed youth. This paper posits that the key outcomes of the CETAs module that border on 'making a living' are twofold: short- term (temporary) employment and long term employment. In the short term, the module provided only temporary employment for the youth. CETAs earn allowances for teaching in pre-and basic schools as non-professional teachers. In this regard, the module has helped to improve the living conditions of CETAs in the short term given that they could be worst off without such employment. The definition of sustainable livelihood is often unclear. Drawing on the works of Chambers and Conway (1992), Scoones (1998) identifies five key elements of sustainable livelihoods. The first three elements link concerns over work and employment with poverty reduction and consider the broader issues of adequacy, security, wellbeing and capability. The last two address the sustainability aspects and include the consideration of resilience and resource management. To this end, the CETAs module did not provide a sustainable livelihood precisely because of its temporary nature and the challenges that affected the quality of life that CETAs derived from the short term employment. These challenges arose from the vulnerability context and particularly, problems associated with the functioning of the DELTA forces in implementation of the module.

In the long term, the module provided a 'narrow' window of long term and secured employment opportunity for CETAs who enrol for professional teacher training through the UTDBE programme. As the results showed, only a small proportion of CETAs had enrolled in the UTDBE programme

and or completed their training. Nonetheless, this option provided a more meaningful long term employment opportunity for CETAs – and per the livelihood framework guaranteed a more sustainable means of making a living. This is so because CETAs who graduated from the UTDBE programme were absorbed into GES as professional teachers – a transition that guaranteed long term employment and a salary to go with the job. In the United States, skills training in particular areas for youth discharged from foster care led to better individual outcomes and more comprehensive effects were achieved with a combination of skills training in money management, consumer skills, skill in obtaining credit, skill in the use of educational opportunities, and skill in finding and maintaining employment (Ronna et al., n.d). Although the UTDBE programme provided a more sustainable employment, only a few CETAs had benefited and or are benefiting from this opportunity largely because of the challenges that affected the implementation of the module. Although nearly 140 youth in developing countries are illiterate, preparation of the rural youth for productive work is poor (Atchorarena and Gasperini, 2003).

Employment is an important element for assessing livelihood outcome and in particular sustainable livelihood (Scoones 1998). Three aspects of employment that should be considered include income as in a wage for the employed, production as in providing a consumable output and recognition as in the recognition for being engaged in something worthwhile (Sen, 1975:5; in Scoones, 1998:5). Enhancing livelihood through education is an important aspect of livelihood – because this provides skill development, enhances the human resource capabilities, enhance ability to access information, explore a wide range of other livelihood alternatives and thus, enhance social status and self-esteem. This corroborates the assertion that livelihood go beyond economic and material life objectives. Livelihood is also about ownership and circulation of information, management of skills and relationships and affirmation of personal significance and group identity (de Haan and Zoomers, 2005; Appendini, 2001). To illuminate this point further, Bebbington (1999) asserts that assets such as land is not only a means to making a living; but that they give meaning to a person's world, shape their capability and ability to act, and constitute the basis of power and transformation. Overall, the point is that both material and non-material resources enhance wellbeing and are important for livelihood sustainability. This understanding should be a guiding principle for examining recommendations for improving implementation of the CETAs module and enhancing its function in promoting sustainable livelihood outcomes.

The way forward: Sustainability of the CETAs module

Public works programmes if designed and implemented well can provide guaranteed employment for the disadvantaged youth (Bennell, 2007). To

enhance the role of the CETAs module for promoting livelihood sustainability, this paper makes key policy recommendations for improving governance of the programme. These include restructuring the governance structure for improving implementation at the district level; retention of CETAs on the UTDBE programme; improving financial incentives and sustainability for CETAs; and finally, incorporating and engendering community participation in implementation.

First, restructuring the governance structure of NYEP at the district level will improve management of the CETAs module and make it more responsive to addressing the needs of CETAs and improving upon their livelihood. As the findings show, one key problem that affected implementation of the module was the ineffective functioning of the DELTA Force due to the busy schedules of DCEs who serve as chair persons. On the other hand, CETAs show allegiance to the NYEP coordinators rather than officials of the GES – who are charged with the responsibility for supervision, training and mentoring of CETAs in schools. Thus, making DCEs chair persons of DELTA Forces with responsibility for overseeing implementation has been a structural problem that adversely affected implementation of the CETAs module at the district level. The specific recommendation is that a new structure, "District CETAs Committee" (DCC) should be established to replace the DELTA Force in overseeing direct implementation of the CETAs module while the latter takes on a new role - oversight responsibility and supervision. In place of DCEs, District Directors of Education (DDEs) should be made to chair the "District CETAs Committees" and charged with responsibility for implementation of the module within the overall administrative framework for education service delivery. Membership of the DCC should be largely drawn from GES (ADs Supervision and Human Resources, Circuit Supervisors), Civil Society Organizations (CSOs) and including the NYEP Coordinators at the district level. Assigning the responsibility of direct implementation to DDEs is in consonance with their core business and mandate for overseeing management of education service delivery at the district level. The DDEs will certainly have much more time and attention to matters relating to implementation than DCEs. GES clearly has the expertise to implement this programme and they should be given a clear mandate to inject more energy and professionalism into its implementation. They manage professional teachers and education service delivery at the district level because they have the expertise to do so. It is only rationale that they are equally tasked to bring their expertise to bear in the management of the CETAs module. This will also lead to an additional benefit, de-politicization of the programme.

Secondly, it is prudent to support advocacy started under CETAs Plus for the retention of CETAs on the UTDBE programme at the end of their two years

contract periods. This is because the NYEP policy stipulates two years contract of engagement. By implication, CETAs who enrol in the UTDBE programme should have their names removed from the pay roll of CETAs after their contract period has expired. Thus, by retaining CETAs on the UTDBE programme beyond two years in the NYEP programme, they will benefit from their allowances for the entire duration of four (4) years teacher training. CETAs that complete the UTDBE programme can then be absorbed by GES as professional teachers – as is the case in some districts. This policy thrust is most appropriate because it will lead to a more rational utilization of resources and promotion of human resource development in the education sector in the long term. The need for more professional teachers coupled with the need for rational utilization of resources are two key decisive factors that make retention of CETAs on the UTDBE programme on pay roll an appropriate policy.

Furthermore, it's important to promote financial sustainability of the module. Improving financial sustainability of the CETAs module is twofold: it means improving financial incentives for CETAs on the one hand and streamlining and expanding funding lines for the CETAs module. In the first instance, improving financial incentives for CETAs include increasing the level of allowances and ensuring timely and regular payment of allowances to improve their living conditions. It is the position of this paper that as long as the programme depends on national level sources of funding, key stakeholders should explore the possibility of establishing a buffer fund at the district level. This buffer fund can serve as a source of paying CETAs allowances on time for averting delays. The buffer fund can then be reimbursed when funds from the national level (NYEP) are released for payment of allowances. The paper also recommends supplementary local level funding through collaboration between DAs and GES. In this way, some financial needs of the CETAs module could be catered for through district composite budgeting. This is most appropriate within the context of the current policy shift (since 2012) towards 'full' financial decentralization and local governance in the country.

Finally, this paper recommends community participation in the implementation of the module. By project design, communities are not involved in the implementation of the module except for the intervention of CETAs plus. By extending the frontiers of participation to include community participation, indigenous and traditional institutions, leaders and community based organizations and PTAs could probably make significant financial and in-kind contributions for sustaining CETAs in rural communities where they are needed the most. There is a potential for financial and in-kind contributions from communities for sustaining the programme if enough community awareness, sensitization and mobilization

is done. If communities are certain the CETAs module benefit the education of their children, they will be willing to contribute a lot more towards its sustainability. CETAs will not only be motivated and morally obliged to put in their best for communities; but this can help increase commitment of communities to monitor CETAs attendance in schools. Under CETAs plus, community sensitization combined with training on use of the score cards for community monitoring of CETAs has had far reaching and wider implications for community development. First, it enhanced or engendered increased community participation of beneficiary communities and represented a modification of the project design. Secondly, it promoted much broader benefits including the creation of community awareness, consciousness, awakeners and assertiveness of their rights to good quality education. In this way, CETAs plus was able to mobilize communities to use community score cards for monitoring CETAs and teacher attendance in some selected schools in the Builsa District. Thus, given the right conditions, communities will be willing and able to extend their participation beyond an administrative role of monitoring. They will be willing to make financial contributions (money) and in-kind contributions (e.g. accommodation and food for CETAs, etc.) towards sustaining the module.

Conclusion

This paper set out to analyse outcomes of the CETAs module in northing Ghana since the implementation of the NYEP programme in 2006. The paper draws on a project context, CETAs Plus initiated by an NGO (NNED) to improve the implementation of the module across four districts in northern Ghana. It also draws on the livelihood framework for analysing the outcomes and challenges of the CETAs module and exploring whether the module provides a sustainable and or meaningful means of living, the core of every livelihood. Overall, the results showed that the programme had achieved modest livelihood outcomes. First, District Employment Task Forces (DELTA Forces) were constituted, restructured and activated under CETA plus in all districts for improved implementation of the module. Secondly, the module provided temporary employment for most CETAs because most of them were laid off after two years ill-prepared to make a living. Finally, only a few CETAs benefited from the professional teacher training programme, the UTDBE programme. These modest livelihood outcomes were shaped by challenges arising from implementation of the module. These challenges included inefficiency in the functioning of the DELTA Forces, weak stakeholder collaboration in implementation, limited and or lack of community participation in implementation and low, irregular and delayed payments of allowances.

Given that these outcomes largely fall short of providing sustainable means of living for majority of CETAs, this paper concludes that the module provided some relief to CETAs in the short term. In the long term, it does not provide a sustainable means of livelihood for most CETAs, except the few beneficiaries of the UTDBE programme. The paper therefore, recommends institutional reforms for improving governance including restructuring of the DELTA Forces, improved stakeholder collaboration, engendering community participation in implementation and for enhancing financial sustainability of the module at the district level.

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Improving Socio-Economic Conditions of Informal Sector Operators: A Study of Garage Operators at Suame, Kumasi
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Abstract

Macro-economic strategies for poverty reduction, such as the SAP and GPRSs were not adequately successful. A micro-economic focus is therefore proposed as a contemporary approach towards poverty reduction. The fact that the informal economy employs more than eighty percent of Ghana's working population suggests that improving the socio-economic conditions of informal operators would mean reducing poverty for the majority of the working population. This study aimed to examine how incomes generated in the informal garage economy reflect in the socio-economic well-being of informal garage operators and explore the strengths, weaknesses, opportunities, and threats of informal garage enterprises that can help improve the socio-economic conditions of the operators. A descriptive study design was adopted by the study. Interview schedule and interview guide were used to collect primary data. The study found that most informal garage operators contributed a greater portion of their household income. The opportunities available for the enterprises included high access to market and supplies. High competition, job insecurity, and inadequate support from local government were some identified threats. The study recommended garage operators to develop a common fund for infrastructural development within the cluster. It also recommended collaborative support of local government authorities and NGOs.

Introduction
Historically, economic development models pursued by developing countries ignored the reality that a large section of the population was earning a daily living by participating in activities that fell outside the confines of the organised economy. Hart (1971) and ILO (1972) later discovered a traditional economic sector in African countries which they labelled as the informal sector. Embedded in the dualist theory, these studies termed the informal sector as survivalist, transient and comprising low-income earners in small scale firms that lacked modernity in their operations (Chen, 2007). Contrary to the expectations of much of the early development literature, the informal sector has persisted and grown in many developing countries, particularly in Africa where it dominates the economy both in terms of output and employment (Verick, 2006).

Greenspan (2005) cites increasing disposable income as a means for improving well-being. Therefore, in connection with the dualist theory, the growth of the informal economy in developing countries would mean an increase in the population of the poor in these countries. This conception is counter-argued by an opposing set of theorists (Chen, 2009; De Soto, 1989; Portes & Walton, 1981) who see the income-occupation relationship in the informal economy as more of a structural and legal association between larger formal firms and informal enterprises. The underlying assumption is that the structural and legal linkages influence disposable income which has a bearing on access to quality education, health, sanitation and other social factors that lead to improved living standards.

According to Chen, Jhabvala and Lund (2001), there is no simple relationship between working in the informal economy and being poor, but the socio-economic situations within the informal employment appear only when informal workers are classified by employment status. Chen, Vannek, Lund, Heintz, Jhabvala and Bonner (2005) add that average earnings or wages decrease as one moves down the employment status ladder: from being a micro-entrepreneur who hires others to working on one's own account, to working as a wage worker, and to being an industrial outworker. According to Nord and Brent (2002), improving the socio-economic conditions for informal workers is particularly important for Sub-Saharan African countries because the size of the informal economy is larger in is larger in Sub-Saharan Africa than in any other part of the world. The informal economy accounts for about 55 percent of the GDP of sub-Saharan African countries and also forms about 77.4 percent of the official labour force on the sub-continent (ILO, 2002). Excluding agriculture, statistics from ILO state that the share of informal economy as a percentage of GDP in Benin, Guinea Bissau, and Senegal is 72 percent, 59 percent, and 51 percent respectively.

In spite of the relevance of the informal economy to these countries, OECD (2011) found that informal workers are generally characterised by lesser incomes and lower living standards than their formal counterparts. Improving the socio-economic conditions of informal workers, would therefore mean a movement out of the poverty brackets for the majority of the working population, especially in sub-Saharan African countries. It may also translate into higher shares of GDP with rippling effects of increasing employment and a general rise in the national income.

In Ghana, the size of the informal economy is estimated at 88.6 percent of total employment (Ghana Statistical Service, 2008) with 38.4 percentage contribution to GDP (Shepered & Gyimah-Boadi, 2004). According to the Ghana Trades Union Congress (1995) and Adeya (2006), the informal

economy is characterised by economic needs like inadequate access to credit and low wages, as well as social needs, such as lack of social security and lack of health benefits, which are differentiated among various groups of informal workers. With respect to informal garage operators in Suame cluster, Adu-Gyamfi, Alexander and Willcox (2010) estimate a daily average income of GH¢5.00 for each operator. Given that the average statutory income of the Ghanaian economy is GH¢4.48 (Boadi, 2012), it is necessary to improve the general incomes of informal garage operators by providing technical know-how, training, and infrastructural assistance to the cluster.

However, attempts made by local government and other private agencies have not made substantial improvements in the socio-economic status of the operators, because theoretically, the informal economy is proposed as a vicious cycle of poverty (Adeya, 2006; ILO, 1972). Lourdes and Floro (2006) emphasise that informal businesses lack potential for growth, trapping employees in menial jobs indefinitely. However, Garcia-Bolivar (2006) argues that the informal sector can allow a large proportion of the population to escape extreme poverty and earn income that is satisfactory for survival. Rogerson (1996) and Hart (2006) argue conversely that not only can the informal economy offer income for survival, but it also has the potential of moving workers therein up the income ladder, under favourable conditions (ESCAP, 2006). There are therefore alternatives within the larger economy structure than can be employed to improve the socio-economic status of informal operators.

This study therefore examines the income status of informal garage operators, as well as the strengths, weaknesses, opportunities, and threats of the garage enterprises at the Suame cluster in order to help in identifying strategies for improving the wellbeing of the operators. This is pursued under the assumption that improved incomes of informal garage operators can lead to better socio-economic wellbeing for the operators and their households. It can also lead to ripple effects of improved food security and access to health for the operators. On the national level, improved socio-economic status of informal operators would suggest a general improvement in the wellbeing of the majority of the working populace within the Ghanaian economy.

The subsequent section of the paper discusses the theories and concepts that underpinned the study. Next to this is the discussion of the methodology, comprising the description of the study area, the methods of sampling and the sampling procedure, as well as the methods used for analysing the field data. These are followed by discussion of the results or empirical evidence. The paper ends with conclusions and the policy implications.

Theoretical and conceptual issues

According to ILO (2002), theories which seek to explain the incidence of the informal economy and the socio-economic situation among workers of the sector conform to three main perspectives: dualist, structuralist, and legalist theories of the informal economy. While there may be overlaps in some of the propositions of these theories, they appear to lay emphasis on specific reasons for the incidence of informal employment, opportunities and drawbacks within and external to the informal economy, as well as the reasons for poverty in the informal economy and their associated anti-poverty measures (Swinnerton & Rogers, 2004).

The dualist theory is generally linked with the traditional-modern paradigm of the modernisation theory, which was propounded by writers such as Lewis (1956) and Rostow (1960). Proponents of the dualist theory assumed that, with the right mix of economic policies and resources, poor traditional economies could be transformed into dynamic modern economies. The prime concerns of dualists are with the type of employment and its scale of operation and they maintain that the primary weakness of informal employment stems from its scale of operation (Swaminathan, 1991). Chen, Vanek and Carr (2004) argue conversely that the scale of operation in the informal economy offers leverage over their formal counterparts, because it allows for production to be reorganised into small-scale, decentralised and more flexible economic units.

Dualists maintain that the relationship between informality and poverty is such that poverty precedes informality and informality reinforces poor socio-economic conditions (Murray, 1984). In order to improve the well-being of the informal workers, dualists propose the modernisation or formalisation of their economic activities (Swaminathan, 1991). This can be achieved by helping informal workers to attain the major interdependent elements of self-sufficiency, such as income and economic assets, education and skills, safe housing and sanitary surroundings, access to healthcare and other needed social services, close personal ties, as well as networks to others and personal resourcefulness as important elements of self-sufficiency (Miller, Mastuera, Chao & Sadowski, 2004).

The structuralist theory, on the other hand, stresses that in order to reduce costs, privileged capitalists seek to subordinate petty producers and traders (Portes & Walton, 1981). For example, many formal enterprises hire wage workers under informal employment relations, because they offer lower labour costs (Castells & Portes, 1989). According to Tobin (1994), structuralists generally agree that the major drawbacks or support for informal firms are identified within the larger socio-economic structure, other than within the structure of the informal economy. From this

perspective, Chen et al. (2005) identify inadequate recognition of the informal economy in national accounts and the lack of economic and social support for informal operators as significant threats to informal employment. These factors are derivations from the structuring of the economic system in such a way that a wage problem results within the informal economy, which forces informal workers to fall behind regardless of how competent they may be.

Page and Simmons (2000) suggest that structural changes can be achieved through policy processes. According to them, the range of federal and social policies governing employment and wage relation within the sub-sectors of the informal economy, as well as between the informal and formal economy can be adjusted to accomplish poverty reduction. This may be achieved through providing better job security, safeguarding higher wages for informal employees, expanding safety nets and assuring access to social insurance (Unni & Rani, 2003). Alternatively, Rank (2004) encourages social movements to exert pressure, from a grassroots level, on vulnerable parts of the system to force desired change. For example, public pressure, including unionisation, can increase wages and employment, as well as better working conditions for a systematically excluded informal economy.
The legalist view suggests that the major constraints to the informal economy are situated in conditions, which are external to and also within the informal economy. According to De Soto (1989), the lack of or inadequate regulation of informal activities translates into a situation where informal operators do not enjoy the benefits of wage or pension legislation and other social benefits, while informal firms suffer from little or no creditworthiness due to the perceived illegality of their operations (Gerxhani, 1992). However, the informal economy enjoys an important leverage over the formal economy, which results from the legal framework within which the informal economy operates. Chen et al. (2001) suggest that extra profits and incomes accumulate for informal workers because they, generally, do not file corporate and income tax returns.

According to legalists, informal employment is not necessarily a symptom of degraded quality of life or unemployment, but a consequence of burdensome regulation and/or official corruption associated with the formal economy, as well as tax policies, which are not congruent with optimal levels of tax enforcement (Swinnerton & Rogers, 2004). Relaxing legislations and by-laws on taxes, as well as disencumbering bureaucratic registration procedures are proposed as the means of attracting informal businesses to formalisation (Ordonez, 2010). Ordonez acknowledged that through this, informal businesses can enjoy the benefits and protection of formalisation in order to maximise profits/incomes for better socio-economic living.

The theoretical perspectives depict that the nature of informality is a matter of controversy and this has attracted much debate with regards to the relationship between informality and socio-economic well-being (ILO, 2002). One of the most debated features of informality lies in the role that it can have in economic development, and within this debate, a primary place is occupied by establishing the relationship between informal jobs and poverty (World Bank, 2006).

According to Thomas (1995) and Charmes (2000), there are links between working informally and being poor, despite the heterogeneity within the informal economy and its contribution to growth. They further assert that average incomes are lower in the informal economy than in the formal economy. Some other empirical studies, for example Maloney (1999) for Mexico and Packard (2007) for Chile, have also attested that informal employment has a causal impact on household socio-economic statuses through low wages. Yet, other studies provide evidence to a reverse causality from poverty to informality, arising from a variety of constraints that poverty poses to job holders (Devicienti, Groisman & Poggi, 2009).

The fact that the head of a poor household faces a greater chance to engage in informal employment with respect to non-poor heads is suggestive of the relationship between poverty and informality (ILO, 2002). Modelling the interrelated dynamics between poverty and informality however, poses challenges, especially, because household poverty is related to the labour market choices and outcomes of each household member (Amuedo-Dorantes, 2004). Devicienti et al. (2009) explain that informality-poverty relationship can be easier inferred when household heads who are working informally contribute the greater fractions of household incomes.

According to Taiwo (2010), improving the internal conditions and providing enabling external working environment for workers can lead to long term improvement in their socio-economic well-being. Bertulfo (2011) also infers that an improvement in working conditions improves productivity, which leads to increased incomes, contributes to overall economic growth, and reduces poverty in the long term. This will require knowing the income status and working environment of informal operators and identifying areas that need to be improved.

In order to measure the degree of well-being among a certain populace, it is necessary to be able to distinguish the poor from the non-poor. White and Booth (2003), in that respect, identify the poor as those whose income or expenditure falls below a poverty line. The measures of well-being may include demographic measures (OECD, 1998), social/welfare measures (UNDP, 2009), and income measures (World Bank, 2011).

Generally, economic measures of household poverty can be calculated, adopted from national statistics, or alternatively acquired from global comparative measures. The most common practice is to use 50 percent of GDP per capita, adjusted for household size and composition using equivalence scales (Buhman, Rainwater, Schmaus & Smeeding, 1988). Using the household as the recipient unit involves the conventional assumption that resources are shared within the household so as to equalise living standards (Chanfreau & Burchardt, 2008). For the purpose of this study, the OECD equivalence scale was adopted to measure the income status of garage operators at the Suame cluster.

Methodology
The study area was the Suame garage cluster, also known as Suame Magazine. The study adopted a mixed approach (Creswell, 2003) and adopted a descriptive design (Levin, 2006) to study all members of thematic garage associations within the cluster. The total study population was therefore 10,590 garage operators. Stratified random sampling was used to derive six strata comprising six thematic garage associations, namely mechanics with a population of 10,000, spare-parts dealers (200), welders and fabricators (150), metal workers (60), scrap dealers (80), and fuel pump technicians (100). The sample size for each stratum was calculated using Cochran's (1977) formula sample estimation formula. The study subsequently sampled a total of 343 garage operators made up of 143 units for mechanics and 40 units each for spare-parts dealers, welders and fabricators, metal workers, for scrap dealers, and fuel pump technicians. The chairmen of the 6 thematic garage associations were included in the study as key informants.

Interview schedules were used to collect data from garage operators, and interview guides were used to elicit data from key informants. Relationships, prevalence rates of the study variables in relation to the sample sub-groups were analysed with binary logistic regression model (Uni & Rani, 2002), Mann-Whitney U test and Wilcoxon Signed Ranks (Pallant, 2005). The OECD modified equivalence scale was adopted to measure the minimum income resource needs of households in order to make an objective comparison of household resource attainments to household resource needs. This was to enable the classification and identification of the severity of economic conditions in households. The strengths, weaknesses, opportunities and threats of Suame garage enterprises were analysed according to the Strength, Weaknesses, Opportunities and Threat (SWOT) principle (Berry, 2012).

Results and discussion

A total of 221 respondents were available for interviewing. This represented a response rate of 64.4 percent. Household size and composition of the operators' households were examined because these variables can have significant effects on the income sufficiency of households. For example, these variables are the major components of OECD's (1998) modified equivalence scale which was adopted to measure household income sufficiency of households in Bolivia, Brazil, Chile, and Mexico (Da Costa, de Laiglesia, Martinez & Melguizo, 2011).

Table 1 describes the size and composition of garage operators' households. One-hundred and seventy-three garage operators, corresponding to 78.2 percent of the respondents, had one to three additional adults in their households. Two hundred and seven garage operators, corresponding to 93.7 percent, had one to four children in their households. Overall, garage operators had an average of approximately two adult household members, two children, and one additional adult income earner in their households. The study also revealed that 14.5 percent of the operators had at least one non-working adult resident in their households.

According to Burniaux, Dand, Fore, Foster, D'Ercole and Oxley (1998), each additional income earner contributes to household income. The importance of additional income earners lies in the assumption that they contribute to the upkeep of households. Therefore, any additional income earner adds to the self sufficiency of the household. On the other hand, each additional non-working adult uses up more resources than an additional child. In economic sense, non-working adults contribute to household insufficiency, since they are seen as dependents.

Table 1: Household composition of garage operators

Composition	Freq.	Min.	Max.	Mean	Median	Mode	s.d.	Skewness Stat.	Std. Error
Additional adults	173	1	3	1.63	1.00	1	0.722	0.696	0.140
Other adult income earners	145	1	3	1.26	1.00	1	0.521	2.012	0.143
Non-working adults	32	1	2	1.08	1	1	0.321	0.235	0.112
Number of children	207	1	4	2.07	2.00	2	0.706	0.331	0.128
Household size	221	2	7	4.19	4.00	4	1.307	0.042	0.124

Source: Field survey, 2012

The results show that within the households of garage operators, there is an average of one additional adult, one adult income earner, one non-working adult and two children. The household size for each respondent was calculated as the sum of the number of adults and children in the household of each respondent. The household size of garage operators varied from two to seven people per household. The skewness statistic of the distribution of household size was 0.042. According to Pallant (2005), normality can be assumed when a skewness of ±0.5 is calculated for the distribution. Thus, it can be asserted that the distribution of household size of garage operators was normally distributed. The mean household size was therefore more representative of the distribution. Thus, the average household size of garage operators was 4.19.

The study found that the incomes of the majority (73.9%) of the sampled garage operators contributed more than 60 percent of their household income. This indicated that incomes of garage operators formed a substantial portion of total household incomes. The OECD demographic equivalence scale was used to calculate the income sufficiency of garage operators. The scale assigns a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child (Da Costa et al., 2011). The formula used to calculate the minimum household requirements for garage operators was: 1 + (0.5 x number of adult household members other than the household head) + (0.3 x the number of children). Depending on the household size and composition, a specific scale was derived and multiplied by 50 percent of the GDP per capita (GH¢2,700). The constant multiplier was therefore GH¢1,300.00. The final figure calculated represented the minimum household income need.

The household income sufficiency was calculated for all 223 garage operators. Table 2 shows that a little over 65.0 percent of garage operators were realising mean surplus annual income of GH¢4,531.43 (std. error = GH¢143.29) after meeting annual demographic household minimum needs. A little over 1.0 percent (1.4%) of the sampled garage operators was breaking even with their annual minimum household income needs. Income insufficient households were 33.4 percent.

Pagiola, Rios and Arcenas (2007) assert that a poor household refers to one in which the pooled resources of members cannot meet minimum needs. These findings suggest that most households of informal garage operators are not poor. The operators' incomes suggest that Suame garage enterprises could be categorised as dynamic informal operations, since the incomes of a substantial number of them could meet their minimum household needs and still realise surplus incomes.

Table 2: Household income sufficiency

Income status	Frequency (%)	Mean Surplus/deficit	Std. Error
Income sufficient	144 (65.2)	4531.42	143.29
Breakeven	3 (1.4)	0.00	000
Income deficient	76 (33.4)	-867.69	54.56
Total	221(100.0)	2673.03	256.22

Source: Field survey, 2012

The claim that surplus incomes and capital accumulation are not features of the informal economy (Swaminathan, 1991) is therefore not corroborated by the study. Generally, garage enterprises fit Rogerson's (1996) description of a dynamic informal economy where average incomes generated can create surpluses for re-investment and business expansion. Within garage vocations, however, the households of most upholstery and seat liners (86.7%), scrap dealers (82.4%), and sprayers (66.7%) were not income sufficient.

The study used binary logistic regression to determine the variables, which significantly influenced variations in household income sufficiency among garage operators. This examination was conducted to help identify the most significant factor which could influence household income sufficiency of garage operators. The predictors were number of children, number of adults, and annual income. The categories of the dependent variable were income sufficient household and income deficient household.

Pallant (2005) explains that expressing the pseudo R Squares (Cox and Snell and Nagelkerke) as percentages depict the extent to which the predictors explain the dependent variable. The pseudo R Squares for the predictors were 0.67 (Cox and Snell) and 0.97 (Nagelkerke). The number of children and adults in households, and household annual income, therefore explained between 67.0 percent and 97.0 percent of households' income sufficiency (Table 3). With a p-value of 0.331, the number of children in households was found not to be statistically significant in contributing to differences in meeting minimum household needs, at a default alpha of 0.05. Statistically, the number of adults (p-value = 0.000) and household income (p-value = 0.000) were significant predictors of household income sufficiency, at an alpha level of 0.05.

According to Hosmer and Lemeshow (2000), the likelihood ratio shows the odds with which the predictors explain the dependent variable. The likelihood ratio is therefore also known as the odds ratio (OR). Pallant (2005) adds that the odds ratio is the increase (or decrease if the ratio is less than one) in odds of being in one outcome category when the value of the predictor increases by one unit. The odds ratio for adults (0.364) and children (0.067), as shown in Table 3, indicate that the odds of households becoming income sufficient decrease with any additional child or adult to the household.

Table 3: Predictors of income sufficiency

Predictors	B	S.E.	Wald	Sig.	Exp(B)
Adults	-2.70	0.699	14.95	0.000	0.067
Children	-1.01	0.475	4.52	0.331	0.364
Annual income	0.007	0.001	30.69	0.000	1.007
Constant	-12.54	2.46	25.98	0.000	0.000

Source: Field survey, 2012

Burniaux et al. (1998) assert that adult members of households may serve as additional income earners, thus aiding household self-sufficiency. However, unemployed adults use up more household resources than children and contributes more to household income deficiency. In the case of garage operators, the odds ratio for adults suggests that the proportion of unemployed adults in garage operators' households may be higher than employed adult household members. Lower incomes for some garage operators may be explained by the fact that the number of unemployed adults in their households may be more than those who are gainfully employed.

Given the assertion that the internal and external working environment can have specific influence on the incomes of workers, the characteristics of garage enterprises were examined based on the principle of SWOT analysis (Berry, 2012). The strengths and weaknesses were explored to identify the internal conditions which influence income generation, general garage operations and ultimately the socio-economic welfare of garage operators (Table 4). The opportunities and threats were examined to identify the external conditions which had implications for the socio-economic welfare of garage operators.

The major strengths of garage businesses were operational autonomy and retention of tax revenue. All the garage operators indicated that, in relation to pricing and service quality, their operations are not regulated by any kind of governing body. The quality of service and the prices charged are left to the discretion of the artisan. They also enjoyed flexibility in service provision and in the degree of experimentation, which was useful in technical adaptation for mechanical services.

It was expressed by key informants that some associations within the cluster, for example, the Spare-parts Dealers Association made the attempt to regulate prices of merchandise sold by their members. However, service charge controls for other garage vocations failed on the premises that it was difficult for associations to place a uniform monetary value on the varied time and energy put into diagnoses and repairs. The foregoing finding confirms Chen's (2007) assertion that informal firms enjoy relatively more flexibility in pursuing their business and in developing their creativity. Rigidities and associated drawbacks within a regulatory framework are therefore avoided by informality.

Table 4: Strengths, weaknesses, opportunities and threats of Suame garage enterprises

strengths	Opportunities
Operational autonomy	Profitable sub-contracts
Retention of tax revenue	High access to market supplies
Exchange of artisanal expertise	
Weaknesses	**Threats**
Non-uniformity in service provision	Weak regulatory institutions
High competition within the cluster	High cost associated with scale of operations
Job insecurity	Inadequate support from garage associations
Inadequate social security	Inadequate financial assistance from financial
Unsatisfactory working environment	institutions

Source: Field survey, 2012

Garage operators unanimously reported that they neither filed corporate tax returns nor paid taxes to the Internal Revenue Service, because their enterprises were not registered with the Registrar General's office. This conforms to Gerxhani's (2003) description of some informal firms as registered with the Local Assembly, but not registered with the national regulatory body. Within garage operations, there is retention and accrual of possible tax money as personal income or business profit.

The major weakness of the garage enterprises identified by the study was unsatisfactory working environment. The road network within the Suame cluster was mostly untarred. In addition to the deep gullies in the adjoining roads, significant sections of the roads were muddy, while other parts were too narrow or too rough to allow free vehicular movement. There were several drainages left open and choked within the cluster, and the haphazard construction of shops generally contributed to difficulty in vehicular movement within the cluster.

Key informants expressed that the poor conditions of roads within the cluster stalled services and trade because the nature of business within the cluster required vehicular movement of supplies, as well as out-going finished and semi-finished products. Poor roads had particularly stalled access to market for garage operators who had settled up-hill on the Tafo land. Unsuccessful attempts had been made at bettering roads and improving infrastructural development within the cluster. One key informant pointed to the fact that a fire station, a clinic and a toilet facility for the cluster, proposed by KMA in collaboration with the Ghana National Association of Garages, had not materialised. . Instead, the proposed site for the fire station has been sold off for the construction of a private clinic. However, the clinic has relocated to other premises outside the cluster.

With respect to closing technological gaps, the key informant from the Scrap Dealers Association asserted that the Association in collaboration with SMIDO and a foreign metal processing firm, Ergon have established a metal recycling plant within the cluster. A metal bailing machine has been installed to reduce bailing costs and to ease transportation of scrap metal to sales point at Tema. Users pay small fees which are generally used for repairs of the machine. Key informants from garage associations interviewed reported that they had worked in collaboration with SMIDO to provide training for their members. Technical training covered mainly computer diagnostic training and computer spreadsheet literacy training. Others were engaged in general literacy training where they were taught to upgrade their reading, writing and book-keeping abilities.

It was however, reported among garage operators that neither themselves nor their apprentices could take full advantage of training given mainly because of time constraints (42.6%) and a general disinterest (4.1%). About 51 percent of responses asserted that garage operators did not have the funds to buy computer diagnostic equipments, in order to utilise their knowledge (Table 5).

Table 5: Factors hindering participation in training and literacy programmes for garage operators

Reasons	Frequency	Percent
Inadequate avenues to use knowledge	292	51.1
Time constraints	243	42.6
Not interested	24	4.1
Other	12	2.2
Total	571*	100.00

*Multiple responses; n=221
Source: Field survey, 2012

A little over two percent of responses indicated other factors, such as lack of perceived benefits of the programmes and low confidence in the sustainability of the programmes as factors hindering the sampled garage operators from participating in training and literacy programmes. The major external advantage identified for Suame garage enterprises was profitable sub-contracts. Income from subcontracts (skewness = 1.079) and earning from offering the same job to other private people (skewness = 1.121) were not normally distributed. Thus, as Pallant (2005) recommends, non-parametric statistical tools were used to compare differences in earnings for the two categories of service charges. Using Mann Whitney U- Test, it was found the differences between average earnings from subcontract were significantly higher than earnings from offering the same job to a private client (Table 6). This emphasised a mutually beneficial relationship between the informal and formal economies (Portes & Walton, 1981; Chen, 2009). It also established a structural linkage between both economies.

Table 6: Earnings for subcontracted and service to private individuals

Earnings	Mean (GH¢)	Median (GH¢)	Mode (GH¢)	s.d (GH¢)	Skewness	
					Stat.	Std. error
Subcontract	269.31	225.00	300	203.74	1.079	0.249
Private individuals	246.06	200.00	100	196.65	1.121	0.249

Source: Field survey, 2012

Using the Wilcoxon Signed Ranks, it was found that among the total of 128 garage operators who had ever been sub-contracted by larger firms, 82 always earned more in subcontracts than offering the same services to a private individual, while 24 always earned lesser in subcontracts than

offering the same service to private individuals. For 22 of the operators, their earnings from subcontracts and that from private services were the same. A z-statistic of -4.533 and a p-value of 0.000 (Table7) indicated that the differences in earnings for subcontracts from larger formal firms and earnings from offering the same service to private individuals was statistically significant at an alpha of 0.05.

Although garage operators may be earning higher on sub-contracts, such an approach may be a strategy for larger formal firms to reduce operational cost. This confirms assertions of the structural theory that informality is a deliberate attempt to keep a cheaper pool of labour for larger formal firms (Portes & Walton, 1981). Sub-contracts are therefore important source of additional income and a major advantage for garage enterprises.

Table 7: Differences on earnings from subcontracts and private services

Earnings	Frequency (%)	Mean Rank	Sum of Ranks
Subcontract>Private	82(64.1)	40.72	3339.04
Subcontract<Private	24(18.7)	35.42	850.08
Subcontract=Private	22(17.2)		

Z = -4.533; p-value = 0.000
Source: Field survey, 2012

The main external threat was low financial support for business investment. Interviews with key informants from garage associations revealed that financial assistance was not their major focus as required by their members because financial institutions are not willing to give loans to the groups of associations. One key informant expressed that financial institutions often had pre-conditions, which the garage associations or their members could not fulfil. For example, the garage operators were often asked to open bank accounts with the financial institutions and keep intact a premium, which cannot be withdrawn for some months as a precondition for loans. One other key informant added that some financial institutions required certain accounting records and records of cash flow, which were generally unavailable.

One other key informant responded added that the fear that members would default on the payment of loans would mean transferring the payment of loans to the guarantors of such loans, which in this case would be the association executives. One major constraint identified for inadequate support from the garage associations was therefore the garage operators' failure to provide the adequate guarantees and accurate records of cash flow, as well as profit and loss accounts. Another constraint was parallelism in the focus of the garage associations and their members, as well as the lack of confidence in the garage operators to repay loans. These findings conform to studies by Unni and Rani (2002), which indicated similar constraints for informal operators in India.

Some associations were however, working within their means to provide some kind of support for their members. For example, the key informant from the Association of Welders and Fabricators reported that the association has been able to attain loans of about GH¢1,000.00 per head for 25 members and GH¢400.00 per head for 75 other members. These loans were accessed through a private banking firm named Garden City Saving and Loans. The loans were to be paid over a period of six months to twelve months, but more than half of the beneficiaries of the loans have not repaid their loans although the stipulated repayment date has elapsed.

In collaboration with some NGOs, the Ministry of Trade and Industry, Kumasi Metropolitan Assembly, selected financial institutions, garage associations, Suame artisans and SMIDO proposed a financial scheme for artisans in Suame. This was a planning response to the deficiencies in the existing collateral market-driven banking economy, which has created exclusion for the majority of businesses within Suame Magazine. This scheme, named Suame Magazine Industrial Financial Irrigation Scheme (SMIFIS), was to serve as an institutional mechanism to mobilise resources into a regenerative pool fund for about 100,000 artisans.

The scheme was also to provide a basis for the government to channel its micro-credit to Suame Magazine as an intermediary organ for onward support to artisans. The banking and non-banking financial institutions were expected to host the scheme in their respective institutions as investment, insurance and banking products, while SMIDO mobilises resources into the host institutions as Suame magazine incorporated.

Key informants revealed that the DANIDA-USAID-DFID BUSAC fund had provided the initial support for the advocacy component of the project. However, the SMIFIS had not been attended to as expected due to non-cooperation on the part of the government bodies and financial institutions. Similar findings were reported by SMIDO (2007) that the local government was mainly responsible for delays in infrastructural and development projects for the cluster.

The study established that incomes of garage operators formed a greater percentage of their household incomes. Moreover, the majority of informal garage operators were income sufficient and that increasing number of non-working adults and children were likely to reduce household income sufficiency. It was also found that garage operators enjoyed considerable operational autonomy and retention of tax revenue, which could be ploughed back into their businesses. They also benefited profitably from structural linkages between their firms and larger formal businesses. However, the poor infrastructure, in addition to failed attempts to better improve working conditions and low financial support were restricting business profits that were particularly important for improving the wellbeing of the operators' households.

Conclusions and policy implications

The study concludes that households of garage operators are highly dependent on the income generated from garage enterprises, thus any decrease in the incomes of garage operators would mean lowering standards of living for the operators' households. It was also concluded that informal garage enterprises at the Suame cluster are not survivalist firms. This is because the assumption that informal sector cannot earn income greater than the national minimum was not found to be true for the sampled garage operators. Profitable structural linkages existed between informal garage operators and their formal counterparts. The working environment of garage operators and their access to financial support were not adequate for business expansion and increased profitability. Attempts made at resolving internal constraints at the garage were also not adequate.

The study suggests that garage associations should encourage structural linkages between enterprises of association members and larger firms for sub-contracts to boost members' income. Garage

operators should give up some operational autonomy to support quality control and service charge determination attempts of garage associations. This can help maintain uniformity in service charges to counter the higher bargaining power of customers resulting from high competition within the cluster. Garage operators could also establish a common fund for the infrastructural development of the cluster. Advocacy for decongestion and improvement in infrastructural development should be emphasised through garage associations to relevant government institutions, such as the KMA and the Ministry of Trade and Industry. This should be done in support of the on-going attempts by SMIDO and the Asantehene to acquire and develop lands for the artisans.

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Food as a Conduit for Poverty Reduction in Cape Coast Metropolitan Area

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Abstract

The concept of the School Feeding Programme as instituted by the Government of Ghana was to provide caterers in deprived communities with money, who in turn will purchase locally grown foodstuff, prepare it and feed them to kindergarten and primary school children in the community. A major requirement was for the caterers to spend 80% of the monies given them in the communities that accommodated the schools. The primary goal was to reduce hunger and malnutrition in the children, increase school enrolment and increase food production in the communities. This paper investigates and discusses the extent to which these objectives are being carried out by the caterers employed to do so with respect to the use of locally produced food and labour and the reasons behind their choices. Using a qualitative approach, an in-depth interview was conducted for eight caterers out of the eleven engaged in the school feeding programme in the Cape Coast Metropolitan Area. The results from the study revealed that, even though all the caterers were aware of the 80% clause, a bulk of the purchases and labour was acquired outside the communities that housed the schools. Availability and affordability were some of the reasons given for this pattern.

Introduction

As part of the Millennium Development Goals (MDGs), Nations belonging to the United Nations have given considerable attention to programmes aimed at reducing extreme hunger and poverty with mixed results (Blanchfeild & Lawson, 2010). One of the seven recommendations made by the United Nations Hanger Task Force (UNHTF) concerning the achievement of the first MDGs, which is to eradicate extreme hanger and poverty, is to implement school feeding programmes that will utilise locally produced food rather than imported food (UNHTF 2004). The African Union – New Partnership for Africa's Development (AU-NEPAD) also emphasised that the use of home-grown foods, where possible, is one of the "quick impact initiatives" to achieve the same goals of poverty and extreme hunger mitigation especially in rural areas that face dual challenges of chronic malnutrition and low agricultural production (Afoakwa, 2011). It is in this vein that the Ghana School Feeding Programme was launched in September 2005 as part of the efforts of the Ghana Government to achieve the sub goal of the MDGs (2000) to half the number of people who suffer from extreme hanger by 2015 (Martens, 2007).

Features of the SFP were that, a menu was planned nationally and administered regionally through the Regional Coordinating councils. One hot meal per day was to be provided to the pupils in the schools selected for the programme. The caterer was required to spend at least 80% of the resources provided by the government in the community that hosts the school. The use of local labour was also recommended (GSFP, 2005). Thereby, this was to achieve the three- fold objectives of feeding the pupils (healthy pupils), creating demand for local produce (increase production and sales - commerce) and creating employment (job creation) in the SFP associated sectors. These three were intended to converge in reducing poverty in the host communities. Seven years down the line, the SFP is still officially in place. How effectively it has been run and whether it has achieved its objectives, are questions to be considered. This paper attempts to address some of these concerns from the caterers' perspective.

The main objective of this paper therefore is to assess the effectiveness of the SFP in reducing poverty in the local communities that house the schools. Specific objectives that were pursued are to:
Establish the nutritional composition of the SFP menu
Determine the source of supply of the ingredients used in the preparation of the SFP menu
Ascertain the employment opportunities that have been created for the people in the community that hosts the schools.

Literature

Poverty reduction
"Poverty" refers to the state or condition where a person lacks money, goods or means of support relative to food, shelter, clothing, heai h care and basic education (Oxford Dictionary.com, 2012). In 2003, Ghana adopted a poverty reduction strategy, called "Ghana Poverty Reduction Strategy" (GPRS) (GPRS, 2003). And the GPRS has a global context.

By 1965, most colonial countries, and much of Africa, had attained independence. Development was a key item on the post-colonial agenda. In 1987, the World Commission on Environment and Development released its influential report, *Our Common Future*, which pointed out the necessity for sustainable development. In 1992, at the popularly-dubbed "Earth Summit" held at Rio de Janeiro, Brazil, sustainable, inclusive and participatory development, and pro-poor growth were emphasised (Grindle, 2004; Cornwall and Brock, 2005). Again, at the turn of the millennium, in 2000, the community of nations, under the auspices of the UN, set for itself targets to achieve, called the Millennium Development Goals (MDGs), aimed at poverty reduction, sustainable development and good governance

(Wikipedia, 2011). In July 2012, twenty years after the Earth Summit at Rio de Janeiro, a follow up summit, dubbed "Rio+20", has been held at the same venue and has affirmed the same theme.

In Ghana, in 2003, following on the heels of the Highly Indebted Poor Country (HIPC) and Enhanced HIPC facilities of the World Bank and International Monetary Fund (IMF) – and noting global trends that favoured promoting inclusive, pro-poor growth and sustainable development) and meeting the MDGs – Ghana adopted the GPRS. The GPRS had five pillars (GPRS, 2003), namely:
Macroeconomic stability
Production and employment
Human resource development
Special programmes for vulnerable and excluded persons
Governance
Ghana's School Feeding Programme (SFP) is a programme under the GPRS.

School feeding programmes

World Food Programme (2004) defines "school feeding programme" as the provision of meals or snacks at school to reduce children's hunger during the school day. The World Bank (2011) on the other hand, simply defines school feeding programme as the provision of food to school children. According to Del Rosso (1999), good nutrition and health play a major role in education and learning. Children who lack nutrients such as iron and iodine in their diet or suffer from protein-energy malnutrition, hunger, parasitic infection or other diseases, do not have the same potential for learning as healthy and well-nourished children. School feeding programmes are one of such programmes that seek to address some of the nutritional and health problems of school going children. World Food Programme (2012) also posits that school feeding programmes provide vital nourishment to school children and in addition act as a safety net for poor families. It also helps in keeping the children at school by motivating parents to send their children to school daily. They argue that school feeding programmes have a long term effect of reducing poverty and can be a platform for other social interventions that seek to reduce diseases such as de-worming.

School feeding programmes have been broadly classified into two main groups by the World Bank (2011). These are: (1) in-school feeding, where children are fed in schools; and (2) take-home rations, where families are given food if their children attend school. In-school feeding can take the form of the provision of meals or high energy biscuits or snacks. The modalities of the programme however vary from country to country. Amongst other things, school feeding can alleviate short term hunger, improve school enrolment, attendance and reduce drop-out rate, improve

students' learning, cognitive functions, in-class behaviour, academic performance, and ability to concentrate. It can also provide a vehicle for micro-nutrient supplementation, improve household food security and reduce the cost of children's schooling (World Food Programme, 2004). Del Rosso (1999) adds that the programme can also promote community participation in the education and health of their children.

Indictors

As previously noted, this paper addresses three specific objectives. In respect of the first, namely assessing the nutritional value of the menu, it undertakes the assessment by examining the menu against the five main food groups namely carbohydrates, proteins, fats and oils, vitamins and minerals. Food according to the Oxford dictionary.com (2012) is "a material consisting essentially of carbohydrates, fat, proteins, vitamins or minerals which is ingested and assimilated by an organism to produce energy, stimulate growth, and maintain life". A balanced meal on the other hand is defined by the New York Times Health Guide (2008) as "the right types and amounts of foods and drinks to supply nutrition and energy for maintaining body cells, tissues, and organs, and for supporting normal growth and development". In view of this definition, what are the nutritional components of the GSFP menu?

Concerning purchasing trends, it is proposed to ascertain the immediate sources from which the caterers purchase or obtain the ingredients and other resources for preparation of the SFP meals. Where the suppliers of those items obtain their supplies is however not of direct interest to this paper. Leakage according to Evans & Evans (2007) is a measure of real sales lost by a community to a competitive market. They posit that this is an indication of the need for more retail or commercial development of an area.

In tourism, financial leakages is defined by Hemmati (2000) as an occurrence that is occasioned by the situation where revenues arising from tourism-related economic activities in destination countries are not available for re-investment or consumption of goods and services in the same countries. This mostly occurs when the tourism company is based outside the destination country. Financial leakages for the purposes of this paper is therefore defined as the situation where monies provided for social interventions in a community does not remain in the communities but is spent in communities outside the communities that host the intervention.

In respect of employment of local staff, the researcher proposes to determine the number of job opportunities that have been created as a result of the introduction of the programme. And ascertain the percentage of these number that benefited members of the local communities that host the schools.

Methodology

A qualitative approach was adopted for the study, first, because of the small size of the target population and second, it supported the exploratory nature of the research and allowed the researcher to probe further. The purposive sampling technique which is normally employed when dealing with a sample that has persons with special knowledge or characteristics (Babbie, 2003) was used to select eight out of the eleven caterers employed in the SFP in the Cape Coast Metropolitan area. This is because, the study sought an in-depth understanding of the operations of the caterers with respect to the menu offered, their purchasing trends and their sources of employing their staff.

Semi-structured interviews were conducted to collect primary data from the respondents. The interview guide employed is found in the appendices. The study focused on all the caterers who were in charge of providing food for the kindergarten and primary schools in the Cape Coast Metropolitan area that are involved in the School Feeding Programme. Out of the sixty-six (66) public primary schools in the Metro area, thirteen (13) were involved in the School Feeding Programme. Some of the caterers were in charge of providing food for more than one school.

Study Area

The description of the Municipal area as given by the Cape Coast Metropolitan Assembly is as follows: The Cape Coast Municipality is bounded on the South by the Gulf of Guinea, on the West by the Komenda/Edina/Aguafo/Arem District, East by the Abura-/Asebu/Kwamankese District and the North by the Twifo Hemang Lower Denkyira District. The Municipality occupies an area of 122sq. km, with Cape Coast as its Capital and that of Central Region.

Demography: The population of the Metropolis is 118, 106 (2000 population Census), with a population Growth Rate of 2.0%. The percentage Distribution of male and female is 48.6% and 51.4% respectively. There are 59 settlements with 3 Urban Centres. The main economic activities are farming and fishing. Farming thrives in the northern part of the district where it is the main source of livelihood. Major crops cultivated include maize, cassava, cocoyam and yam. Fishing on the other hand is a major economic activity along the southern coast. The coast of the Gulf of Guinea has important fishing communities including Ekon and Cape Coast. The Metropolis also has a large proportion of self-employed businesses without employees. 27.9% of the population are in the employee category, mainly, employed in public service, educational, service and industrial sectors. About 29.3% of the population are also engaged in commerce.

Primary Education: There are one hundred and one (101) primary schools in the Municipality and twenty thousand seven hundred and ninety three (20793) pupils in the schools. Out of this number, ten thousand three hundred and thirty three (10333) are males and ten thousand four hundred and sixty (10460) are females (CCMA, 2012). From Table 1, three thousand three hundred and seventy seven (3377) pupils are fed one hot meal a day in the School Feeding Programme.

Table 1: Particulars of schools in the SFP

Name of School	Location	Number of pupils Enrolled
Amamoma Presbetarian Primary School	Amamoma	332
St Andrews Primary School	Bremso	228
Ebubonko Primary School	Ebubonko	409
Kube Ase MA Primary School	Asenadzi	259
Amanfo Catholic Primary School	Amanfo	270
Philip Kwaku Boys Primary School	Abom	373
Jacob Wilson Sey Primary School	Bakano	359
Police Experimental Primary School	Bakano	182
Okyeso Catholic Primary School	Duakor	317
Cran Presbyterian Primary School	Abakam	239
Cherubim and Seraphim / Special Needs School	Brookfield	171
Efutu Mampong LA Primary School	Efutu	208
		Total: 3377

Source: Fieldwork (2012)

Ghana's School Feeding Programme in Perspective

GSFP and poverty reduction
The Ghana School feeding programme (GSFP) is an initiative of the Comprehensive African Agriculture Development Programme (CAADP), Pillar 3 of the New Partnership for Africa's Development (NEPAD) (GSFP, 2011). The concept adopted for the programme as stated in the GSFP Annual Operating Plan (2011) was for the Government to provide Kindergarten and Primary school children in selected public schools in the poorest areas of the country with one nutritious meal per day using food stuff grown in the locality. Some of the goals set for the programme are: to achieve a real increase of 8% in income at national and community levels, an 8% increase in employment at community levels and a greater availability, access, and utilization and stability of food crops at community level (Martens, 2008). The objectives set to achieve these goals were to:
Reduce hunger and malnutrition
Increase school enrolment, attendance and retention
To boost domestic food production

It is also expected that, for the achievement of these goals, 80% of the feeding cost should be spent in the local community that accommodates the school (GSFP,2011). The programme therefore was initiated to have multiple effects on the economy and address some social problems.

The expectation that 80% of the feeding cost should be spent in the community that is hosting the school (GSFP 2011), will provide income to the workers employed in the community to cook the meals and perform other functions in connection to the provision of the meals. The farmers and sellers who will be supplying the food stuffs needed for the production of the meals will gain demand for their produce. They may also be a cheaper source of supply, not forgetting that their children may also be beneficiaries of the programme. All of these were intended to facilitate wealth creation and retention at the community level. But, Hoddinott, Adato and Haddad (2006) argue that, although beneficiary participation has the potential to lower the cost of the implementation of an intervention, it does not follow that, beneficiaries are always the lowest cost providers.

The meals served according to the project objective is to be nutritionally adequate thereby reducing the incidents of extreme malnutrition among children of primary and kindergarten levels. This objective therefore seeks to reduce poverty by reducing the number of children suffering from malnutrition induced illnesses such as mental disabilities, physical deterioration and associated costs of reversing or living with the condition. The future repercussions of raising an unhealthy or un-trainable workforce will therefore be nipped in the bud to prevent further poverty. However, Martens (2008) cautions that, school feeding programmes on their own may not be sufficient to improve the nutritional status of Kindergarten and primary school children. They will require additional home based interventions.

Results and discussions

Analysis of the menu
The menu of the GSFP as presented by the Government to the schools is to be repeated week after week without much altering. The pupils are served one fruit desert a week. The caterers are given forty pesewas per pupil per meal. There are however, no directions given as to the portion size to be served per body weight therefore, the portion sizes from school to school and day to day may differ depending on the cost of the ingredients at a specific point in time or place (Martens, 2007). Below is the menu supplied to the caterers for the school feeding programme.

Table 2: GSFP Menu

Day	Main Meal	Accompaniment	Dessert
Monday	Beans Stew	Gari	
Tuesday	Fish stew / egg stew	Plain rice or jollof	
Wednesday	Kontombre/ garden -eggs s tew/ Gravy with fish	Gari balls	Orange
Thursday	Tomato stew/ okro stew with fish	Banku	-
Friday	Beans stew	Rice	-

Source: Fieldwork (2012)

The ingredients in the menu according to the nutritional classification of their main components are as follows:

Table 3: Nutritional Composition of the Monday Menu

Day	Ingredients	Protein	Carbo.	Fat	Vitamins	Minerals
Mon	Beans (Boiled Black eye pea)	Yes (27.87%)	Yes (69.71%)	Yes (2.42%)	Vitamin A, C, B1, B2, B3, B5, B6, B9, B12,	Calcium, Iron, Manesium Phosphorus, Potassium Sodium, Zinc
	Gari (Fried Cassava granules)	Yes (2%)	yes (97%)	yes (1%)	Vitamin A, B 1, B 2, B3, B5, B6, B9, B12, C, E, K,	Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper, Manganese, Selenium
	Red oil	No	No	Yes (100)	Vitamin A, E	No
	Onions	Yes (5.89)	Yes (94.11)	No	Vitamin B 1, B2, B3, B6, C,	Calcium, Zinc, Iron, Phosphorus, Potassium
	Salt	No	No	No	No	Sodium,

Source: Author's construct

Black eye beans, which is a popular feature on the menu is a good source of carbohydrate, protein, Vitamin A, B1, B2, B3, B5, B6, B9, B12 and vitamin C. It also contains Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc and Foliate (Jegtvig, 2012).

Table 4: Nutritional Composition of the Tuesday Menu

Day	Ingredients	Protein	Carbo	Fat	Vitamins	Minerals
Tue	Smoked tuna	Yes 53%	No	Yes 47%	Vitamin C	Calcium Iron
	Eggs	Yes 35%	Yes 3%	Yes 62%	Vitamin A, B 1, E 2, B3, B5, B6, B9, B12, E, K, Choline, Betaine	Calcium Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Selenium, Fluoride
	Tomatoes	Yes 12%	Yes 79%	Yes 9%	Vitamin A, C, E, K, B1, B 3, B 5, B 6, B 9, Choline, Betaine	Calcium Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Fluoride Manganese
	Onions	Yes 5.89%	Yes 94.11%	No	Vitamin B 1, B2, B3, B6, C,	Calcium, Iron, Phosphorus, Potassium, Zinc
	Pepper	Yes 10%	Yes 86%	Yes 4%	Vitamin A, B 3, B 6, B12, C, E, K, Choline	Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper, Manganese
	White Rice	Yes 8%	Yes 90%	Yes 2%	Vitamin B3, B5, B9 Choline	Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper, Manganese, Selenium
	Vegetable cooking oil	No	No	Yes (100%)	No	No
	Salt	No	No	No	No	Sodium,

Source: Author's construct (2012)

Even though, nutritionists place brown rice higher than white rice in terms of its nutritional value, white rice is a good source of carbohydrate, Vitamin B3, B5, B9, Choline, Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper, Manganese and Selenium (Wasserman, 2011). Some of the caterers interviewed did not use iodated salt because, according to them, iodated salt was more expensive compared to ordinary sea salt. The use of iodated salt will also increase the iodine content of the menu.

Table 5: Nutritional composition of the Wednesday Menu

Day	Ingredients	Protein	Carbo	Fat	Vitamins	Minerals
Wed	Smoked tuna	Yes 53%	No	Yes 47%	Vitamin C	Calcium Iron
	Kontombre	Yes 31.76%	Yes 46.45%	Yes 21.79%	Vitamin A, C, B 1, B2, B3, B6, B9, E, K, Betaine	Calcium, Copper, Iron, Magnesium, Manganese Phosphorus, Potassium, Sodium, Zinc, Fluoride
	Tomatoes	Yes 12%	Yes 79%	Yes 9%	Vitamin A, C, E, K, B1, B3, B5, B6, B9, Choline, Betaine	Calcium, Iron, Magnesium, Manganese Phosphorus, Potassium, Sodium, Zinc, Fluoride
	Onions	Yes (5.89%)	Yes (94.11%)	No	Vitamin B1, B2, B3, B6, C.	Calcium, Zinc, Iron, Phosphorus, Potassium,
	Pepper	Yes 10%	Yes 86%	Yes 4%	Vitamin A, B 3, B 6, B12, C, E, K, Choline	Calcium Copper, Iron, Magnesium, Manganese Phosphorus, Potas sium, Sodium, Zinc, Copper,
	Gari	yes (2%)	yes (97%)	yes (1%)	Vitamin A, B 1, B 2, B3, B5, B6, B9, B12, C, E, K	Calcium, Selenium, Iron, Magnesium, Manganese, Phosphorus, Potassium, Sodium, Zinc, Copper,
	Palm oil	No	No	Yes (100%)	Vitamin A, E	No
	Salt	No	No	No	No	Sodium.
	Orange	Yes (7%)	Yes (91%)	Yes (2%)	Vitamin A, B 1, B 2, B3, B5, B6, B9, C, E, Choline	Calcium Iron, Magnesium, Phosphorus, Potassium, Zinc, Copper

Source: Author's construct (2012)

Cassava is a common local crop. In the SFP menu, it is used in the processed form of gari (fried cassava granules) and cassava dough (a paste of blended cassava). According to NutritionData (2012), carbohydrate, forms 97% of cassava whiles 2% is protein and 1% fat. Vitamins found in cassava are: Vitamin A, B1, B2, B3, B5, B6, B9, B12, C, E and K. It also contains minerals such as Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper, Manganese and Selenium.

Table 6: Nutritional composition of the Thursday Menu

Day	Ingredients	Protein	Carbo	Fat	Vitamins	Minerals
Thur	Corn dough	Yes (10%)	Yes (76%)	Yes (14%)	Vitamin E, K, B1, B3, B5, B6, B9	Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper Manganese, Selenium
	Cassava dough	yes (2%)	yes (97%)	yes (1%)	Vitamin A,B1, B2, B3, B5, B6, B9, B12, C, E, K	Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper, Manganese, Selenium
	Tomatoes	Yes 12%	Yes 79%	Yes 9%	Vitamin A, B5, B9, C, E, K, B1, B3, B6, Choline, Betaine	Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Fluoride Manganese
	Onions	Yes (5.89)	Yes (94.11)	No	Vitamin B1, B2, B3, B6, C,	Calcium, Iron, Phosphorus, Potassium, Zinc
	Pepper	Yes 10%	Yes 86%	Yes 4%	Vitamin A, B3, B6, B12, C, E,K, Choline	Calcium, Iron, Copper, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Manganese
	Okro	Yes (18%)	Yes (73%)	Yes (9%)	Vitamin A, B1, B2, B3, B6, B9, C, E, K, Choline	Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper Manganese
	Smoked Tuna	Yes 53%	No	Yes 47%	Vitamin C	Calcium Iron
	Palm oil	No	No	Yes (100)	Vitamin A, E	No
	Salt	No	No	No	No	Sodium,

Source: Author's construct (2012)

Palm oil is 100% fat and a rich source of vitamin A (Khosla, 2006), is one of the oils used in the cooking of the SFP meals. Tomato, a fruit vegetable, is the base for all the sauces provided in the SFP menu. It is rich in Vitamin A, C, E, K, B1, B3, B5, B6, B9, Choline, and Betaine. It also contains Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Fluoride and Manganese. It is a good source of carbohydrate (NutritionData, 2012).

Table 7: Nutritional composition of the Friday Menu

Day	Ingredients	Protein	Carbo	Fat	Vitamins	Minerals
Friday	Beans	Yes (27.87%)	Yes 69.71%)	Yes (2.42%)	Vitamin C, B1, B2, B5, B6,B9, B12,	Calcium, Iron Magnesium, Zinc Phosphorus Potassium, Sodium
	Tomatoes	Yes 12%	Yes 79%	Yes 9%	Vitamin A, C, E, K, B1, B3, B5, B6, B9, Choline, Betaine	Calcium, Manganese Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Fluoride
	Onions	Yes (5.89)	Yes (94.11)	No	Vitamin B1, B2, B3, B6, C.	Calcium, Iron, Phosphorus, Potassium, Zinc
	Pepper	Yes 10%	Yes 86%	Yes 4%	Vitamin A, B3, B6, B12, C, E, K, Choline	Calcium Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper, Manganese
	White Rice	Yes 8%	Yes 90%	Yes 2%	Vitamin B3, B5, B9, Choline	Calcium Iron, Magnesium, Phosphorus, Potassium, Sodium, Zinc, Copper, Manganese, Selenium
	Palm oil	No	No	Yes (100)	Vitamin A, E	No
	Salt	No	No	No	No	Sodium.

Source: Author's construct (2012)

From the tables above, the menu as presented to the caterers have all five major nutritional components daily namely, carbohydrates, proteins, fats, vitamins and minerals. All the essential minerals and vitamins have been represented. These are calcium, iron, zinc, potassium, sodium, phosphorus, magnesium, manganese, copper, iodine and selenium. Vitamins identified in the daily menu are: Vitamin A, B1, B2, B3, B5, B6, B9, B12, vitamin D, E, and K. Some of the main crops that were identified in the ingredients of the menu are: black eye beans, corn, cassava, tomatoes, and white rice. The SFP menu therefore, has the necessary components to supply nutrition and energy for maintaining body cells, tissues, and organs, and for supporting normal growth and development.

Purchasing trend of the caterers

Table 8: Purchasing trend of the caterers

Name of School	Locality	Metropolitan Area	Outside Metropolitan Area
Amamoma Presbyterian Primary School	12.5%	75.0%	12.5%
Ebubonko Primary School	5.6%	66.7%	27.8%
Kube Ase MA Primary School	5.6%	44.4%	50.0%
Amanfo Catholic Primary School	0%	76.5%	23.5%
Philip Quaquo Boys Primary School	0%	75.0%	25.0%
Jacob Wilson Sey Primary School/ Police Experimental Primary School	0%	50.0%	50.0%
Okyeso Catholic Primary School	23.5%	58.8%	17.6%
Cherubim and Seraphim / Special Needs School	0%	61.5%	38.5%
Total	5.9%	63.5%	30.6%

Source: Fieldwork 2012

The table presented above suggests that 5.9% of the purchases made by the caterers are done in the locality where the school is located whiles 63.5% is outside the locality but in the Cape Coast metropolitan area and 30.6% outside the Metropolitan area. Four out of the eight caterers did not do any of the purchases in their locality. Even though all the caterers said they knew about the "80% purchases in the locality clause", only two of them said they took the clause into consideration when selecting a supplier or doing the purchases. According to one of the caterers, "the payment of the funds for the programme is always delayed. Sometimes, we have to wait till the end of the term before payment is made. Therefore, the only consideration I make in choosing a supplier is, whether the supplier is ready to sell on credit. The sellers here do not have enough capital to make such commitments". The view of another caterer concerning the purchasing trend was, "we are given only 40 pesewas per child per meal, therefore I look for the cheapest supplier and buy from her irrespective of her location. That is why I buy some of the ingredients from Mankessim and Techiman". This confirms the views of Hoddinott, Adato and Haddad (2006) that, beneficiaries of interventions are not always the lowest cost providers.

The researcher observed that almost all of the items that were purchased in the locality were imported products such as vegetable oil, tin tomatoes and rice. Surprisingly, considering the fact that Cape Coast has a sizeable fishing activity, items like smoked tuna was bought mainly from Mankesim which is a land locked town. The reason given for this was that the fish mongers in Mankesim buy the smoked fish in bulk from the fisher women in Cape Coast

and Elmina to sell in Mankesim. Therefore, because of this trade, there is always an abundance of smoked fish in Mankesim thereby making the prices far cheaper there than the prices in Cape Coast. Items like corn and beans were mainly sourced from Tachiman because according to the caterers, the prices there are cheaper and direct purchase eliminates middle women who will also add their profit margin. According to one of the caterers, "there isn't much farming in Cape Coast Metropolitan area so the quantities of the items we look for is not available here". This is quit ironic since farming and fishing are listed by the Metropolitan Assembly as the major economic activities in the Metropolitan area. The perception of the caterer may be because there is a weak link between the farmers and the caterers. A research in 2009 by Ecumenical Association for Sustainable Agriculture and Rural Development (ECASARD) confirmed that farmers in the Greater Accra Region were willing to sell sizeable quantities of their produce to the SFP. Even though it was established that 21% of the farmers in that region benefited from the SFP, their benefits were limited only to their children being fed at school.

Interestingly, when the caterers were asked the purpose for introducing the SFP, none of the respondents mentioned "to increase local food production". Responses given included, "increase school enrolment through feeding the children", "provide healthy and nutritious meals for children", and "eradicate poverty by giving free meals to the children and reducing the burden on parents". This means that even though majority of the caterers knew that 80% of the purchases should be done in the local communities, they did not have a good understanding of the reasons behind that clause. Del Rosso (1999) suggests community participation in such community based interventions. He posits that schools that depend on community participation to organise and implement SFPs gain the advantage of increased communication between members of the community, parents and the school authorities and heightened interest of members of the communities in the activities of the school.

Employment opportunity created by SFP
As documented in the Table 9, the SFP programme in the Cape Coast Metropolis currently employs 22 persons. Since 2011, the programme has provided jobs for 27 persons. It was reported that the staff employed are paid between 30 to 40 Ghana cedis per month. For comparable jobs in the metropolis in traditional catering establishments, remuneration is between 80 and 90 Ghana cedis per month. This disparity therefore results in high labour turnover. As one of the caterers explained, "our workers do not stay for long so we have to keep employing new people." It must however be observed that the caterers are given a gross sum of 40 pesewas per child per

meal. From these funds, ingredients must be purchased, overheads covered, staff paid, and profits made!

Table 9: Employment trend of SFP catering staff

Name of school	No. of current SFP staff	No. Employed from locality	Total no. Of persons employed in the last year
Amamoma Presbetarian Primary School	1	Non	1
Ebubonko Primary School	3	Non	4
Kube Ase MA Primary School	3	2	3
Amanfo Catholic Primary School	2	Non	2
Philip Kwaku Boys Primary School	3	Non	3
Jacob Wilson Sey Primary School/ Police Experimental Primary School	4	Non	8
Okyeso Catholic Primary School	2	Non	2
Cherubim and Seraphim / Special Needs School	4	Non	4
Total	22	2	27

Source: Fieldwork, 2012

Out of the 22 persons presently employed, only 2 are from the locality where the school is situated. The explanation given for this occurrence was that most of the caterers are not from the communities and most of the schools do not have their own kitchens. Therefore, the meals are prepared outside the communities and transported to the schools. Again, selection of caterers is not based on their location; rather caterers who are politically connected are given the contracts. This explains why some caterers have more than one school to cater for.

When asked whether the SFP was beneficial to the communities, 87.5% of the respondents answered affirmatively. Some of the benefits they ascribed to the programme were "students depend on the food for nourishment", "the feeding improves the health of the children" and, "the programme reduces the burden on parents". The minority of respondents (12.5 %) however thought that the programme was not really beneficial because, "the food fed to the children is not enough". With regards to job creation and increased food production in the locality, the programme was thought to be less beneficial to the communities that host the schools.

Conclusions and recommendations
Conclusions drawn from this research therefore are:
The SFP menu provided by the Regional Coordinating Council has all the needed nutrients to promote growth, repair and maintenance of body tissues

and provide the needed energy for proper body function. Thus it can reduce malnutrition in the pupils.

Most of the purchases are made outside the communities that host the schools but inside the Metropolitan area.

Job creation in the local communities is negligible but employment benefits are within the Metropolitan area.

Based on the conclusions draw, it is thus recommended that:
standard portion sizes should be provided per body weight or age of pupils so that nutritional benefits can be ensured irrespective of which caterer provides the service.

just as caterers are recruited for the provision of the meals, it is suggested that farmers should be recruited from the communities to supply the caterers with various crops such as corn, tomatoes and so on.

Training programmes should be organised for the unemployed youth in the communities in the various sectors connected to the SFP such as farming and catering so that they will be employable. It is further recommended that the schools should build their own kitchens through community participation and allow the trained locals to run the kitchens.

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Economic Exclusion and Working Poverty: The Case of the Informal Sector Workers in the MiDA Intervention Zone in Ghana

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Abstract
There is a growing concern over working poverty, especially in nations where inequality remains very high. While scholars in the advanced economies attribute working poverty mainly to economic exclusion, there appears to be limited literature on the issue, particularly for the informal sector of the developing economies. However, surveys (various issues of GLSS) on the Ghanaian economy have identified some informal sector worker as poor. Using the data of Ghana Living Standard Survey Five Plus (GLSS 5+), both OLS and probit models were employed in estimating the incidence of working poverty in the MiDA intervention area of Ghana. Factors such as high dependency ratio, labour inefficiency and underemployment by classification of hours worked came out strongly as supporting 'working poverty'. The results seem to confirm the outcome of several studies in the developed economies that have identified factors of economic exclusion such as labour inefficiency and underemployment as the main causes of 'working poverty'. This means that poverty among informal sector workers in Ghana should not be solely attributed to joblessness. A comprehensive poverty reduction strategy is therefore needed to tone down underemployment while improving labour efficiency of the informal sector workers to ensure higher labour returns.

Introduction
The link between social exclusion and deprivation is well articulated by the literature. Despite the difficulty in achieving a precise definition for social exclusion in the last four decades when the concept caught the attention of research, it is clear from the series of attempts to define it that its main concern is with multiple deprivations **(John and Kitty, 2005)**. In other words, the socially excluded are mostly deprived individuals who are often kept away from enjoying certain good things of life.

As an analytical theory, social exclusion generally seeks to describe an exclusion of individual from fully taking part in all or some economic activities. In line with this assumption, Burchardt (2000) defined socially excluded as an individual who does not participate to a reasonable degree over time in certain activities of his or her society due to factors beyond his or her control. His definition is not different from Thorat (2007) who

defined social exclusion as "the process through which individuals or groups are wholly or partially excluded from full participation in the society within which they live." (p. 1). While the unemployed who suffer *complete exclusion* might not earn any income at all, the underemployed who suffer *partial exclusion* does not earn enough income to stay out of poverty. In other words, social exclusion often leads to income poverty because the excluded do not earn enough income.

While lack of income could exclude an individual from enjoying certain comforts of life, social exclusion is more than a mere lack of income or just being poor. The theory focuses on both the processes by which social and economic institutions exclude groups, and the multidimensional nature of the adverse consequences experienced by those who are excluded (Thorat, 2007). Apart from social exclusion addressing the circumstances of the excluded, it appears as a multidimensional in its concern for multiplicity of deprivations in all aspects of human life.

Economic exclusion as a reason for poverty

Economic exclusion is one of the dimensions of social exclusion that Bradshaw's (2003) discussed. It seeks to explain how an individual could either be partially or fully excluded from the production process. While those who suffer complete economic exclusion are often referred to as unemployed in the labour market, the partially excluded are the underemployed. One of the aims of this study is to try and understand how partially exclusion from economic production process can explain the poverty status of the affected persons.

Economic exclusion can affect a whole group. Thorat (2007) wrote: "Group-based economic exclusion or discrimination affects whole groups in a society, independent of the income, productivity, or merit of individuals within the group" (p.2). In other words, for the group-based exclusion, the yardstick for exclusion is the group's identity and not the economic or productive characteristics of a specific individual (ibid). In same manner, economic exclusion is described an *'individual-based exclusion'* which is rather as a result of an individual not meeting the standard productive characteristics of production process as prescribed by the labour market. People who work and are poor could suffer from both the group-based exclusion and individual-based exclusion. For example, two persons of the same academic pedigree or skills with one working in Ghana and the other in US might earn different incomes due to the group-based exclusion. However, differences in income between these two persons who are all working in Ghana might be mainly due to individual-based exclusion. This means that differences in the levels of poverty among the self-employed in the informal sector of the Ghanaian economy might be due to the differences in the standard productive characteristics demanded by the labour market in Ghana.

Economic exclusion usually results from inability to access markets because of lack of income, or from employment on the grounds of low productivity, or from admission to educational institutions on the basis of low merit. According to Figueroa (1999), *Exclusion from the economic process* means exclusion from market exchange. He explained:

Conventional economic theory assumes that all markets are "Walrasian," in the sense that individuals can buy or sell a good or a service as much as they want at the prevailing market price. In such markets, rationing operates through prices, and the amount to be exchanges is just a matter of money. In these markets no one willing and capable of buying or selling could be excluded from exchange. People may be excluded from exchange in some particular markets, but this is because their real income, or productive capacity, is too low (p.3).

Relating poverty to economic exclusion, Thorat (2007) wrote, "It is quite clear that insofar as exclusion and discrimination involve the denial of access to resources, employment, education, and public services, they certainly impoverish the lives of excluded individuals" (p. 2).   In other words, the excluded do not have the voucher to access the good things of life they need. They are even further excluded from the commodity market because of the increasing prices resulting from low production. That is to say, because the potential of the excluded is not fully harnessed, general output of the economy is adversely affected leading to higher prices in the consumer goods and services which tend to exacerbate their already precarious circumstances.

Thorat (2007) used economic theory to indicate that discrimination can also hamper economic growth by reducing efficiency. This he explained: "Discrimination also results in inefficiency by reducing the magnitude of investments in human capital by groups discriminated against and by reducing the return to any human capital investments they make" (p. 2). Therefore, some workers are less efficient either due to the failure of the group to make the necessary investment in them (group-based exclusion) or because they fail to develop their human capacity themselves (individual-based exclusion).

It is therefore deduced from the above discussions that economic exclusion can lead to social deprivation, especially consumption poverty through its impact on both partial exclusion from economic activities (underemployment) and low skills acquisition (labour inefficiency) resulting from denial of an individual to receive adequate training/education.

Conceptual framework

In Figure 1, the assumption is that once the economy expands and labour is trained enough for better integration, underemployment will decline. That is the unemployed will have chance to work while those working for few number of hours will have opportunity to work for more hours. Therefore, improvement in the employment potential, as represented by an upward shift of the marginal value product curve of labour, serves as potential remedy in dealing with underemployment and low labour returns in a country (Osmani, 2003). However, improvement of employment potential largely depends on the expansion of the economy's production possibilities and as well as the capabilities of the poor to integrate into the expanding sectors.

In other words, if the economy expands and some individuals are excluded from being actively involved in production process, their situation would not get any better. For example, *individual-based* exclusion factors such as education and training may exclude labour from being integrated even after the economy has grown remarkably. This might be the reason why economic growth as a central focus to poverty reduction has not been too effective in Ghana. Hence, the study investigates empirically how both *individual-based* and *group-based* economic exclusion factors such as: underemployment, labour inefficiency, age, education, household size, prices of factors of production, use of electricity and area of residence could combine to render an informal sector worker in Ghana poor.
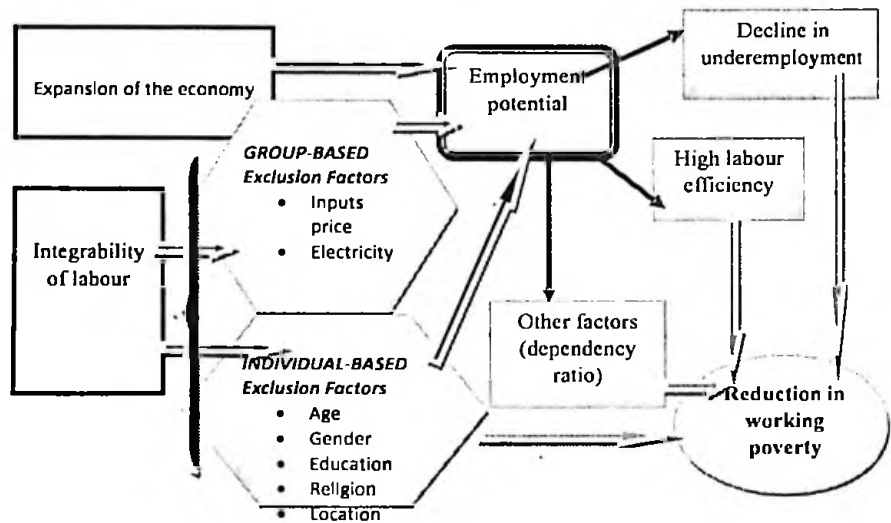
Figure 1: Framework of channels to working poverty
Source: Authors' construct

Methodology

The data
The study uses both qualitative and quantitative data. While the quantitative data is employed for the econometric analysis, focus group discussions (FGDs) are held to clarify some of the econometric findings. The main quantitative data is the GLSS 5+.

The Government of Ghana, through the Millennium Development Authority, implemented a 5-year $547 million Compact signed with the Millennium Challenge Corporation (MCC) of the United States of America from 2007 to 2012. The principal goal of the compact was to reduce poverty through economic growth and agricultural transformation. While about 230,000 individuals were expected to benefit directly from the compact interventions, an estimated additional 1,000,000 were also expected to benefit indirectly. In an attempt to quantify the benefits in order to determine the success of the intervention, the Institute of Statistical, Social and Economic Research (ISSER) was tasked to carry out two key surveys: two rounds of Ghana Living Standards Survey Round Five Plus (GLSS5+) and three rounds of Farmer Based Organization (FBO) Surveys. ISSER worked in collaboration with the Ghana Statistical Service (GSS) to conduct the first round of GLSS5+ in 2008 in the MiDA intervention districts. ISSER had the overall leadership of the data collection effort including the design, supervision, analyses and overall quality control of the data, with GSS contributing its substantial survey infrastructure (enumerators, vehicles, field presence).

Specifically, 9,310 households in 620 Enumeration Areas (EAs) in the 23 programme districts were surveyed using community and household questionnaires between April 2008 and September 2008 for the baseline GLSS 5+. The study therefore employs data from the baseline survey of the GLSS 5+ for all its econometric analyses. The 23 programme districts are located in three (3) zones. These zones are: the Northern Agriculture Zone encompassing five districts in the Northern Region, the Afram Basin covering six districts in the Ashanti and Eastern Regions, and the Southern Horticultural Belt including twelve districts in the South-East Coastal Plains (Greater Accra, Eastern and the Volta Regions) of Ghana. These districts are by no means the poorest districts in Ghana.

Quantitative Analysis
As already discussed, Ghana Living Standard Survey Five Plus (GLSS 5+) is the only data set used for the econometric analysis of the study. Considering the main intention of the study as investigating the determinants of working poverty, the initial analytical problem was how to

identify the working poor. Even though there are many ways of identifying the poor, the design of the data and the focus of the study make *consumption expenditure* as the most convenient approach for separating the poor from the rich.

Poverty Measurement and Analysis

One of the difficult issues with welfare analysis is to devise a common measure of poverty. Following a pattern prescribed by Coudouel, Jesko and Quentin (2002), the study adopts consumption as an indicator of well-being. This became appropriate because of the informal nature of the study area (Atkinson, Rainwater & Smeedin, 1995). For instance, while income measure of welfare is usually acceptable in some communities, the volatile nature of workers' income in the developing economies makes it difficult to rely on income as a measure of welfare.

Having settled on consumption expenditure as a more convenient measure of welfare, the next stage was the choice of appropriate model for determinants of poverty. Two models, *expenditure function approach* (linear regression) and *discrete approach* appear appropriate (*Fissuh & Harris, 2005, World Bank, 2005*). In the expenditure function approach, a continuous variable, consumption expenditure per adult equivalent is regressed on a set of explanatory variables (Geda *et al.*, 2001; Arneberg and Pederson, 2001) while in the discrete approach, a poverty line is employed to divide the population into poor and non-poor after which a probit model is used to estimate the probability of a household being poor conditional upon some chosen explanatory variables.

According to *Fissuh and Harris (2005)*, the discrete choice model has a number of attractive features that make it appears superior to the expenditure approach. For instance, because the discrete choice model is able to give probabilistic estimates, it can make probability statements about the effect of the variables in the poverty status of any economic agent. Again, apart from the discrete choice model allowing for the effects of independent variables to vary across poverty categories, it also tries to capture any heterogeneity between the poor and non-poor.

However, certain other attributes of discrete model render consumption function approach preferable. In the first place, there could be loss of information by creating categories of poverty status as required in the case of discrete modelling (ibid). As a result, Brucks (2007) described discrete approach (probit) as a more *narrow sense* of poverty measure. In the same vein, because the continuous consumption function is able to capture information at all levels of poverty, it was described as a more *broad sense* measure of poverty. Again, while those above or below the poverty line are

heterogeneous, discrete approach of modelling does consider them as homogenous (Jollife & Datt, 1999). Lastly, *(Fissuh & Harris, 2002)* identified some arbitrariness in the setting of the absolute poverty line. It is therefore clear that each of the two approaches has its own merits and demerits. Therefore to ensure robustness of the results on determinants of working poverty, the study employed the two approaches of modelling determinants of poverty.

Consumption Expenditure Function Approach of Modelling Working Poverty (OLS)

The study followed closely the various suggested ways by Ghana Statistical Service in computing consumption expenditure for the Fifth Round of the Ghana Living Standard Survey (GLSS 5). Among the various items included in the household consumption expenditure for the study were household consumption of home produced goods and services, recorded cash expenditures on items such as food, services and housing and the non-cash incomes in kind which was included as an imputed expenditure.

By carefully including household consumption of home produced goods and services, the problem of underestimation often associated with consumption expenditure measures for subsistence agricultural households and domestic consumption of the output of non-farm production activities was minimised. While it is often difficult to include imputed cost of some household consumption in the consumption expenditure, GLSS survey results offered some scope for imputing values of such expenditures (Coulombe & McKay, 2008). Since MiDA Baseline Survey data (GLSS 5+) was modelled around GLSS 5, the same scope was therefore provided for inclusion of the imputed values of expenditure.

This makes the measured *consumption expenditure* for the study relatively more accurate than those done in many other developing economies. Describing the much improved nature of the approaches in capturing household consumption in Ghana, Coulombe and McKay (2008) wrote:
...the need to make these imputations is generally accepted in principle, although in many cases it is difficult to obtain estimates in practice and they are frequently excluded from many countries' national accounts estimates (p.5).

We followed Coulombe and McKay (2008) closely in measuring the household consumption expenditure per adult worker:
$$\omega_i = f(F_{EXP} + H_{EXP} + OA_{EXP} + FI_{EXP} + OI_{EXP} + R_{EXP}) \dots\dots\dots\dots\dots(1)$$

Where:

F_{EXP} = *Food expenditure (actual)*,

H_{EXP} = *Housing expenditure (actual and imputed):* The following items are considered in   capturing this component: actual expenditure on rent, an imputed rental value for owner-occupied dwellings, an imputation of rent for those households who receive subsidised or rent-free housing from employers, relatives or others, and an imputation of rent for those who neither own nor rent their dwellings (such as squatters).

OA_{EXP} = *Other expenditure (actual):* This is an aggregate of all consumption expenditure made in monetary form other than those on food and housing. It includes: elements as clothing and footwear, household management, personal care products, energy and fuels, health and education, other services, and infrequent expenditures (example; jewellery).

FI_{EXP} = *Food expenditure (imputed):* This variable captures two types of imputation; the   domestic consumption of own output by households engaged in agricultural production and the value of any wage income received by household members in the form of food.

OI_{EXP} = *Other expenditure (imputed:* This variable captures domestic consumption of the output of household non-farm enterprises including wage payment in kind received in any form other than food or housing.

R_{EXP} = *Expenditure on remittances: This is made up of all* transfer payments of remittances made to other households.

Since most of these expenditure variables captured by the survey were related to a range of different reference periods, they were expressed on a consistent annual basis before being adding added up together. A reduced-form linear model of consumption function suggested by Brucks (2007) was then adapted to specify a model to analyze the determinants of working poverty of informal sector workers in the MiDA intervention study area as.

$$\omega_i = a + \beta L_i + \gamma A_i + e_i \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

Where: ω_i = consumption expenditure per worker (calculated as the average household consumption expenditure), L_i is a set of individual-based economic exclusion characteristics of an ith worker, A_i, a set of group-based factors of economic exclusion that affects an ith worker and e_i is an error term that is assumed to be uncorrelated with the explanatory variables.

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Discrete approach of modelling working poverty
Discrete approach in modelling determinants of working poverty requires that the population is initially divided into poor and non-poor using a poverty line developed for such purpose. For comparison purposes, we followed the standards of Ghana Statistical Service in setting a consumption-based poverty line. The specification illustrated by Equation 2 is then extended for the analysis of household welfare relative to some pre-determined poverty line as follows:

$$S_i = 1 \text{ if } Y_i > Z \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$
$$S_i = 0 \text{ otherwise}$$

Where 'S_i' is a categorical poverty indicator for household $i = 1 \dots 9,310$ and 'Z' is a poverty line. With the dependent variable, P, being a nominal with two categories, a probit model was specified as:

$$P = \alpha 1 + \alpha 2 \sum X i + \alpha_i \sum D_i + U \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 4)$$

Where P is a dichotomous variable, poor = 1, otherwise = 0; Xi is vector of independent variables while set of control variables is denoted by $\sum D_i$. *These variables include:*

Descriptive Analysis
This section uses GLSS 5+ data to describe the incidence of working poverty and its determinant variables. One fundamental challenge of the study was how to classify individual workers as working poor. Considering the construction of GLSS 5+ data, both asset index and consumption expenditure approaches of measuring poverty appear superior to other poverty measures such as income approach. However, upon assessing the relative suitability of the two approaches, the study settled on consumption expenditure. Therefore, 'working poverty', hereafter described by the study simply means 'consumption poverty'.

Usually, poverty classification based on consumption is specifically concerned with those whose standard of living falls below an adequate minimum defined by a poverty line (GSS, 2000). In other words, a predetermined poverty line based on annual consumption expenditure is used to classify an individual as either poor or non-poor. Even though this poverty line is constructed at the household level, the study employs an econometric technique of clustering to disaggregate household poverty to individual household members. As a result, all adults of a particular household were assigned with the same poverty status. Therefore, a farmer or an operator of a household nonfarm enterprise is classified as a working poor if his/her annual consumption expenditure falls below poverty line of GH₵ *478.55[1]. This is also considered as equivalent to an adult nutritional requirement per annum.*

[1]The upper poverty line GH₵ 478.55 considered by study was constructed using GLSS 5+ data and it is based on 2008 constant prices. The lower poverty line is also estimated as GH₵372.00.

Having resolved the issue of poverty classification, the discussion is then done separately for the farmers and operators of household nonfarm enterprises on each variable. For simplicity and brevity, Northern Agricultural Zone is represented as NAZ, Afram Basin as AfB and Southern Horticultural Zone as SHZ in all the figures and some of the tables.

Incidence of Working Poverty

Figures 2a and Figure 2b illustrate the incidence of working poverty among workers of the informal sector of the MiDA intervention zones. Generally, proportion of the working poor appears lesser than proportion of the working non-poor. The data suggests incidence of working poverty for both farmers and household nonfarm operators as far lower in the Southern Horticultural Zone compared to the other zones. While incidence of working poverty among nonfarm operators (Figure 2a) appears slightly higher in the Afram Basin (42.4 %) than it is in the Northern Agricultural Zone (41.2 %), more farmers are poor (Figure 2b) in the Northern Agricultural Zone (40.9 %) compared to those in the Afram Basin (33.7 %) and the Southern Horticultural Zone (24.0 %).

	NAZ	AfB	SHZ	All MiDA Zones
■ Working Non-poor	58.9	57.6	73.2	66.9
■ Working Poor	41.2	42.4	26.8	33.1
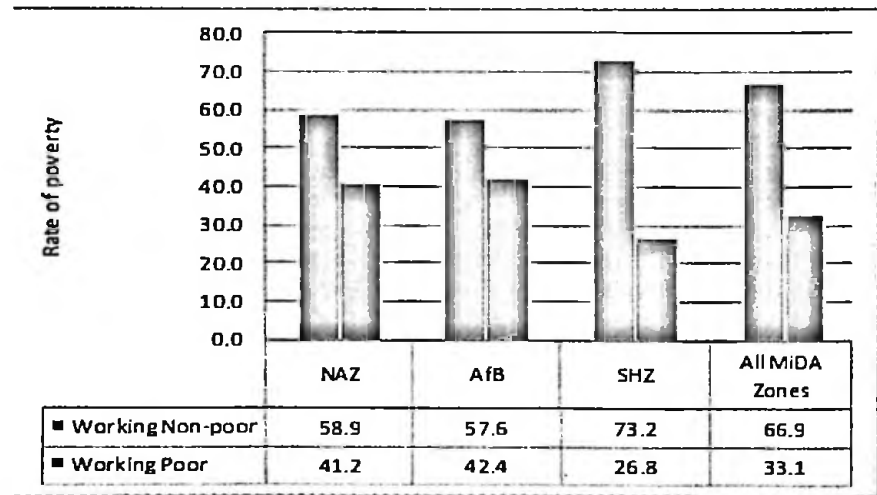
Figure 2a: Incidence of Working Poverty among Nonfarm operators, by MiDA Zone (Percent)
Source: Authors' calculation based on GLSS 5+ data

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	NAZ	AfB	SHZ	All MiDA Zones
■ Working Non-poor	59.1	66.3	76.0	70.0
■ Working Poor	40.9	33.7	24.0	30.0
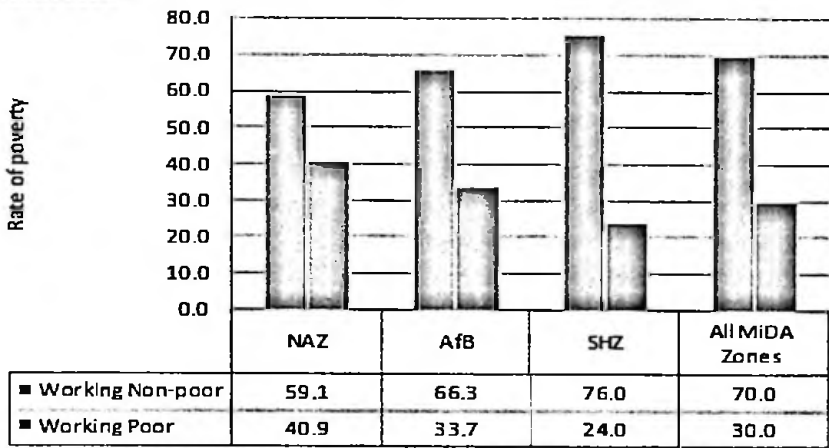
Figure 2b: Incidence of Working Poverty among Farmers, by MiDA Zones (Percent)
Source: Authors' calculation based on GLSS 5+ data

Underemployment and working poverty

Figure 3a explains the proportion of males and females who are underemployed by the classification of number of hours worked and consumption expenditure. Higher proportion of female operators of household nonfarm enterprise is classified as working poor by the number of hours worked compared to their male counterparts. For example, the data reports more than halve (52.5 percent) of the poor female operators as working below 40 hours a week with about a third (31.3 percent) of the poor male operators also working below 40 hours a week. While underemployment by hours worked appears as severest (64.7 percent) among the female operators in the Afram Basin, the highest (37.6 percent) among the males is recorded in the Southern Horticultural Zone.

On the other hand, the incidence of underemployment by consumption expenditure classification appears higher among the males (19.5 percent) compared to that of the females (13.6 percent). While the highest rate of underemployment by consumption expenditure among the males (26.5 percent) is recorded in the Afram Basin, females recorded their highest rate of 20.3 percent in the Northern Agricultural Zone.

	Under-Employment by Hours Worked		Under-Employment by Consumption Expenditure	
	Male	Female	Male	Female
NAZ	27.7	49.8	21.3	20.3
AfB	28.7	64.7	26.5	8.4
SHZ	37.6	43.1	11.4	12.0
All	31.3	52.5	19.8	13.6
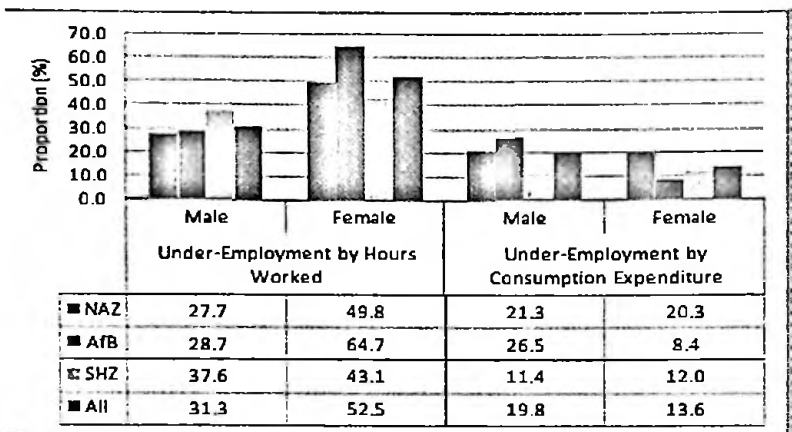
Figure 3a: Proportion of poor underemployed nonfarm operators by sex (percent)
Source: Authors' calculation based on GLSS 5+ data

Compared to household nonfarm enterprise operators, underemployment among farmers appears relatively lower (Figure 3b). The data also suggests underemployment by hours worked among males as slightly higher (14.6 percent) than the females (13.6 percent). Afram Basin recorded the highest rate among both males and females. However, the highest underemployment by consumption expenditure for both males and females are recorded in the Northern Agricultural Zone. This lends credence to the reports of various surveys in Ghana that have all indicated general poverty rate at the north as the highest in the country.

	Under-Employment by Hours Worked		Under-Employment by Consumption Expenditure	
	Male	Female	Male	Female
NAZ	13.2	11.5	27.1	55.3
AfB	18.9	14.9	21.8	10.9
SHZ	11.7	14.5	12.7	8.7
All	14.6	13.6	20.5	25.0
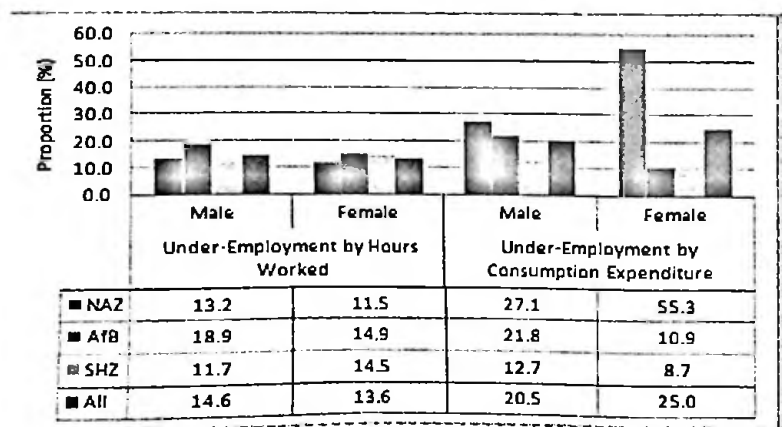
Figure 3b: Proportion of poor underemployed farmers, by sex
Source: Authors' calculation based on GLSS 5+ data

Econometric Analysis

The econometric analysis begun with an attempt to deal with suspected multicollinearity among the independent variables. This became necessary because of the categorical nature of some of the. explanatory variables (Wissmann et al., 2007). Thereafter, linear and probit regressions were employed on some selected explanatory variables to determine the causes of poverty among both the household nonfarm operators and the farmers in the MiDA intervention zone (Table 1a and Table 1b). While the linear regression had consumption expenditure as its dependent variable, the probit regression adopted a dichotomous variable; working poor = 1, otherwise = 0, as its dependent variable. Operators of nonfarm household enterprises are considered by the study as those who either operate only a household nonfarm enterprise or whose main occupation happened to be a nonfarm enterprise. This means that an operator of a nonfarm enterprise may also be doing farming as a minor occupation. In the same vein, some farmers may also have nonfarm enterprises as minor occupation. The explanatory variables for both models include: age of the worker, male household, education, marital status, area of residence, access to credit, dependency ratio, labour inefficiency and underemployment.

Test of multicollinearity

The problem of multicollinearity has remained at the centre of attraction in the literature of regression analysis, especially those with categorical independent variables. It arises when the explanatory variables in the linear regression model are correlated and thus one or more columns of the design matrix form a 'near' linear combination with other columns (Wissmann, 2007). Therefore, before proceeding to empirically examine the determinants of working poverty, we employed Pearson Correlation Coefficient strategy on the explanatory variables to ascertain whether the presence of the multicollinearity could affect the results of the regression. Table 2a and Table 2b illustrate the results of the Pearson Correlation Coefficient respectively for the nonfarm operators and the farmers. Anderson et al. (1990) suggested a simple *rule of thumb* that any correlation coefficient exceeding (0.70) shows a potential multicollinearity problem that needs to be dealt with. It is therefore concluded based on this suggestion that none of the explanatory variables exhibited any serious multicollinearity problem with another. This means that the final outcome of the econometric regressions could not be affected by a multicollinearity problem earlier suspected.

Table 1a: Selected variables for multicollinearity test and their symbols (Household nonfarm enterprise)

Age	A
Male household head	B
Married/consensual union	C
Separated/widowed/divorced	D
Never married	E
Urban	F
Northern Agricultural Zone	G
Afram Basin	H
Southern Horticultural Zone	I
No formal education	J
Basic Education	K
Secondary/higher education	L
Operate farm	M
Have access to credit	N
Size of non-working household members	O
Remittances received	P
Labour inefficiency	Q
Visible underemployment	R

Table 1b: The selected variables for multicollinearity test and their symbols (Farmers)

Age	A
Male household head	B
Married/consensual union	C
Separated/widowed/divorced	D
Never married	E
Urban	F
Northern Agricultural Zone	G
Afram Basin	H
Southern Horticultural Zone	I
No formal education	J
Basic Education	K
Secondary/higher education	L
Access to land	M
Use of fertilizer	N
Extension services	O
Size of non-working household members	P
Remittances received	Q
Labour inefficiency	R
Visible underemployment	S

Table 2a: Correlation matrix on some selected variables (Household Nonfarm Operators)

Variables	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A	1.00																
B	0.18	1.00															
C	0.21	-0.13	1.00														
D	0.18	-0.29	0.84	1.00													
E	0.00	-0.03	0.00	0.00	1.00												
F	-0.09	0.06	-0.12	-0.08	-0.01	1.00											
G	0.01	0.08	0.00	-0.01	0.04	-0.12	1.00										
H	0.04	-0.10	0.07	0.05	-0.03	-0.44	-0.84	1.00									
I	-0.01	-0.03	0.03	-0.01	-0.14	0.13	0.01	-0.08	1.00								
J	0.00	0.06	0.03	0.03	0.02	-0.12	0.00	0.07	-0.76	1.00							
K	-0.07	-0.04	-0.10	-0.08	0.15	0.03	0.02	-0.03	-0.23	-0.28	1.00						
L	0.11	0.09	-0.05	-0.04	-0.22	0.06	0.06	-0.09	0.05	-0.02	-0.03	1.00					
M	0.03	-0.07	0.05	0.05	0.05	0.00	-0.01	0.00	-0.09	0.04	0.13	-0.06	1.00				
N	0.15	0.26	-0.15	-0.17	-0.04	0.07	0.08	-0.11	0.07	-0.03	-0.05	0.11	0.06	1.00			
O	0.08	0.01	0.01	-0.01	0.09	-0.07	-0.01	0.04	0.01	-0.04	0.05	-0.04	0.01	-0.02	1.00		
P	-0.21	-0.07	0.05	0.06	0.04	-0.09	-0.06	0.11	0.10	-0.06	-0.06	-0.15	-0.07	0.02	-0.01	1.00	
Q	0.03	0.11	-0.11	-0.11	-0.08	-0.02	-0.05	0.06	0.08	-0.02	-0.05	-0.01	0.00	0.21	-0.04	-0.02	1.00

Source: Authors' calculation based on GLSS 5+ data

Table 2b: Correlation matrix on some selected variables (Farmers)

Variable	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
A	1.00																		
B	0.06	1.00																	
C	0.00	-0.16	1.00																
D	0.27	0.29	-0.72	1.00															
E	-0.31	-0.06	-0.38	-0.12	1.00														
F	0.01	-0.05	0.08	-0.10	0.08	1.00													
G	-0.17	-0.16	0.11	-0.16	0.07	0.11	1.00												
H	0.08	0.11	0.01	0.08	-0.08	0.06	-0.15	1.00											
I	0.05	0.01	-0.08	0.03	0.02	-0.13	-0.30	-0.76	1.00										
J	-0.03	0.22	-0.08	0.16	-0.11	-0.11	0.05	0.04	-0.06	1.00									
K	-0.01	-0.14	0.05	-0.10	0.02	-0.04	-0.17	0.04	0.08	-0.29	1.00								
L	0.05	-0.10	0.04	-0.07	0.12	0.20	0.16	-0.10	-0.02	-0.36	-0.43	1.00							
M	-0.04	-0.08	0.13	-0.09	-0.06	0.05	0.00	-0.02	0.02	0.05	-0.03	-0.03	1.00						
N	-0.11	-0.07	-0.05	-0.01	0.05	-0.07	0.08	-0.06	0.00	-0.02	0.01	0.01	0.16	1.00					
O	0.05	-0.07	-0.02	-0.01	0.04	0.02	0.12	0.07	-0.14	-0.10	0.04	0.07	-0.01	0.17	1.00				
P	0.10	-0.09	0.31	-0.24	-0.30	0.01	0.12	-0.06	-0.03	-0.02	0.04	-0.02	0.09	0.03	0.04	1.00			
Q	0.24	0.20	-0.09	0.16	-0.03	-0.02	-0.01	0.11	-0.09	0.05	-0.06	0.01	-0.06	-0.01	0.03	-0.08	1.00		
R	0.01	-0.01	-0.22	0.21	0.11	-0.16	0.07	0.14	-0.17	0.03	-0.01	-0.03	-0.04	0.07	0.19	-0.10	0.12	1.00	
S	0.10	0.07	-0.11	0.10	0.04	0.02	-0.04	-0.01	0.04	-0.02	-0.04	0.08	0.02	-0.04	-0.01	-0.04	0.09	0.01	1.00

Source: Authors' calculation based on GLSS 5+ data

Causes of poverty among the nonfarm operators

The two analytical models (the linear and the probit regressions) the study employed in analysing the causes of working poverty exhibited some variations with regard to statistical significance of the set of explanatory variables. For instance, while results from the linear regression indicate age as statistically insignificant determinant of poverty among the household nonfarm operators, the results of the probit regression on the other hand indicate probability of a year increase in the age of an operator as reducing poverty by about 1.6 percentage points (Table 3a). In the same manner, the probit regression suggests gender of the household (being a male household head) as having a potential to reduce probability of an individual operator becoming poor. This appears to confirm a study by Jose and Collado (2004) who found male-headed households as having higher welfare than female-headed households.

In the case of the marital status, the results of the linear regression indicate a negative effect on household consumption welfare. This means that the married couples are more likely to be become poor compared to those who have never married before. While marriage itself may not cause an individual to become poor, the marriage couples tend to have more dependents and as Jose and Collado (2004) explained "....households headed by non-single persons ceteris paribus tend to be poorer than those headed by single individuals" (p 13).

Also, it came out of both linear and probit regressions that residence in an urban has a strong association with working poverty. The signs, positive for the linear regression and negative for the probit regression, imply that when all other factors are held constant, residence in an urban would contribute to reduction of working poverty. This outcome is consistent (Datt et al., 2000; Jose and Collado, 2004) who all found the dept and severity of poverty in rural areas as being higher than in urban. Additionally, the results of the probit regression indicate a 4.6 percentage point reduction in poverty as an operator moves to Afram Basin instead of operating in the Northern Horticultural Zone. This confirms findings of studies (GSS, 2008) that have described the poverty in the northern Ghana as higher than it is the rest of the country.

The results from both the linear and probit regressions also show acquisition of secondary or higher education as reducing the probability of an operator from falling into the poverty trap. This is consistent with studies (Schultz, 1961; Becker, 1964; Bartel and Lichtenberg, 1991, **Saxton, 2000**; Owusu et al., 2010) which have all acknowledged that acquisition of formal education increases individual's value in the labour market. Since day to day operations of household nonfarm enterprises involve some arithmetic and

writing, it is important that operators acquire formal education in order to be more efficient. **Osinubi (2003) explained this better:**
In the case of educational status, there are two implications of the result. Firstly, the higher the level or number of years of schooling, the better-exposed one is and also more enlightened. Hence one is adequately informed to devote a sizeable amount of the household income to basic need to maintain a particular level of standard of living suitable to his level of educational standard. Secondly, income and educational status tends to move together in the same direction. Therefore, with improvement in the level of education, one is better placed in terms of income generation and therefore enhanced the purchasing power of the person and thereby improving his standard of living and poverty level (p. 22).

The size of non-working household members, defined by the study as household members who are not working because of age, schooling/training or other issues such as health, is found out by the linear regression as reducing the probability of consumption expenditure (welfare) by about 7.9 percentage points. This is because household non-working members (dependents) tend to share the little income operators generate, thereby making it difficult for the rest of the household members to save enough income to upgrade their skills and as **Gammage (1997) put it:**
In poor households where there has been a consistent attrition of income earners and where demographic dependency ratios are also high, individuals are often unable to upgrade human capital or to switch into higher return productive activities (p 35).

Again, results from both regressions (linear and probit) indicate remittances received by operators as having significant statistical influence on their welfare status. This confirms a finding by Gammage (1997) who noted that some households could be lifted out of poverty by their receipt of remittances. This is consistent with the revelation in the literature that higher dependency ratio increases household poverty (Bank of Israel, 2003).

Expectedly, labour inefficiency came out in the probit regression as having positive impact on working poverty. For example, a unit increase in labour inefficiency tends to heighten the chances of an operator of nonfarm enterprise falling into poverty trap by about 3.5 percentage points. This means that as operators become more inefficient, the higher is their probability of becoming poor. Relating to this outcome is the underemployment by hours worked which also came out from both regression as statistically significant. As suspected, the results of the linear regression indicate underemployment by hours worked as reducing welfare while the results of the probit regression also appears to support working poverty. This seems to confirm the suspicion expressed by Sackey and Osei (2006) on the possibility of underemployment having empirical impact on poverty.

Table 3a: Determinants of working poverty among operators of household nonfarm enterprises in the MiDA intervention zones [Probit Estimation]

Variable	Linear regression (OLS regression)		Discrete regression (Probit regression)	
	Coefficient	t-statistics	Marginal effects	t-statistics
Demographic Characteristics				
Age	0.038	1.03	-0.016	-2.62**
Male household head	1.032	0.90	-0.151	-1.93*
Married	-0.467	-1.76*	0.045	0.77
Widowed/separated/divorced	0.322	1.08	-0.043	-0.59
Geographical Location				
Urban	2.208	3.14**	-0.086	-1.88*
MiDA Zone (Northern Zone as reference)				
Southern Agricultural Zone	0.947	0.65	-0.111	-1.32
Afram Basin	0.823	0.96	-0.046	-2.54**
Educational Status				
Basic	0.009	0.01	-0.026	-0.57
Secondary school or higher	0.846	2.35*	-0.184	-2.70**
Operate farm	-0.884	-0.94	-0.068	-1.17
Access to credit	-1.163	-1.05	0.040	0.51
Size of non-working household members	-0.079	-2.17*	0.029	0.65
Remittances received	2.362	2.91**	-0.152	-2.64**
Labour inefficiency	-0.997	-0.38	0.350	2.08**
Underemployment	-6.198	-6.50***	0.096	2.02*
Diagnostic Statistics				
Constant	8.770	3.97	0.106	0.38
Number of observation	712		2,234	
R-squared	0.3815		–	
Adjusted R-squared	0.3532		–	
Pseudo R-squared	–		0.2589	
Probability > F	0.0000		0.0000	

Significance Level: 1 %(***), 5 %(**), 10 %(*)

Causes of poverty among farmers

Linear and probit regressions were separately carried out to examine the causes of poverty among farmers in the MiDA intervention zone (Table 3b). The data (linear regression) suggest age as statistically significant with an additional age of a farmer reducing the probability of working poverty by about 5.6 percentage points. This means that as one advances in age he/she tends to gather experience needed to be a successful farmer.

In line with the traditional approach to explore the gender dimensions of poverty (Barros, Fox and Mendonça 1993; Appleton 1996; Buvinic and Gupta 1997), **the study** used headship as a gender characteristic that might be correlated with a higher incidence of poverty. The assumption is that households that are headed by female may demonstrate a greater predisposition to poverty than households that are headed by males **(Gammage, 1997;** Jose & Collado, 2004). In line with this conjecture, the results of the probit regression indicate male-headship of household as being associated with about 3.8 per cent reduction of poverty by a farmer. While household headship goes with responsibility (Sackey & Osei, 2006), male farmers have higher tendency to succeed because of the difficulty nature of farming work. This therefore might explain why male household heads who are farmers are more successful.

Just like the operators of the nonfarm enterprises, *being married* came out as statistically significant determinant of poverty among the farmers. Additionally, being resident in the urban also came out as having a tendency to increase the probability of consumption expenditure (linear regression) or reduce the probability of poverty (probit regression). This is not only consistent with the econometric results for the nonfarm operators but also confirms the findings by studies by Datt et al. (2000) and Jose and Collado (2004).

Moreover, farming either in the Southern Horticultural Zone or in the Afram Basin instead of Northern Agricultural Zone appears to place a farmer in a better position to overcome poverty. The results confirm a report by Ghana Statistical Service (2008) that seems to suggest poverty situation in the north as the worst in the country. This is so especially because, rainfall which happens to be the single most important determinant of agricultural productivity, is comparatively very low in the northern part of Ghana.

Just like the results of the nonfarm operators, acquisition of formal education (both at the basic level or secondary/higher level) emerged as statistically significant with negative sign for the probit regression. The positive sign of an acquisition of *secondary or higher* level of education as indicated by the linear regression also means formal education at the higher would increase the probability of consumption expenditure (welfare). This means that as individual farmer acquires formal education, the chances of becoming a working poor tend to decline. This outcome is consistent with several studies (Lockheed et al. 1980; Ray 1998; Psacharopoulos 1994; Psacharopoulos and Patrinos 2002; Ravallion and Datt 2002; Ngo 2006) and might be rightly so because an educated farmer can easily learn and adjust to new technology to boost efficiency and for that matter increase labour returns.

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Again, the data (linear regression) suggest *access to land* and the *use of fertilizer* as being associated with increase in welfare. This means that farmers who have access to land and can also afford and apply fertilizer eventually get higher yields and therefore more income. With regard to the use of fertilizer, the results might not be too conclusive since it is also possible that farmers who can afford fertilizer are already better-off. In other words, there could be a bi-causality sort of relationship between use of fertilizer and consumption expenditure.

The number of household members not working (dependency ratio) came out as statistically significant with a negative impact on welfare (linear regression). This means that an inclusion of one more additional non-working household member increases the probability of working poverty of a farmer by about 32 per cent. This is, to some extent, consistent with Brucks et. al. (2007) who found that having more children was negatively related to household consumption.

In consistent with the literature (Osmani, 2003), labour inefficiency emerged as a factor that would increase the probability of working poverty among farmers in the MiDA intervention zones. For example, a unit increase in labour inefficiency (probit regression) would increase the probability of a farmer's poverty by 20.8 percentage points. This is simply because an inefficient farmer tends to waste inputs thereby having just a little to show at the end of each farming season compared to an efficient farmer who is able to produce enough in the face of daunting challenges.
Again, and as expected, underemployment appears to have a negative impact on consumption expenditure (Osmani, 2003; OECD, 2003; Sackey and Osei, 2006). For example, a unit increase in underemployment by hours worked is associated with 8.6 per cent reduction in welfare of a farmer. Therefore, that underemployment is very high in the MiDA intervention zone among farmers might explain why some farmers seem to be working but can hardly secure an end meet.

Table 3b: Determinants of working poverty among farmers in the MiDA intervention zones [Probit Estimation]

Variable	Linear regression (OLS regression)		Discrete regression (Probit regression)	
	Marginal effects	t-statistics	Marginal effects	t-statistics
Demographic Characteristics				
Age	0.056	3.23**	0.001	0.77
Male household head	0.759	1.47	-0.038	-2.46*
Married	-0.123	-6.42***	0.012	0.40
Widowed/separated/divorced	1.315	1.64	-0.010	-0.27
Geographical Location				
Urban (compared to rural)	0.319	4.58***	-0.127	-6.85***
MIDA Zones (Northern Agricultural Zone as reference)				
Southern Horticultural	0.894	3.29**	-0.150	-4.33***
Afram Basin	0.224	5.29***	-0.023	-1.01
Educational Status				
Basic	0.120	0.32	-0.067	-3.41**
Secondary school or higher	1.801	11.81***	-0.089	-3.81***
Access to land	0.012	2.58*	-0.001	-1.57
Fertilizer use	1.621	2.90**	-0.046	-1.48
Extension services	0.105	0.22	0.034	1.28
Size of non-working household members	-0.319	-4.03***	0.014	0.37
Remittances received	1.168	2.92**	0.004	0.21
Labour inefficiency	-1.989	-1.80*	-0.208	-3.58***
Underemployment	-0.086	-1.88*	-0.003	-0.18
Diagnostic Statistics				
Constant	3.792	2.23	0.106	0.38
Number of observation	826		2,615	
R-squared	0.3156		—	
Adjusted R-squared	0.3102		—	
Pseudo R-square	—		0.1348	
Probability > F	0.0000		0.0000	

Source: Authors' calculation based on GLSS 5+ data
Significance Level: 1 %(***), 5 %(**), 10 %(*)

Summary of findings

The study finds the following *individual-based* economic exclusion factors as explaining poverty among informal sector workers: age, marital status, educational attainment and labour inefficiency. While these individual-based factors are personal characteristics of the informal sector workers, the study also found *group-based* economic exclusion factors that are peculiar to the communities of the workers as being inclusive of geographical location, access to land, underemployment and size of non-working household members. It is therefore concluded that poverty among informal sector workers in Ghana is characterised by both group-based and individual-based economic exclusion factors.

Policy recommendations

Based on the findings that some informal sector workers are poor, the study recommends that poverty reduction strategies in Ghana should give equal attention to people who are working and yet can barely afford goods and service necessary to meet the minimum standard of living. Since these people are mostly self-employed in the informal economy, a special financial package can be set aside to help them improve their lot. In so doing, they would be able to contribute meaningfully to the socio-economic advancement of the country.

Women tend to share almost all they get with their households compared to the men who have high inclination to spend outside the household. Having therefore identified women as doing so well with the nonfarm enterprises but less better in the farm, policies should be put in place to encourage more women to use their relative advantage in household nonfarm enterprises to purge themselves out of poverty. Not only would such a measure help reduce household poverty; it would ultimately have positive impact on the standard of the national welfare.

Having realised formal education as number one enemy to poverty among informal sector workers in Ghana, we recommend to the Government and its development partners to do more than what is currently being done in order to make education more accessible and affordable to these group of people. Even though policies such capitation grant, school feeding programme, free school uniforms and removal of school under tree are all right steps towards the ultimate direction of getting all school going children educated, other policies are needed to ensure that parents comply with the tenets of 'free basic compulsory' to send all their children of school going age to school.

That living in the urban tends to reduce the probability of a worker becoming poor is simply because there are certain facilities in the urban that do not encourage poverty. The gap between development in the rural areas and the urban is too wide. While rural electrification programme has made so much gain in trying to bridge this gap, there is still more to be done. Government should therefore take it as a matter of urgency to put in place pragmatic policies and programmes that will make rural areas better than they are now. For example, small factories could be set up in the rural areas to buy and process perishable farm produce such as tomatoes. Road network between the urban and the rural should be improved to provide smooth movement of goods and services between tne urban and the rural areas of the country. Finally, having identified low labour inefficiency and underemployment as proximate causes of poverty among informal sector workers, it is recommended that poverty strategy programmes are appropriately designed to tackle working poverty from these two angles.

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Impact of Microcredit on Poverty Reduction among Rural Women in Ghana: the Case of Upper East Region

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Abstract
The literature on microfinance reveals that microcredit is a powerful tool in reducing poverty. In consonance with this, the main objective of this study was to verify the impact of microcredit on poverty reduction among rural women in the Upper East Region of Ghana, using the Heckman method of estimation. In pursuance of this, data was collected from 500 women engaged in agro-processing of whom 250 were beneficiaries of microcredit and 250 non-beneficiaries. The results showed the existence of spatial differences in the levels of poverty in the Region. Respondents from Builsa, Kasena-Nankana, Bongo and Bawku West Districts had higher levels of weekly consumption expenditures and for that matter are better off than their counterparts from the Talensi/Nabdan District. Also the number of income generating activities and the number of sources of borrowing have a positive impact on poverty. The predicted weekly mean consumption expenditure indicated that respondents who received microcred!: are better off than those who did not receive microcredit as the beneficiaries spend more per week than the non-beneficiaries. By implication, microcredit has a positive impact on poverty reduction among rural women engaged in agro-processing in the Upper East Region. In the light of this, microcredit intervention should be strengthened in the Upper East Region since it has a positive impact on poverty reduction.

Keywords: Poverty, Microcredit, Rural women, Heckman estimation and Ghana

Introduction
It is estimated that about 1.4 billion people in the world live on less than $1.25 per day as at 2005 (World Bank, 2008).Poverty is a major socio-economic problem that has attracted the attention of the UN and this has been articulated as the number one in the Millennium Development Goals (MDGs), to reduce by half the world's population that live on less than $1 per day by 2015. This is so because poverty has the tendency to reduce the ability of the individual to reach their fullest potential.

Against this background, the developing countries who are most challenged by poverty are making concerted efforts at fighting it. These efforts can be

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seen particularly in Ghana with the implementation of the Growth and Poverty Reduction Strategy (GPRS I & II) which represent comprehensive policies to support growth and poverty reduction.

Again, various Microfinance[2] (Mf) programmes have been implemented. As noted by Hermes and Lensink (2007), the lack of access to microcredit/ microfinance is generally seen as one of the main reasons why many people in developing economies remain poor. Usually, the poor have no access to loans from the banking system, because they cannot put up acceptable collateral and/or because the costs for banks of screening and monitoring the activities of the poor, and of enforcing their contracts, are too high to make lending to this group profitable.

Since the late 1970s, however, the active poor in developing economies have increasingly gained access to small loans with the help of microfinance programmes. Especially during the past three decades, these programmes have been introduced in many developing economies. As observed by Ledgerwood (1999), the development objectives of microfinance programmes generally include among others the reduction of poverty.

Proponents of microfinance programmes believe that access to small loans creates a virtuous cycle of investment and increases income which can break the vicious cycle of poverty in which many poor people are trapped. It has been argued that the infusion of credit creates opportunities for self-employment for poor borrowers and that this in turn augments their income and leads to increased consumption and investment. Continued access to credit and the process of increased investment increases income yet further (Khan, 2008). It was also argued that, the theory underlying the promotion of microfinance is due to market failure (Bowles, Durlauf & Hoff, 2006; Khan, 2008).

In Ghana as reported by the Ghana Living Standard Survey round five (GLSS5), Poverty has remained a disproportionately rural phenomenon up till now. Eighty-six percent of the total population, who live below the poverty line in Ghana given the upper poverty line of Gh¢370.89, live in the rural areas. The study further indicated that 50% of these rural poor live in rural savannah (Ghana Statistical Service, 2008).

Two nutritionally-based poverty lines are used in measuring poverty in Ghana: A lower poverty line of GH¢288.47 per adult per year which is what is needed to meet the nutritional requirements of household members. Individuals whose total expenditure fall below this line are considered to be

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[2]For the purpose of this study microfinance and microcredit are used interchangeably

in extreme poverty, since even if they allocated their entire budgets to food, they would not be able to meet their minimum nutrition requirements. An upper poverty line of GH¢370.89 per adult per year: this incorporates both essential food and non-food consumption. Individuals consuming at levels above this can be considered able to purchase enough food to meet their nutritional requirements, and to be able to meet their basic non-food needs (Ghana Statistical Service, 2008).

Women constitute about 51% of the total population in Ghana, and also make a substantial proportion of Ghana's informal business sector. However due to gender inequalities rural women have limited access to financial services both in the formal and in the informal sectors. Rural banks are very unequally distributed, with the fewest in the Upper East, Upper West and Northern Regions of the country. Within these regions, the ratio of banks to rural clients is 1:100 000 compared with the national average of 1:16 000 to 1:26 000 and one bank could serve an area of over 50 000 km^2 (IFAD-Ghana, 2000). For the majority of poor people the cost of a trip to a bank is too high, particularly since the process involved in bank loans often requires several trips. In such a situation women are usually further handicapped from using rural banks since they have problems leaving their children and household duties to travel to the bank.

Besides women are mostly not credit worthy as they lack any collateral necessary to access a bank loan. This situation is seen as a major factor that hinders the productivity of women and as such, rendering them vulnerable to income shocks and ultimately loss of economic power. In the event of these, women are marginalised and excluded from major decisions that affect them.

The results of the 2010 population census put the population of the Upper East Region at 1,031,478 of which 534,339 are females (Ghana Statistical Service, 2012). The population is primarily rural (84.3%) and scattered in dispersed settlements. Agriculture constitutes about 66% of the main occupation of the population, with 70% of the population living below the poverty line. This is further compounded by the increase in food insecurity particularly from April to July; about 30% of the population is estimated to be malnourished during this period (Upper East Regional Health Directorate [UERHD], 2006). Women are more affected under this situation since they bear the brunt of providing for the household needs including food.

As one of the poorest Regions with the highest food insecure population in Ghana, it was not surprising that the Upper-East Region was given

considerable financial support in the form of microcredit and other services by various Microfinance Institutions and Development Organisations. Following the Grameen model these Institutions targeted rural women as clients. The concentration is on women because they are considered important agents in the fight against poverty especially in the rural areas. This is because women give high priority to providing basic needs such as health services, water, and education of children (Littlefield, Murduch & Hashemi, 2003).

Microcredit has been universally touted for its ability to have positive impacts on the livelihoods of clients' households and recent studies point to this effect (Ghalib, Malki & Imai, 2011; Imai, Arun & Annim, 2010; Imai & Azam 2010; Gobezie and Garber, 2007). Even though scores of studies have shown positive impacts of microfinance on poverty, other studies point to the contrary (Morduch, 1999; Kiiru, 2008; Kiiru & Mburu, 2006). Kiiru has noted that microfinance cannot be expected as a "magic bullet" against poverty (Kiiru, 2008).

Although anecdotal evidence is often cited pointing to marginal reduction in poverty within the Upper East Region on one hand and increasing activities of Microfinance Institutions within the Region on the other, to the best of our knowledge there is no existing scientific research within the region to establish the link or otherwise. Thus the relevant questions that come to mind are; does microcredit have a positive impact on poverty reduction among rural women? And are there spatial differences in poverty levels? This study therefore seeks to answer these questions.

Methodology
The study employed a quasi-experimental survey. Thus the data for the study was obtained from 250 beneficiaries (treatment group) and 250 non-beneficiaries (control group) of MFI loans in 2011 through a random survey of women engaged in agro-processing in the Upper East Region of Ghana. Questionnaires were administered to the randomly selected respondents in a face-to-face interview. The questions included in the interview were related to, access to microfinance, initial savings, consumption expenditure on basic needs, the number of business activities the woman engages in at the moment, the location of the business and several other socio-demographic characteristics.

Sampling technique and attribution
The sampling procedure of the study for reaching the treatment and control groups was done in a manner to minimise biases that are usually associated with non-experimental impact research. The rationale was to mimic a

randomized control trial. The following highlights some of the strategies employed to minimize spill-over effects, confounding problems, and contamination and selection biases. First, to deal with spill-over effects, the control and treatment groups were selected from different communities. The choice of communities was preceded by a focused group discussion in all the communities in the district. The rationale was to ascertain information on the extent of interaction among communities and gain insight on issues such as the similarity between communities and interventions related to poverty and finance that have been received by communities. Placement bias has been associated with selecting treatment and control groups from different communities. In this study, this is less of a concern as MFIs are situated in the mainly District capital. Thus, the likelihood of the control group indirectly receiving some benefits from the treatment group in view of their access to credit is minimized (Duvendack et al., 2011).

Second, selection bias; as indicated by Duvendack et al. (2011) and Hulme (n.d.) occurs when there is no randomization in the assignment of subjects under study into either treatment or control group. This therefore creates a pre-existing difference between the treatment and the control groups. When this happens it leads to an inconsistent or bias estimate of the impact of the programme intervention. Thus to minimize the problem of selection bias, the study selected respondents with similar characteristics, such engagement in agro-processing business, respondents resident rural communities and other household characteristics. The entrepreneurial drive and ability which is an invisible attribute was there effectively taken care of as well as other economic, physical and social environment.

Thirdly, Contamination; this is said to occur when there is communication about the experiment between groups of participants. That is subjects under study are aware of the study and communicate among themselves about the study. There are three possible outcomes of contamination. Some participants' performance may worsen because they resent being in a less desirable condition; also participants in a less desirable condition may boost their performance so they don't look bad; and diffusion of treatments: control participants learn about a treatment and apply it to themselves. This issue of contamination was taken care of in the study by interviewing individual respondents in each group in their respective homes, so that no one knows of the other in the study. Again the control and treatment groups were selected from different communities (Duvendack et al., 2011; Hulme, n.d.).

Model specification

The idea here was to determine whether one is poor or not by comparing consumption expenditure on basic needs with the absolute (upper) poverty line which was extrapolated using the consumer price index (CPI) of December 2005 and December 2011. This was due to the fact that the data for the study was collected in 2011 and for that matter it was inappropriate to use a poverty line that was determined using data collected in 2005 to compare with consumption expenditure data collected in 2011, hence the extrapolation of poverty line and thus making provision for inflation.

*Dec.*2005 CPI = 183.74

*Dec.*2011 CPI = 371.16

End year inflation for December 2005 to December 2011 was then calculated as:

$$\frac{371.161 - 83.74}{183.74} \times 100 = 102\%$$

Given the GLSS5 poverty line of GH₵370.89 the extrapolated poverty line was determined as:

370.89 x (1 + 1.02) = 749.20

The study used weekly consumption expenditure data, in the light of this provision was made to reflect this in the poverty line by computing a weekly poverty line. Thus:

749.20 ÷ 52 = 14.41

If an individuals' consumption expenditure is given as a function of:

$$C = f(\pi, R_1, \eta, \Omega) \qquad (1)$$

Where C is weekly consumption expenditure on basic needs, π is profit from agro-processing business, R_1 is initial resources, η is a set of household characteristics and Ω is the amount of microcredit received.

We make a strong assumption that consumption expenditure on basic needs has a poverty reduction effect and could be used to determine if one is poor or not.

Thus one is poor if;

$$C = f(\pi, R_1, \eta, \Omega) < 14.41 \qquad (2)$$

From the above therefore we can determine the correlates of weekly consumption expenditure or poverty as:

$$C = f(\pi, R_1, \eta, \Omega) \qquad (3)$$

Let $X = \pi, R_1, \eta$

Thus:

$$C = \beta_1 + \beta_2' X + \beta_3 \Omega + \mu \qquad (4)$$

We could estimate an OLS model. However Ω suffers from sample selection bias? This is because beneficiaries of microcredit self-select to receive microcredit or not. In the light of this there are unobservable factors which affect Ω but are not included in equation (4) but which have been relegated to the error term (μ)

Therefore: $\text{cov}(\Omega, \mu) \neq 0$

Given this situation estimation of equation (4) using OLS, will bias the estimated coefficient of Ω (β_3). This thus calls for the Heckman method of estimation which solves the problem of selection bias. The Heckman is used here because both C and Ω are continuous variables.
Therefore, following (Heckman, 1979) and (Heckman & Vytlacil, 2005).

$$C = \beta_1 + \beta_2' X_1 + \mu \qquad (5)$$

$$\Omega_i = \alpha_1 + \alpha_2' X_1 + \alpha_3 IV_1 + \nu \qquad (6)$$

Where IV is an additional variable not in equation (5). This satisfies the exclusion restriction requirement for the estimation of the Heckman model.

With: $\begin{pmatrix} \mu \\ \nu \end{pmatrix} \sim IIDN\left(\begin{bmatrix} 0 \\ 0 \end{bmatrix}, \begin{bmatrix} 1 & \rho \\ \rho & 1 \end{bmatrix}\right)$

Thus the expected consumption expenditure for those who have received loans is given by the joint density bivariate normally distributed variables and of the formula:

$$E[C_i \mid \Omega_i = 1] = \beta' X_i + \Delta + E[\varepsilon \mid \Omega_i = 1] = \beta' X_i + \Delta + \rho\sigma_\varepsilon \frac{\phi(\gamma' h_i)}{\Phi(\gamma' h_i)} \qquad (7)$$

Where, ϕ is the standard normal density function and Φ is the standard normal cumulative distribution function. The ratio of ϕ and Φ is called the inverse Mill's ratio (IMR) (sometimes also called 'selection hazard'

particularly in the treatment effect model) or control functions and it takes account of possible selection bias. When the coefficient of IMR is positive there are unobserved variables that both increase the probability of selection and a higher than average score on the dependent variable. When the coefficient of IMR is negative there are unobserved variables increasing the probability of selection and the probability of a lower than average score on the dependent variable. The expected consumption expenditure for those who have access without participation in microfinance programme (have not received MFIs loans) is given as:

$$E[C_i \mid \Omega_i = 0] = \beta' X_i + E[\varepsilon \mid \Omega_i = 0] = \beta' X_i - \rho\sigma_\varepsilon \frac{\phi(\gamma' h_i)}{1 - \Phi(\gamma' h_i)} \quad (8)$$

The expected effect of poverty reduction as a result of access to microfinance programme can be calculated as:

$$E[C_i \mid \Omega_i = 1] - E[C_i \mid \Omega_i = 0] = \Delta + \rho\sigma_\varepsilon \frac{\phi(\gamma' h_i)}{\Phi(\gamma' h_i)[1 - \Phi(\gamma' h_i)]} \quad (9)$$

If ρ is positive (negative), then the coefficient estimate of Δ employing the method of OLS will be biased upwards (downwards), but the sample selection term (inverse mills ratio) will correct for this (Imai, Arun and Annim, 2010). The sign and significance of the estimate of $\rho\sigma_\varepsilon$ (λ) shows if selection bias exists.

Empirical Heckman model

The estimation of the Heckman model is preceded first with an estimation of a model for (Ω) total amount of credit received, thus both equations (10) and (11) are estimated together using MLE

$$wk\,exp\,end = \beta_0 + \beta_1 hhppl + \beta_2 depend + \beta_3 oldsav + \beta_4 amtprof + \beta_5 numacty + \quad (10)$$
$$\beta_6 lonsours + \beta_7 kasena + \beta_8 bwest + \beta_9 bongo + \beta_{10} builsa + \beta_{11} frnsours + \mu$$

$$mftotal = \alpha_0 + \alpha_1 hhppl + \alpha_2 depend + \alpha_3 oldsav + \alpha_4 amtprof + \alpha_5 numacty + \alpha_6 lonsours + \quad (11)$$
$$\alpha_7 hhppbor + \alpha_8 assets + \alpha_9 kasena + \alpha_{10} bwest + \alpha_{11} bongo + \alpha_{12} builsa + \alpha_{13} frnsours + v$$

Equation (10) Contains all the elements in (11) except *frnsours* which is an *IV* for the total amount of credit received and also measures the depth of MF. Table one shows the explanation of the variables used for the estimation.

Results and discussion

Table 1 shows the description of the data used for the analysis depend and hhppl are a set of household characteristics denoted by η in the model. The number of dependents in the respondent's household is denoted by depend

with a mean number of three (3) dependents. Also **hhppl** denotes the number of people in the respondent's household and it has a mean of about 7 people in each hold. The variable **frnsours** denotes the number of friends of the respondent who have borrowed from an MFI. This measures the *breadth* of financial services in the community. Usually the number of people in rural areas particularly the poor who are served by MFIs determine the *breadth* of financial services and as such the level of demand for the such financial services.

Table 1: Descriptive Statistics of Variables

Variables	Description	Obs.	Mean	S.Deviation
wkexpend	Weekly expenditure on basic needs	437	25.00	13.615
kasena	Kasena Nankana District (1/0)	437	0.202	0.402
bwest	Bawku west District (1/0)	437	0.198	0.398
builsa	Builsa District (1/0)	437	0.198	0.40
Talensi	Talensi/Nahdan District (1/0)	437	0.202	0.402
bongo	Bongo District(1/0)	437	0.202	0.402
age	Age in years	437	39.951	11.659
depend	Dependants in household	437	3.100	2.121
frnsours	Number of friends with loans	437	2.995	4.547
hhppl	Number of people in household	437	7.032	7.032
mftotal	Total amount of loan received	437	435.714	713.423
hhppbor	Number of household people with loans	437	0.314	0.598
lonsours	Number of borrowing sources	437	1.062	0.381
amtprof	Amount of profit	437	41.732	52.579
numacty	Number of economic activities	437	1.245	1.123
oldsav	Initial savings	437	98.993	133.701
assets	Value of physical assets	437	442.716	1040.845

Source: Field Survey data, 2011

Also **lonsours** measures the number of sources of borrowing that the respondent can actually borrow from within the community when in need of a loan. These sources include both formal (MFIs and Banks) and informal (friends, relatives and money lenders) institutions. Thus lonsours determines the number of these formal and informal financial institutions that the respondent can actually and confidently go to for a loan when in need. Also, **hhppbor** is the number of people in the respondent's household with loans. The mean of hhppbor is given as 0.31 and with a standard deviation of 0.598.

Wkexpend is the weekly consumption expenditure of the respondent on basic needs (food, clothes and rent).

The amount of profit made in a month is denoted by **amtprof** (π). The value of assets owned by the respondents measured in Cedis is denoted by **assets.** The variable **oldsav** (R_1) measures the initial financial resources or savings of the respondent before receipt of loan from a MFI or start of agro-processing business. Again, **mftotal** is the total amount of loan the respondent has received from a MFI. The mean value of **mftotal** is435.714; this means that on the average beneficiaries of microfinance received a total amount of 435.714 cedis in loans from MFI. The variable **numacty** denotes the number of income generating activities that the respondent engages in as at the time of the study.

Kasena, bwest, builsa, talensi and bongo are district dummy variables for Kasena/Nankani, Bawku West, Builsa, Talensi/Nabdan and Bongo Districts respectively. The mean value for each of the Districts is given as 0.202, 0.198, 0.198, 0.202 and 0.202 respectively for Kasena/Nankana, Bawku West, Builsa, Talensi/Nabdan and Bongo Districts. This suggesting about 20% of the respondents are from each of the five Districts. Talensi/Nabdan is used as the reference category in the estimation.

Analysis of Poverty Status of Respondents

This section presents an analysis of the poverty levels among the respondents. The results are presented in Table 2. The analysis indicated that 104 out of the 490 respondents are poor. Out of these 104 poor respondents, 29 are beneficiaries of microfinance while 75 are non-beneficiaries. Again 386 of the respondents are non-poor, of which 220 are beneficiaries of microfinance while the remaining 166 respondents are non-beneficiaries.

Table 2: Poverty status of respondents

	Beneficiaries(1)	Non-beneficiaries(0)	Total
Poor (1)	29	75	104
Non-poor(0)	220	166	386
Total	249	241	490

Source: Computed from field Survey data (2011)

Given the fact that 249 of the respondents are beneficiaries of microfinance of which 220 are non-poor then it evident that microfinance could have played a key role in making them non-poor. This finding is consistent with previous studies that found positive impacts of microfinance on poverty reduction (Gobezie and Garber, 2007; Imai and Azam, 2010; Imai, Arun and Annim, 2010; Ghalib, Malki and Imai, 2011).

Table 3: Measures of Poverty

Headcount ratio (%)	Aggregate poverty gap	Poverty gap ratio (%)
21.224	Gh¢403.365	5.713

Source: Computed from field Survey data, (2011)

The first two classes of FGT poverty measures are presented on Table 3. The headcount ratio is given as 21.224. This suggests that about 21.2% of the respondents live below the weekly poverty line of GH¢14.4. The aggregate poverty gap is also given as GH¢403.365. This means that it will require about GH¢403.365 per week to bring all the respondents to the poverty line or equivalently GH¢3.88 per week per respondent. The extent of poverty measured by the poverty gap ratio is determined as 5.7%.

The Heckman estimation results are presented in Tables 4a and 4b. Table 4a shows the results of the determinants of the amount of microcredit received from a microfinance institution. From Table 4, the results indicate that, Bongo, Kasena/Nankana, Bawku West Districts, number of dependants in the household, number of friends with loans, number of household people with loans, initial savings value of physical assets and the constant are all significant at 1%. Also, amount of profit is significant at 5%, while Builsa District and number of borrowing sources known to the respondent are significant at 10%.

Table 4: Results of Heckman estimation of determinants of amount of microcredit received

Variable	Coefficient	Robust Std. error	Z-value	P-Value
Builsa District(1/0)	-0.387*	0.230	-1.68	0.093
Bongo District(1/0)	-0.854***	0.254	-3.36	0.001
Kasena Nankana District (1/0)	-1.056***	0.244	-4.34	0.000
Bawku West District (1/0)	-1.282***	0.265	-4.83	0.000
Dependants in household	0.102***	0.039	2.64	0.008
Number of people in household	-0.016	0.014	-1.13	0.258
Number of friends with loans	0.317***	0.038	8.41	0.000
Number of household people with loans	1.034***	0.159	6.51	0.000
Number of borrowing sources	-0.140*	0.080	-1.82	0.069
Amount of profit	0.004**	0.002	2.41	0.016
No. of income generating activities	-0.051	0.076	-0.67	0.503
Initial savings	-0.002***	0.001	-3.19	0.001
Value of physical assets	0.001***	0.000	3.05	0.002
Constant	-0.789***	0.215	-3.67	0.000

Source: Computed from field Survey data, (2011)

Note:
1. Talensi/Nabdan District is used as the reference category
2. *= significant at 10%; **= significant at 5%; ***=significant 1%

The coefficients of Builsa, Bongo, Kasena/Nankana and Bawku West Districts variables are given as -0.387, -0.854, -1.056 and -1.282 respectively and are all significant. These indicate that beneficiaries from these Districts received less or lower amounts of loans from microfinance institutions than their counterparts from the Talensi/Nabdan District. The reason adducible to this situation could be that respondents from these districts are more economically well off than their counterparts from the Talensi/Nabdan District and for that matter may not require large amounts of loans.

The number of dependants in the household has a coefficient of 0.102 and this shows that an increase in the number dependents in the respondent's household increases the amount of loan or microcredit that the respondents receive from the microfinance institutions. The possible reason being that, the number of dependents one has creates the need for one to engage in a micro-enterprise so as to generate more income to cater for the needs of these dependents. This calls for additional investment funds from microcredit. Also the coefficients of number of friends with loans and number of household people with loans are given as 0.317and 1.034 respectively, thus an increase in the number of friends with loans and number of household people with loans leads to increases in the total amount of microcredit or loans received from a microfinance institution. More often friends and other household members who have ever taken loans motivate others known to them to also go in for microcredit. Thus the higher the number of people one knows to have ever received microcredit increases the amount of credit they receive ultimately.

Moreover the number of sources of borrowing known to the respondent has a coefficient of -0.140; this indicates that as the number of sources of borrowing increases the amount of microcredit which beneficiaries receive decreases. A possible reason is that, proliferation of sources of borrowing both formal and informal in rural communities has the tendency of exploiting borrowers especially with their (lenders) inclination to sustainability by charging high interest rates so as to meet their operating cost. This point has been well reiterated in Annim (2009). This assertion was confirmed by majority of the non-beneficiaries as they cited among other reasons, high interest rates charged by the MFIs as a reason why they have not taken a loan from an MFI. This brings to the fore the question of sustainability of MFIs particularly those operating in the rural areas as against the goal of poverty reduction.

Again, the coefficients of amount of profit and initial savings are given as 0.004 and -0.002 respectively. It suggests that as ones profit margin increases, the amount of credit one receives also increases. As profit margins increase this motivates the respondents to expand their businesses and so will require more investment funds, hence microcredit. However an increase in initial savings reduces the amount of microcredit that one receives. This could be so because those who have substantial amount of saving may not have to borrow so much from an MFI. Though initial saving is usually a criterion for grant of loans, the results suggests that individuals who are able to raise the initial amount required as a start-up capital for their agro-processing business have tendency of borrowing less amounts from an MFI.

The results of the second stage of Heckman estimation of the correlates or determinants of weekly consumption expenditure (poverty) are presented in Table 5. The results indicate that the Builsa District, Kasena Nankan District, Bawku West District, number borrowing sources known to the respondent and amount of profit are significant at 1%. The number of dependents and the number of income generating activities are also significant at 5%, while Bongo District and rho (ρ) which is the correlation coefficient of μ and v in equations 12 and 13 are also significant at 10%. Given the fact that the coefficient of rho (ρ) is significant, it shows that selection bias exists in the data and has been corrected.

Table 5: Results of Heckman estimation of correlates of poverty (dependent variable: weekly consumption expenditure)

Variable	Coefficient	Robust Std. error	Z-value	P-Value
Builsa District(1/0)	0.357***	0.130	2.75	0.006
Bongo District(1/0)	0.229*	0.137	1.67	0.094
Kasena Nankana District (1/0)	0.390***	0.113	3.46	0.001
Bawku west District (1/0)	0.615***	0.131	4.69	0.000
Dependants in household	0.040**	0.016	2.45	0.014
Number of people in household	-0.018	0.014	-1.30	0.192
Number of friends with loans	0.001	0.008	0.07	0.944
Number of borrowing sources	0.094***	0.034	2.77	0.006
Amount of profit	0.002***	0.001	3.13	0.002
No. of income generating activities	0.153**	0.071	2.16	0.031
Initial savings	0.000	0.000	1.42	0.157
Constant	2.313***	0.199	11.62	0.000
Lambda(mills)	-0.191*	0.115	-1.66	0.097
rho(ρ)	-0.392			
Sigma	0.486			
Wald chi2(13)	66.52***			
Observations	249			

Source: Computed from field Survey data, (2011)

Note:
1. Talensi/Nabdan District is used as the reference category
2. *= significant at 10%; **= significant at 5%; ***=significant 1%

The coefficients of Builsa District, Kasena Nankana District, Bongo District and Bawku West District are given as 0.357, 0.390, 0.229 and 0.615 respectively. This indicates that respondents from these Districts have higher consumption expenditures on basic needs than respondents from the Talensi/Nabdan District.

The reason for this could be that the Bawku, West and Kasena Nankana Districts have vibrant market centres which boost the economic activities of the respondents and this could have a positive impact on the wellbeing of the respondents from this District. The Builsa District can also boast of vibrant farming activities which are expected to positively affect the wellbeing of the people there.

The coefficient of the number of dependents in the household is given as 0.040; this indicates that an increase in the number of dependents in the household leads to an increase in weekly consumption expenditure on basic needs which have a poverty reducing effect. It is possible that the dependents particularly the older ones are usually engaged in some of the

household economic activities thereby contributing to the 'household income and so increasing the household consumption expenditure.

Again, holding all other variables constant an increase in the number of income generating activities engaged in by the respondent increases weekly consumption expenditure which has a poverty reduction effect given its coefficient as 0.153. The reason for this being that, income generating activities are suppose to generate additional income, thus presumably the more the number of income generating activities the more one's income thereby reducing the poverty levels. Moreover, the amount of profit has a poverty reducing effect with its coefficient as 0.002; this is so because holding all other variables constant, an increase in the amount of profit will increase consumption expenditure.

Again, the number of borrowing sources known to the respondent has a positive impact on consumption expenditure given its coefficient as 0.094 and this has poverty reducing effect. When households or individuals have or know a number of sources they can easily borrow from in times of need, it enables them to do away with risk-reducing but inefficient income diversification strategies (Eswaran & Kotwal, 1990) and precautionary savings that have negative returns (Deaton, 1989).

Table 6: Predicted Weekly consumption Expenditure

Variable	Mean	Std. Dev.	Min	Max
Beneficiary	3.046	0.325	2.447	5.751
Non-beneficiary	1.520	1.063	0.014	4.425

Source: Computed from field Survey data, (2011)

Table 6 shows the mean weekly consumption expenditures for beneficiaries and non-beneficiaries of microcredit estimated at the means contingent on all the variables that are significant in explaining weekly consumption expenditure as discussed from table. The mean weekly consumption expenditure for beneficiaries is given as ¢3.046 per beneficiary and that of non-beneficiaries is ¢1.520. Using the mean weekly consumption expenditure of the non-beneficiaries as a counterfactual outcome for the beneficiaries therefore, then the beneficiaries would have had a mean weekly consumption expenditure of ¢1.520 if they had not taken various amounts of microcredit, but they now consume ¢3.046 on basic needs per week as a results of receiving microcredit. All things being equal therefore beneficiaries of microcredit spend ¢1.526 per week more than the non-beneficiaries.

Conclusions and policy recommendations

The study sought to evaluate the impact of microcredit on poverty reduction. The Heckman estimation model was employed which solved the problem of selection bias. From the results and findings the conclusions from the study are that:

Microcredit has a positive impact on poverty reduction among rural women since the beneficiaries have higher weekly consumption expenditure than the non-beneficiaries. Again, there are spatial differences in poverty levels among the Districts, with respondents from the Bawku West District having lowest levels of poverty among the Districts under study.

It is therefore recommended that microfinance institutions should endeavour to reach out to more rural women engaged in agro-processing. Microfinance institutions should lend out loans to more clients in communities in Districts with high poverty levels as well as those without vibrant economic activities and market centres.

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Effects of the Ghana School Feeding Programme on Enrolment, Attendance and Drop-out rate in Basic Schools in Savelugu-Nanton District

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Abstract

For reasons of its geographical location, colonial legacies and cultural practices, the Savelugu-Nanton District is characterised by high illiteracy rate, poverty and low school attainments. The Savelugu-Nanton District was a beneficiary district during the five year piloting of the Ghana School Feeding Programme. The objectives of the study were to examine the effectiveness of the implementation processes of the GSFP and assess the effect of the policy on school attainments in the beneficiary schools and to suggest recommendations towards improving its management. The study employed triangulation. Survey instruments were administered on a study sample of 53 respondents selected purposively from the GSFP institutional set up and major stakeholders. Survey reports and content analysis of published records were used to examine the policy implementation processes. Four schools were selected through probability sampling and Analysis of Variance was used to compare intervention effects on school attainments. The study revealed irregular funding, poor collaboration and participation by the major stakeholders and the non compliance with the selection criteria for beneficiaries and an irregular school feeding. The programme produced no effect on enrolment and attendance except for drop-out numbers. The study concluded that the implementation processes were not so effective and therefore, failed to achieve any influence on school attainments in the study area. The study recommended to government to involve key stakeholders to reformulate the policy through Parliament into a statute and set standards for management and stakeholder participation. The new statute must incorporate budgetary funding.

Keywords: food insufficiency, school feeding programme, policy implementation processes, school attainments.

Introduction

Studies have shown that providing free meals to school pupils increases school attainments. Motivation theory supports this observation where people who lack food respond appropriately when their food needs are met. The study area, Savelugu-Nanton District, is in the Northern Region where food insufficiency lasts for an average of five months each year. School

attainments are low; enrolment at 65-70 percent falls below the national average of 80%, and the 60 percent attendance rate is below the national average of 86 percent and adult literacy rate of 22.3 percent is abysmally below the national average of 69 per cent. These characteristics of the region are attributed to its geographical location, colonial legacies and cultural practices (Quaye, 2008; Ghana Statistical Service, 2008; Savelugu-Nanton District Assembly, 2010).

Poverty is claimed by UNESCO (1995) as the main cause of millions of pupils deprived of educational opportunities worldwide. Jyoti, Frongillo and Jones (2005) have noted that some school children *attend school on empty bellies or participate in family labour before school. In marginalised communities,* Rutledge (2009) and Morris (2003) contend that it is emerging as a policy that there is a public responsibility beyond the family to feed school children worldwide. These observations inform state involvement in the provision of free school meals as an opportunity for improving school attainments in rural poor communities. This practice is underscored by the principle that people have a right to a fair share of the resources of the state. This is central to the theory of distributive justice where the state shows responsibility in protecting the poor, particularly children who become hardest hit by food insecurity during crisis.

Africa has 49 per cent of the 77 million children worldwide who are not in school (Afoakwa & Chiwona-Karltun, 2007) and in Ghana, Reuters (2009) reports that over a million children are out of school because they work to support family income. Based on these facts, the Ghana School Feeding Programme (GSFP) was established in 2005 and designed to address the persistently low school attainments in poor rural communities. The design of the school feeding policy conforms to the tenets of motivation theory to bring about improved school attainments as well as the theory of distributive justice for the welfare efforts of the state in protecting the vulnerable in society.

The operationalisation of the policy must therefore lead to the achievement of stated objectives. Implementation theory provides the principles whereby policy outcomes can be evaluated. As stated by Hargrove (1981) and Ryan (1996), these include the existence of a formal legislation, clear and consistent policy objectives, compliance by implementers with the law and institutional support, among others. In principle, the attainment of the objectives of the GSFP is premised on effective implementation of the policy. Therefore, a study of the level of achievement of GSFP objectives must be studied with how effective the policy has been implemented.

There were in all six beneficiary schools in the study area. However, to obtain statistically valid assessment of the programme outcomes, Tibali and Kpalung primary schools that were beneficiaries throughout the piloting of the GSFP were selected for this evaluative study. The objectives for the study were to examine the implementation processes for effectiveness and to assess the effect of the programme on enrolment, attendance and drop-out in the beneficiary district. The rest of the paper provides the theoretical and conceptual issues and methodology that underpin the study; it is then followed by discussion of the results and conclusions as well as policy implications.

Theoretical and conceptual issues

Graves (2001) recognises motivation as intrinsic, based on personal interests, desires and the need for fulfilment. Sirgy (1986) used Abraham Maslow's concept of a progression from lower-order to higher-order needs and stressed that since lower-order needs have a higher pre-potency than higher-order needs, the individual is motivated to satisfy lower-order needs before taking steps to meet higher order-needs. Oleson (2004) drew the conclusion that a person lacking food, safety, love, and esteem would most probably hunger for food more strongly than anything else with all other needs relegated to the background. Motivation theory, therefore, underpins the responsiveness of the rural poor to programmes that entail food benefits. In communities where food insufficiency is prevalent, parents enrol their children in school to reduce domestic food burden while the enrolled children attend school regularly to receive free lunch daily.

As stated by Arneson (2006), distributive justice entails equalizing mid-fare levels across persons. Mid-fare levels as explained by Sen (1982) and cited by Roemer (1996), refer to a plurality of functioning of doings and beings that people have reason to value so far as they are seeking their own well-being. Roemer (1996) further stated that society should care about how much of the good things of life people get as well as how evenly they are distributed. Caney (2001) also stated that all humans have rights, and among these are the right to economic resources. By accepting the civil and political rights of the individual, the subsistence rights must as well be accepted. Caney (2001) concludes that everyone has a right to equal freedom and accordingly each is entitled to an equal amount of the earth's resources.

The productivity of the rural poor who are mainly illiterate is low for overreliance on low production technologies. UNICEF (2006) reports that for every extra year of primary education there is an increase in a person's productivity by ten to 20 percent. An improvement in enrolment, attendance and drop-out motivated by school feeding leads to improved literacy levels and productivity of the rural people. The allocation of resources to the GSFP

by the state to facilitate school feeding is directed at protecting the subsistence rights of the people and a means to a fair distribution of state resources to the people. The theory of distributive justice underscores the use of GSFP to achieve improved school attainments to place the rural poor in a state of preparedness to seek their own well-being.

Mazmanian and Sabatier (1983) as cited by DeLeon and DeLeon (2002) summarise implementation theory as:

> The process normally runs through a number of stages beginning with passage of the basic statute, followed by the policy outputs (decisions) of the implementing agencies, the compliance of target groups with those decisions, the actual impacts of agency decisions, and, finally, important revisions (or attempted revisions) in the basic statute (pp. 20-21).

To assess government programmes, Hargrove (1981) suggested two issues; that actions required by law are carried out and that they encompass both formal compliance with the law and organisational routines consistent with compliance. Furthermore, Hargrove (1981) stated that a policy statement must be in the form of an enabling legislation; this mandates clear and consistent policy objectives that incorporate a sound causal theory and gives implementing officials sufficient justification to attain, at least potentially, the desired goals. These views were corroborated by Ryan (1996). The key principles identified for the successful implementation of a policy are: roles of the implementing structures, commitment and management skills of implementing officials and agencies, the commitment and active support of organized interest groups, the public, politicians and/or senior officials.

Evaluation of the effectiveness of implementation of a policy is based on an examination of the processes through which policy outputs were established and how responsibilities have been complied with. In the case of the GSFP, the institutional setup and responsibilities are: national and regional secretariats, district, school and community implementation committees, participation by target groups, provision of logistics, selection of beneficiaries and the daily feeding of pupils in school. Direct policy outcomes emanating from GSFP objectives are improved schooling and poverty reduction. Implementation theory is therefore the theoretical construct underpinning this study.

School attainments in this paper represent schooling indicators examined and refer to enrolment, attendance and drop-out numbers. These have been referred to by some scholars as schooling or educational attainments. Enrolment refers to the number of pupils admitted to class one at the commencement of each academic year to start schooling. Attendance is

measured as the number of days pupils report to school which is marked against a pupil's name in the class register. The class register provides a summary of weekly and a term's attendance for each pupil. The study used an average attendance per term. The drop-out numbers referred to pupils in one class who fail to advance to the next class and are found wandering in the community; excluding pupils who relocate from the community with parents or deaths.

Around the globe, the poor experience food insecurity and hence face malnutrition which in early childhood is known to reduce children's intellectual capacity and achievement. This may lead to significant functional impairment in adult life as a result of delayed mental development. Making these observations, **Jyoti, Frongillo and Jones (2005),** noted that children also suffer most in their social skills and abilities. The United States started the National School Lunch in 1946 to solve the problem of functional impairment observed in young recruits into the army as a result of childhood malnutrition (Morris, 2003; Rutledge, 2009). School feeding is now a popular social safety net programme to protect the children of poor communities from hunger and malnutrition.

Bundy et al. (2008) assert that school feeding programmes provide an important new opportunity to assist poor families and feed hungry children. These programmes have the potential to combat hunger and support nutrition through micronutrient fortified food and de-worming. They can provide an incentive for poor families to send their children to school –and keep them there, while improving their children's education.

School feeding in Ghana has largely been pioneered by the Catholic Relief Services (CRS) and the Adventist Development and Relief Agency (ADRA) from the early 1950s (CRS, 2010; McGill, 2009). Ghana adopted the CAADP Pillar III protocol in 2005 and established the GSFP. Under the policy, children in public primary schools and kindergartens would be served with one hot adequately nutritious meal prepared from locally grown foodstuffs, on every school day. The programme was piloted for five years with 10 pilot schools based on a project manual in 2005. In the second year, the up scaling was based on a planned distribution formula (PDF) of five (5) schools per each of the 138 districts in Ghana. At the time of this study, there were 656,624 beneficiary pupils out of which 40,320 were in the Northern Region representing six percent of beneficiaries.

The programme was funded largely by the government of Ghana (78%) with support from strategic partners including the Embassy of the Kingdom of Netherlands (17%) and the World Food Programme (5%). The Netherlands Development Organisation (SNV), School Feeding Initiative Ghana

Netherlands (SIGN) and other agencies provided technical support. The main objectives were to reduce hunger and malnutrition, increase school enrolment, attendance and retention and boost domestic food production. The collaborating ministries are the Ministries of Education, Health (and the GHS), Agriculture, Finance and Economic Planning and Women and Children Affairs. The organogram of the institutional setup is adapted as the conceptual framework for the study showing the relationships between target groups, decisions and programme outcomes based on GSFP objectives.
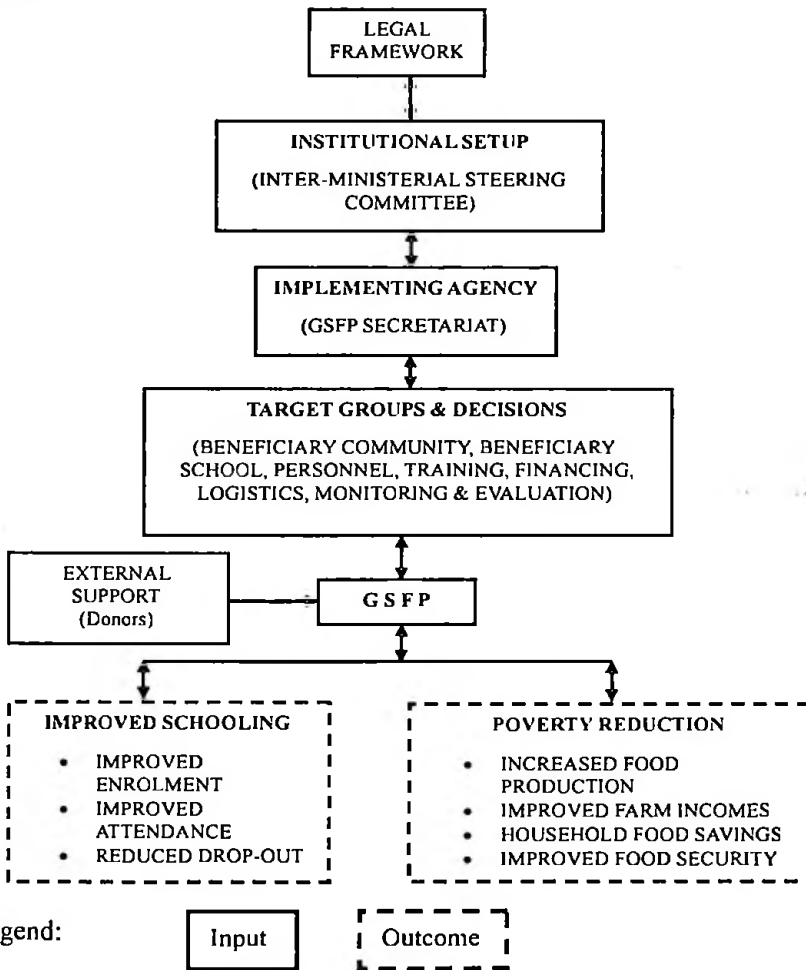
Figure 1: The GSFP implementation process: input and outcome
Source: Adapted from Government of Ghana (2007)

Methodology

The study used an evaluative design to examine the implementation processes and assessed the effect of the school feeding programme on enrolment, attendance and drop-out in basic schools in the study area. Triangulation was employed to offer the advantage of considering the issues in more than one perspective in order to enrich knowledge and test validity (Sarantakos, 2005).

The selection of the Savelugu-Nanton District for the study area was informed by the fact that poverty in the district has a long history reinforced by its geographical location and cultural practices of the people. The district is one of the 18 administrative districts of the Northern Region considered a deprived region in Ghana (Sutton, 1989; Songsore, 2003; Poel et al., 2007). It is located 5 km away from the regional capital, Tamale. The district receives a maximum rainfall of 1050 mm in a single rainy season and a long dry season from November to April. The projected population from the 2000 census data is 127,155 with a growth rate of 2.8 percent (Savelugu-Nanton District Assembly, 2010). Population density is 63 persons per sq.km.

Out of a total of 150 communities, 143 are rural, representing 80 percent of the district population. Agriculture and forestry engage over 70 percent of the economically active population. Some 40,000 people out of the population (almost 44%) live within the extreme poverty bracket with a low annual household per capita expenditure of GH¢ 303 (Ghana Statistical Service, 2008). The region experiences food insecurity up to about five months each year (Quaye, 2008). The people crop maize, vegetables, soya beans and ground nuts in small holdings and supplemented by shea butter processing by the women. Adult literacy rate is low; four out of every five adults are illiterate, while more females (64.8 per cent) than males have completed primary school in the district (Ghana Resource Centre, 2010; Savelugu-Nanton District Assembly, 2010). There are 87 basic schools in the district and at the time of the field study, six schools were benefiting from the pilot phase of the GSFP.
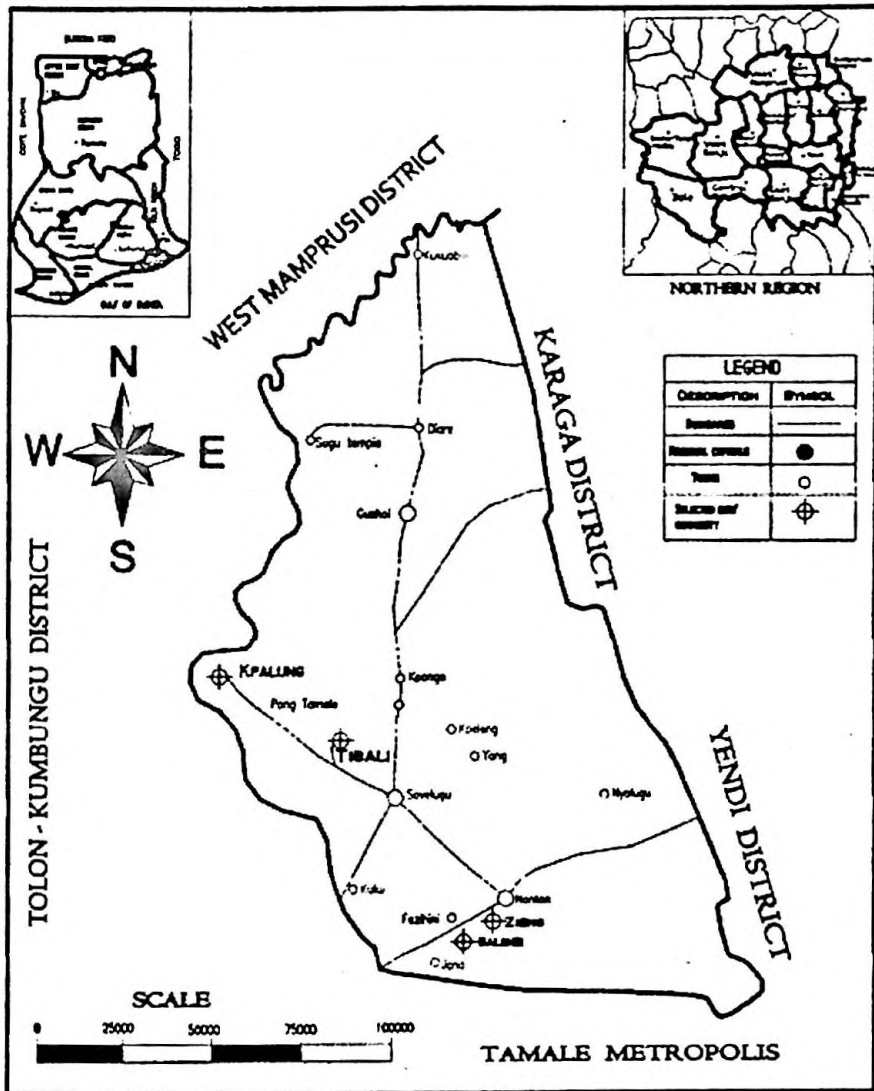
Figure 2: Map of the Savelugu-Nanton District
Source: Savelugu-Nanton District Assembly (2009)

Information on the implementation processes required responses from personnel who had been on the programme since its inception; these were the focal persons from the collaborating ministries, departments, donor agencies, implementing institution and the beneficiary schools and community members. The assessment of the impacts relied on school data

on pupils. Only two schools had been on the programme since the piloting in the district and were selected by census and an equal number was sampled as control schools for valid and reliable statistical conclusion to be drawn. Sampling of schools and respondents was, therefore, by both probability and non-probability techniques (Devore, 2004; Sarantakos, 2005). Records of pupils enrolled from 2001/2002 to 2010/2011 academic years were used for the study.

The GSFP was piloted from the 2006/2007 to 2010/2011 academic years. The beneficiary schools selected were Tibali and Kpalung Primary Schools and Balshei and Zieng Primary Schools as control schools. Several methods such as content analysis of publications on the programme and the administration of survey instruments were used in data collection. Three sets of instruments were used to collect data to address the objectives of the study. The study required two sources of data to conclude on the processes of implementation of the GSFP and its effects on the beneficiary schools. Structured interview schedules were used to collect secondary data from pupil's class registers (enrolment and attendance records) as data for the analysis of the effect of the GSFP on basic education between 2000/2001 and 2010/2011. Secondly, interview guides that were served on focal persons from ministries and departments, donor agencies and implementing institution provided the primary data for the study. The third instrument, a focus group interview guide, was used for the two Focus Group Discussions in the two beneficiary communities to obtain views of the community members on their participation in the implementation process for the programme.

The study sample consisted of four schools and 53 respondents which involved four focal persons one each from the key stakeholders; Ministry of Local Government and Rural Development, Department of Food and Agriculture, Ghana Education Service and the District Assembly. Four others included the regional coordinator of the GSFP and three officials from the GSFP national secretariat. A respondent each was selected from the donor agencies; ADRA, CRS and the Dutch Embassy. Beneficiary community members selected for the FGD comprised of 15 parents who were farmers or traders, a food committee member and a cook from each community. The respondents for each of the four selected schools; the school heads and their assistants enabled access to pupils' data.

Data were processed and analysed in order to draw conclusions on the effectiveness of the implementation process. Survey data gathered from content analysis of publications and interviews was analysed qualitatively. Enrolment and average attendance per pupil per term were first compared between beneficiary and control schools and secondly over the study years

using ANOVA statistical technique from MS Excel software as described by Bluman (1998) and Lucey (2002). School drop-out data were compared nominally.

Results and discussion
This section analyses and discusses empirical findings from the field. It is divided into two; discussions on the implementation processes and effects of the programme on school attainments. The discussions under the implementation process are considered under six main items; institutional structure, collaboration and participation, staffing, funding, school and community selection criteria and then monitoring and evaluation to cover the first objective. School attainments; enrolment, attendance and drop-out data were analysed statistically for changes in line with the second objective.

### *Ghana School Feeding Programme implementation process*
The implementation theory states that the implementation of a policy must be based on a statute (Hargrove, 1981). Field data from officials interviewed. indicated that the implementation of the GSFP was a Presidential Special Initiative based on a project manual; the District Operations Manual. A review of the manual revealed details of the structures to be established, their responsibilities, target groups and policy outcomes. All nine stakeholders interviewed confirmed the manual as the policy document.

Institutional structure
According to Ryan (1996), effective implementation of a policy depends on the extent to which implementing structures support the achievement of objectives. The apex body, PSC, established the National Secretariat. Under its mandate the National Secretariat also established the regional secretariat and the implementation committees at the district and beneficiary school.
The District Implementation Committee is made up of departmental heads referred to as Desk officers or District Focal Persons who serve as representatives of the collaborating ministries at the district level. It is chaired by the District Chief Executive. The study found during the field interviews that all the structures shown in Figure 2 were established in line with the policy guidelines.

Collaboration and participation
A review of the Annual Operating Plan (Government of Ghana, 2009) provided details of collaborative efforts of the National Secretariat for 2009.

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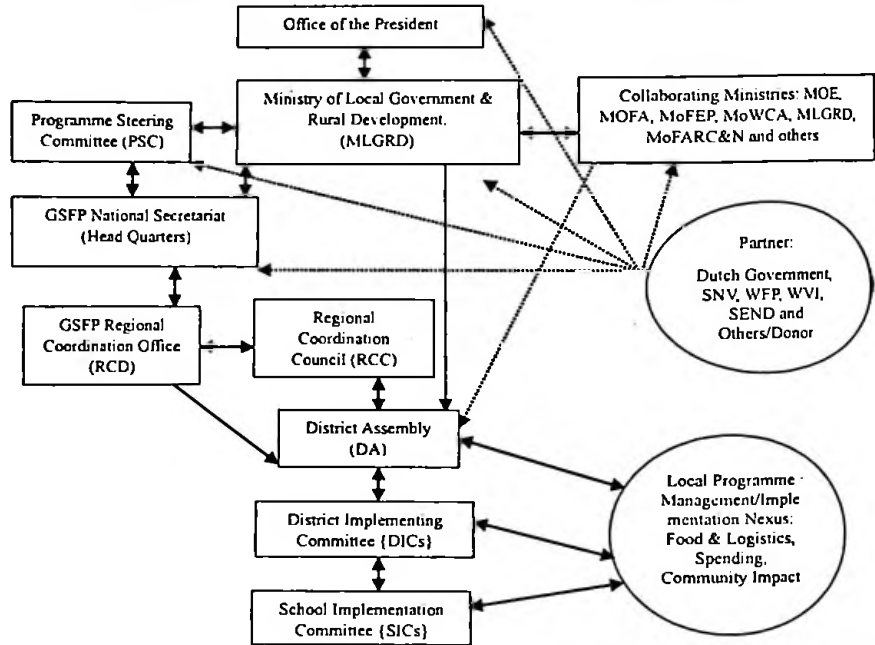
Figure 2: Organogram of the GSFP
Source: Government of Ghana (2007)

For example, there was collaboration between the national secretariat, MLGRD and the Audit Recommendations Implementation Committee (ARIC) on execution of the nine-point recommendations from the Dutch Government that developed and operationalised the social accountability project. Another collaborative effort saw the successful 'October Fair' held in Tamale to sensitize the public in the northern regions.

However, the three district focal persons interviewed claimed the level of collaboration and participation among DIC members was ineffective adding that meetings were irregular. The GES desk officer expressed dissatisfaction over the inactive involvement of the School Health and Education Programme Coordinator to inspect school health and menu. It was observed that though the GES made inputs in the selection of schools, menu development and the engagement of caterers, the office of the DCE took responsibility for the final decision from the DIC. From the focus group discussions it was observed that community members were not being duly consulted as stakeholders.

Staffing
Competency, managerial and political skills and commitment to statutory goals of personnel engaged to manage the implementation of a policy are essential for a successful policy implementation (Hargrove, 1981). The field study identified three sets of personnel; those directly employed and paid by the GSFP National Secretariat, ministerial and departmental officials acting as desk officers and beneficiary community volunteers serving on school implementation committee.

The paid personnel included the Regional Coordinator, the monitors, the caterer and the cooks. Information obtained from the field study indicated that staff was engaged through successful interview by the Public Services Commission. This observation is also recorded in the Annual Operating Plan (Government of Ghana, 2010). However, a review of publication on the implementation of the policy showed evidence of management problems encountered. Agbey and Abu (2009, p. 4) reported that:
The entire management team had to go through orientation and staff that did not go through formal recruitment procedures had to go through the process before being issued with appointment letters. This is in contrast to the past scenario where most staff felt vulnerable to the National Coordinator because they were working without appointment letters. The CRS also stated: The people who were employed to manage the programme did not have enough experience in school feeding and that was why the entire programme failed. They needed extensive training before the commencement of the programme.

Press reports also revealed that there was a high attrition rate with three National Coordinators being dismissed between 2007 and 2010 for various forms of impropriety, irregularity and non-compliance with laid down procedures (GhanaWeb, 2009). The field study also revealed that after the 2008 elections, the new government changed all paid personnel leading to understaffing at the Regional Coordinator's office in Tamale.

Funding
Funding is required in an implementation process to cover financial obligations under the policy. The GSFP required adequate funding to pay for foodstuffs, staff emoluments and administrative costs. The field study identified that all programme funds were managed by the Ministry of Finance and Economic Planning (MFEP). The GSFP paid a feeding quota of Gh¢0.40 per beneficiary pupil. Details of financial disbursements were not available for the study area except for those reported in its AOP. The programme expenditure for 2010 was Gh¢61,604,845.16 (98.86% of total expenditure) covering *697,416 beneficiary pupils in 1,741 schools* (Government of Ghana, 2009).

At the two beneficiary schools, it was observed that the irregular and low payment to the cooks was not motivating enough for their continued engagement. The irregular disbursement of funds necessitated purchasing foodstuffs from farmers in the community on credit. It was gathered from the two focus group discussion sessions that the communities periodically supported the programme with firewood and water at their expense while children did kitchen chores against policy. The delayed payment is listed as a challenge to the operations of the programme in the AOP (Government of Ghana, 2009). Commenting on the view that there was the need for an upward adjustment of the quota, the Regional Coordinator disagreed with the discussants and suggested that caterers were inefficient adding that cooking for a large number of pupils at that rate the quota should be sufficient.

Schools and community selection criteria
In order to achieve policy objectives, Mazmanian and Sabatier (1983) stated that there must be compliance of target groups with policy outputs. One such policy output is the criteria for the selection of beneficiaries. The District Operating Manual (Government of Ghana, 2007) provided the criteria for the selection of beneficiary schools and required the DIC as its operational responsibility to ensure that schools selected meet the criteria for eligibility as indicated. It was observed from the study that the GES provided data on eligible schools to the office of the DCE where final decisions on beneficiaries were made. The basic schools at Tibali and Kpalung were two beneficiaries selected in 2006. The eventual mode of selection for beneficiaries was not apparent which demonstrated lack of transparency in the process.

Monitoring and evaluation
Implementation theory proposes revision of statutes. To remain relevant, policy decisions and outputs must be revised to take care of changes within the target population. The implementation process therefore, requires constant service evaluation to ensure that policy outputs are sustainable.

The manual provided formats for reporting to the GSFP National Secretariat by all structures and facilitating NGOs. Teachers in the beneficiary schools complied with the terms of the policy and sent returns to the regional secretariat. It was also found that the CRS had monitors operating alongside the programme officials as a contractual agreement on monitoring with the programme. The focus group discussants at the two communities confirmed that monitors came to the beneficiary schools to collect data on the performance of the programme in their communities.

School enrolment

The enrolment records of pupils in the beneficiary schools; Kpalung and Tibali Primary Schools were computed from school record books. Figure 3 shows the cumulative enrolment effect of the GSFP in the beneficiary schools. Tibali Primary School was enrolling an average of 20 pupils per annum before the intervention and this rose to 23 pupils at the end of the piloting period. Kpalung Primary School also increased enrolment from 32 to 49 pupils per annum.
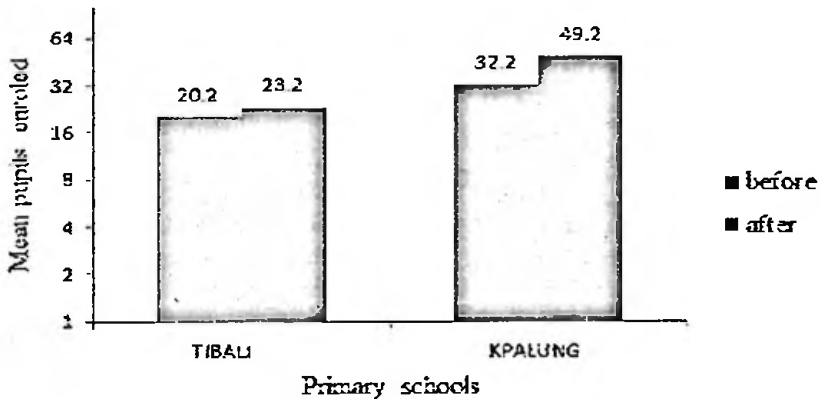
Figure 3: Enrolment in beneficiary schools
Source: Survey data (2011)

To determine if these differences are statistically significant, the null hypothesis that there was no relationship between the GSFP and school enrolment in the beneficiary schools was tested with ANOVA. The Average enrolment per year for the two schools shown in Table 2 was used for the analysis.

Table 2: Enrolment trend of beneficiary and control schools

| Year | GSFP | | | | Control school | | | |
| | Tibali P/S | | Kpalung P/S | | Balshei P/S | | Zieng P/S | |
	Enrolment	% change	Enrolment	% change	Enrolment	% change	Enrolment	% change
2001	26		22		22		19	
2002	17	-34.6	23	4.5	29	31.8	19	0
2003	20	-23.1	33	50	33	50	17	-10.5
2004	16	-38.5	32	45.4	29	31.8	19	0
2005	22	-15.4	51	131.8	25	13.6	16	-15.8
2006	26	0	69	213.6	23	0.6	22	15.8
2007	28	7.7	62	181.8	8	-63.6	18	-5.3
2008	21	-3.8	40	81.8	7	-68.2	20	5.3
2009	20	0	45	104.5	17	-22.7	19	0
2010	21	-3.8	30	36.4	18	-18.2	21	10.5

Source: Survey data (2011)

Table 2 shows the trend in enrolment during the five years before the intervention (before) and five years of the intervention. Comparing the enrolment data for 2001 to subsequent years, enrolment data at Tibali primary school showed a reduction by 34.6 percent during the following year. Improvement was only recorded for 2007. For Kpalung primary school, though the changes were not progressive, all enrolments were higher than the 2001 figure.

The result of the ANOVA test of the null hypothesis at 95% confidence level is shown in Tables 3. The test statistic F was 12.05 with 39 degree of freedom and a treatments (between schools) p-value is 0.001; this indicates that there is a significant difference between the schools. The p-value for blocks (along the years) was 0.61 indicating that there was no significant difference between the yearly enrolment figures. The null hypothesis is not rejected.

Table 3: Comparing enrolment in schools

School	Mean	Median	Mode
Tibali	21.7	21	26
Kpalung	40.7	36.5	-
Balshei	21.1	22.5	29
Zieng	18.3	18.3	18.3

df: 39; F: 12.05; Treatments p-value = 0.00; Blocks p-value = 0.61
Source: Survey data (2011)

To determine the differences between the schools, the post hoc analysis produced the results in Tables 4 and Table 1 in Appendix 1. Both results

show that Kpalung had significantly higher enrolment than the three other schools. The reasoning is that Kpalung, is a much bigger community and has a higher population which translates into having higher enrolment numbers. The results show that there is no evidence of an influence from the school feeding on enrolments.

Table 4: Comparison of differences in enrolment between schools

School	Zieng	Balshei	Tibali	Kpalung
Zieng				
Balshei	0.65			
Tibali	0.79	0.14		
Kpalung	5.22	4.57	4.43	

Critical values for experimentwise error rate: at 5% = 2.74, 1% = 3.43
Source: Survey data (2011)

Table 5: Pupils' average attendance per term

Year	Term	Tibali P/S class size	Attendance	Kpalung P/S class size	Attendance	Balshei P/S class size	Attendance	Zieng P/S class size	Attendance
2005	1	22	57.86	33	46.15	25	57.28	16	49.79
	2	22	54.09	33	40.69	25	58	16	51.21
	3	22	59.45	33	45.81	25	57.64	16	51.21
2006	1	28	50.28	51	44.54	23	61.58	22	51.68
	2	28	50.03	51	45.8	23	60.78	22	50.04
	3	28	50.6	51	42.47	23	63	22	46.05
2007	1	26	55.61	51	42.54	14	60.57	19	52.67
	2	26	52.8	51	46.8	14	58.71	19	51.2
	3	26	54.19	51	39.17	14	61.92	19	47.65
2008	1	26	56.26	46	37.41	10	44.5	20	53.64
	2	26	53.76	46	49.95	10	59.4	20	48.38
	3	26	55.07	46	40.52	10	59.6	20	45.16
2009	1	25	54.92	46	52.78	10	53.1	19	50.26
	2	25	53.32	46	54.3	10	54.1	19	56.78
	3	25	57.76	46	56.08	10	59.3	19	55.6
2010	1	24	46.62	45	56.17	11	53.81	21	50.14
	2	24	49.29	45	59.08	11	56.63	21	50.52

Source: Survey data (2011)

Attendance
The data for 2005 before the piloting of the programme was used as the baseline data. Table 5 is based on the average pupil attendance per term for the selected academic years and class sizes for both beneficiary and control schools. The null hypothesis that the GSFP has produced no significant difference in school attendance in the beneficiary district was tested using ANOVA. The test results are shown in Table 6.

At five per cent confidence level, the test statistic F was 5.32 with 3 degree of freedom, the p-value was 0.010 for the test between schools (treatments). This indicates a significant difference between schools. However, the test for differences along the years of the programme (blocks), the p-value obtained was 0.772; this is larger than the estimated 0.05 indicating that there was no significant difference between years in average attendance. The null hypothesis is accepted: the intervention produced no significant difference in attendance in the beneficiary schools. The post hoc analysis results (pairwise tests) in Table 2 in Appendix 1 produced three areas of differences. Kpalung had significantly higher attendance than Balshei (p-value = 0.001) only at 1% alpha level but had significantly higher attendance than Tibali (p-value = 0.03) at 5% alpha level. Balshei had a significantly higher attendance than Zieng (p-value=0.02) at 5% alpha level. The higher improvement at Kpalung over Tibali primary school observed is attributed to differences in community size; Kpalung community is larger than Tibali and therefore a higher pupil numbers.

Table 6: Comparison of pupils' average attendance

School	Mean	n	Std Dev.
Tibali	53.24	6	3.62
Kpalung	47.16	6	7.00
Balshei	57.47	6	2.99
Zieng	50.63	6	1.87
Year			
2005	52.34	4	6.28
2006	50.53	4	8.57
2007	51.98	4	7.34
2008	50.39	4	5.62
2009	54.85	4	0.65
2010	52.65	4	4.60
Total	52.13	24	5.57

Treatment statistics: df: 3; F: 5.32; p-value = 0.010
Blocks statistics: df: 5; F: 0.50; p-value = 0.772
Source: Survey data (2011)

Table 7: Comparison of attendance between schools

School	Kpalung	Zieng	Tibali	Balshei
Kpalung			.	
Zieng	1.30			
Tibali	2.28	0.98		
Balshei	3.87	2.56	1.59	

Critical values for experimentwise eror rate: at 5% =2.88; 1% = 3.71
Source: Survey data (2011)

School drop-out

The school drop-out data is shown in Table 8. It was observed from the comparison of class lists that some pupils occasionally absented themselves from school for long periods within and across school terms. Such long absenteeism was more prevalent at the Tibali P/S. They were therefore discounted from the drop-out data.

Table 8: Drop-out from school

| Year | GSFP schools | | Control schools | |
	Tibali P/S	Kpalung P/S	Balshei P/S	Zieng P/S
2006	6	18	-	-
2007	2	0	9	3
2008	0	5	4	0
2009	1	0	0	1
2010	1	1	0	0

Source: Survey data, 2011

The number of drop-outs reduced significantly a year after the inception of the programme and remained low to the end of the piloting period. The increase to five in 2008 for Kpalung was explained by school heads to be due to pupils relocating with parents. The low drop-out numbers were also observed in the control schools. The failure to achieve significant improvement in school attendance could be associated with the ineffective implementation process or other socio-cultural factors like general attitude of the people to education, school environment, religious culture, farming and family systems which could not be altered by the provision of free school meals.

Conclusions and policy implications

Based on the main findings from the study, it can be concluded that the processes of implementation of the GSFP as a Presidential Special Initiative under the MLGRD was not fully effective. Although the institutional setup was established in line with the policy guidelines, the agencies did not fully comply with policy decisions. The DIC failed to foster collaboration and

participation among major stakeholders in the study area; the selection criteria for beneficiaries of the programme were not fully complied with. Staff engaged was both inadequate and lacked school feeding experiences. Staff competencies were compromised with by political patronage. The funding for the programme was irregular and inadequate which resulted in the feeding programme being irregular. The programme therefore, failed to influence an improvement in enrolment and attendance as school attainments though drop-out numbers reduced in all schools over the period selected for the study.

Based on these conclusions, the following recommendations are made to help review the GSFP as a policy and its operations generally and in the study area. The institutional arrangement under the policy would be made more effective if the entire programme were removed from the office of the President as a Presidential Special Initiative by government. The policy must be redesigned with stakeholders' participation into a statute through Parliament and given funding from the consolidated fund. This will ensure regular financing for an uninterrupted feeding of beneficiary pupils. As a statute, this would reduce the influence of political patronage, ensure continuity in school feeding management, improve staffing and ensure the building of staff competencies. Further, the new statute must enable the targeting of the actual beneficiaries based on numeric criteria for beneficiary selection to reduce the levels of discretionary powers exercised by implementers. The new statute must direct the DIC to ensure active participation of SHEP to facilitate and secure the provision of good food and feeding condition for pupils. An efficient and effective school feeding programme well resourced should produce the desired effect of promoting enrolment, attendance and drop-out in the study area and in all GSFP beneficiary areas.

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Persistent Poverty, Unemployment and Social Exclusion in Nigeria: Challenges and Policy Options

by

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Abstract

Despite the abundance of wealth endowed in Nigeria, the country is still bedevilled by the triangular milieu of poverty, unemployment and social exclusion. Social exclusion has become so apparent that Nigerians are facing a combination of linked problems that are mutually reinforcing such as unemployment, poor skills and education, low incomes, poor housing and high level of insecurity. This paper therefore investigates in comprehensive terms the role played by employment and social exclusion in determining the persistent poverty in Nigeria. It identified veritable indicators of social exclusion; it further shows the interactions of these indicators with unemployment and poverty. Data used for this study were drawn from publications on Nigeria by World Bank; World Development Indicators and Global Development Finance (2012). The outcome of our study indicates that social exclusion has cumulated into poverty, lack of education and unemployment in the country. Interestingly the findings revealed that high employments rates in Nigeria may not necessary translate into a reduction in poverty levels and the rationale for such an occurrence is contained in the rising level of underemployment. Monetary policies may have some positive impact with regards to reducing poverty but it has not done enough as the monetary policies are yet to trickle down to the poor masses that constitute over 60% of the Nigerian population. Access to financial services and educational attainment variables suggests a rather poor connection between poverty and social exclusion as well. It is recommended that a more focused developmental programme by the government towards youth empowerment would reduce the prevailing level of insecurity in the country.

Keywords: *Social Exclusion, Poverty, Unemployment*

Introduction

In the last two decades, social exclusion has become one of the most frequently discussed topics in the social sciences as it permeates itself in the developed and developing countries of the world. Social exclusion as an emerging concept has the potential to envelope concepts like poverty, unemployment. However little research has been conducted in the direction

of how this concept evolves and relates with long standing concepts like poverty and unemployment in many a developing and/or less developed countries.

With the increasing incidence of poverty in Nigeria and its growing level of unemployment the need to investigate the case of social exclusion comes to the fore and this is due to the tendency for more groups of persons to lack access to those things that constitute a standard state of well being. The battle against poverty in Nigeria is one that has been on for quite some time and has witnessed a flurry of policies aimed at ameliorating its devastating incidence. Since the discovery of oil in commercial quantities and the consequent decline in the non-oil sector, as Aigbokhan (2000) rightly noted, coupled with a growing state along with corrupt tendencies within it, poverty increasingly became an issue to be given serious consideration (Omonona, 2010). The northern part of the country, which is largely rural, were the most hit by the incidence of poverty as noted by Omonona (2010) compared to the south and this has not been without attendant increases in the level of unemployment in the country and this is not unconnected to the specific socio-cultural circumstances prevalent in that location. Von Hauff and Kruse (1994) infers that the one major consequence of poverty is the rise in urban agglomerations and with the country increasingly depending on the proceeds of oil exports, coupled with the corruption of the state's public machinery, subsistence and commercial agriculture declined and as rural dweller migrated to urban areas in search of a better life, unemployment becomes the almost natural consequence giving way to the growth of slums, stretching of social infrastructure and the predatory exploitation of land for residential and commercial purposes – this is the case in many cities in Nigeria – crime and insecurity (Obadan & Odusola, 2000; Alanana, 2003; Ucha, 2010).

However in contemporary times the combined forces of poverty and unemployment are repeatedly being held responsible for the rise in the spate of violence and insecurity with commentators asserting the divisive nature of poverty and unemployment in socially excluding certain groups of persons from the larger society (Ijaiya, 2005; Apata, et al., 2010).

Hence some pertinent questions arise: What role do poverty and unemployment play in generating tendencies for the exclusion of certain groups? What indicators can veritably represent social exclusion on the aggregate asides poverty and unemployment? And how does poverty and unemployment interact with these indicators of social exclusion in the Nigeria context? These questions are investigated bearing in mind the prevalent hardship, violence and insurgency in certain parts of the country and how social exclusion can be very instrumental in explaining these occurrences in the Nigerian society.

However, there is the herculean task of determining what defines social exclusion and which aggregate variables are suitable measures of social exclusion and even more challenging is the fact that both poverty and unemployment which have been around in the Nigerian society for sometime have determining factors that may be involved in the determination of the extent of social exclusion. In this paper the focus is on the manner in which poverty and unemployment interacts with components of social exclusion and what implication this may have for the Nigerian society. The rest of this paper is divided into four sections: Literature Review and Theory, Method of Analysis, Data Presentation and Analysis and Discussion and Conclusion.

Literature Framework and Theory

The term 'social exclusion' emerged as an attempt to explain comprehensively the consequences of the loss or 'disappearance' of work in the society, but social exclusion still appears to be a concept that lacks one universal definition and as a result has been termed an umbrella word which is capable of different definitions depending on the socio-political and economic clime (UNDP, 2000, 2006). Nevertheless some attempts have been made towards defining social exclusion and measuring it.

Lynn (2010) maintains that, 'social exclusion refers to processes in which individuals and entire communities of people are systematically denied their rights, opportunities and resources that are key to social integration like housing, employment, healthcare, civic engagement, democratic participation and due process, that are normally available to all or some members of society.' In broader terms Silver (2007) posits that 'social exclusion is a multidimensional process of progressive social rupture, detaching groups and individuals from social relations and institutions and preventing them from full participation in the normal and normatively prescribed activities of the society in which they live.' UNDP (2006) notes that 'social exclusion should be understood as the relatively permanent, multiple conditioned and multidimensional state of deprivation of an individual.' This definition was further clarified as they maintain that social exclusion involves deprivation or lack of access to social resources and this situation is relatively permanent with little or no connection to the natural defects or capabilities of the subjects but rather emanating from the structural features of the institutions in the society and this situation tends be the effect of multiple 'life misfortunes'.

While the definition of Lynn (2010) appears to enumerate some aspects of the society from which the socially excluded could be detached from, UNDP (2006); Silver (2007); Popay et al. (2008) bring to the fore the fact that social exclusion is largely a function of the socio-political and economic realities

of the society under consideration and this explains the diversity in the different indicators adopted different authors studying different societies. We consider some of these indicators in a brief summary below:

Table 2.1   Social exclusion indicators from literature

At risk of poverty	Economic status	Financial difficulties in the household
At risk of poverty threshold	Family structure	Unaffordable of some basic needs
S80/S20 income quintile share ratio	Persons with religions, ethnic, sexual, racial and alternative lifestyles affiliations	Unaffordable of consumer durables
Persistent at risk of poverty ratio	Persons classified as dependents	Disadvantageous housing conditions
Relative median at risk of poverty gap	Persons convicted of crimes at any time in the life time	Poor heal th: life expectancy; self perceived health status
Regional cohesion	Persons with low or no level of education	Infrequent contracts with friends and relatives
Long term unemployment rate	Persons with special Health concerns	Dissatisfaction with work or main activity
Persons living in jobless households	Persons with Physical and mental disabilities	
Early school leavers not in education or training		
Life expectancy at birth		
Self defined health status		
Dispersion around the at risk of poverty threshold		
At risk of poverty rate anchored at one moment in time		
At risk of poverty rate before cash social transfers		
Gini coefficient		
In work at risk of poverty rate		
In work at risk of poverty rate		
Long term unemployment share		
Very long run unemployment rate		

Source: Laeken Indicators (EU Council), UNDP (2006), Eurostat (2010) Silver and Miller (2003)

Some of the studies reviewed, i.e. Atkinson et al (2004); Mathieson et al. (2008); Popay et al. (2008); Eurostat (2010), reveal that the indicators used in the study of social exclusion are predominantly based on the research efforts conducted in the EU and from these indicators we notice that there are some dimensions of social exclusion that emanates. Kronauer (1997) notes that central to the definition of social exclusion are the dimensions: exclusion from the labour market, economic exclusion, cultural exclusion, exclusion by social isolation, spatial exclusion and institutional exclusion.
The EU Laeken indicators suggest broader dimensions: financial poverty (income), employment (labour market), health and education (UNDP 2006). Gordon et al (2000) in their conduct of a new poverty and social exclusion survey consider the following dimensions: income poverty and material deprivation, exclusion from the labour market, exclusion from public services and exclusion from social relations. Barnes (2005) considers: financial situation, ownership of durable goods, the quality of housing, neighbourhood perception, personal social relationships, physical health and psychological well-being to be dimensions of social exclusion. From these we notice that despite the peculiarities of the dimensions specified by each author converge to the much broader dimensions prescribed by UNDP (2006) and this shall form the basis of our analysis in the analysis section.

At this juncture, we consider theories on how poverty and unemployment form integral component of social exclusion and given some conjecture on how they will interact with social exclusion. Employment as noted in UNDP (2006) plays a fundamental role in every society as people are frequently defined by what they do for a living and this makes the problem of unemployment one that is quite pivotal in development studies. Unemployment exists as explained and explanatory variables as it is caused by some variables and it causes several other variables. Emphasized in UNDP (2006), unemployability is a fundamental cause of unemployment as the paucity of 'high quality education, training, know-how skills and competencies to enable a person to find and keep a job, to advance professionally, to find another job if dismissed or find a job different periods of his or her work and life cycle'. However there are other reasons asides the more institutional factors mentioned above. UNDP (2006) continues by asserting that some unemployed persons 'are usually struggling with a number of different and complex obstacles to employment, including physical disability/incapacitation, psychological problems, domestic violence, learning difficulties, alcoholism or drug addiction and they mostly have a background of poor educational achievement, they live in areas with poor transportation connections, are of poor health and/or have difficulties with socialization...' and these underscore the effect of factors that are specific to individuals but yet impact on the unemployment and

unemployment in turn, as noted by Omtzigt (2009), impacts on social exclusion as it engenders 'loss of skill, self esteem, material deprivation and loss of freedom'.

The role of unemployment in social exclusion is further expanded, beyond the effects specified by Omtzigt (2009), by Sen (2000) as he maintains that unemployment could also result in long run damages, psychological harm and misery, ill health and mortality, loss of human relations, motivational loss and future work, gender and racial inequality and weakening of social values. These effects that emanate from unemployment as noted by Sen (2000) also have the potential to generate even greater social problem and this underscores the interconnectedness of the variables that constitutes social exclusion.

Poverty on the other is one concept that has been investigated extensively with different methods used in the analysis of poverty. Sen (2000) considers the issue of poverty from the perspective of the capability deprivation and Eurostat (2010) emphasizes the components of social exclusion, as noted in the seven of the eighteen Laeken indicators, that are attributed solely to poverty. In both works we noticed that poverty also play a major role in the determination of social exclusion. Consequently we notice that poverty, unemployment and the dimensions of social exclusion are related somewhat in some degree which may be in varying degrees depending on the specificity of the society being studied.

Graph 2.1   Poverty and unemployment interact in the manner described by the diagram culled from UNDP (2006)
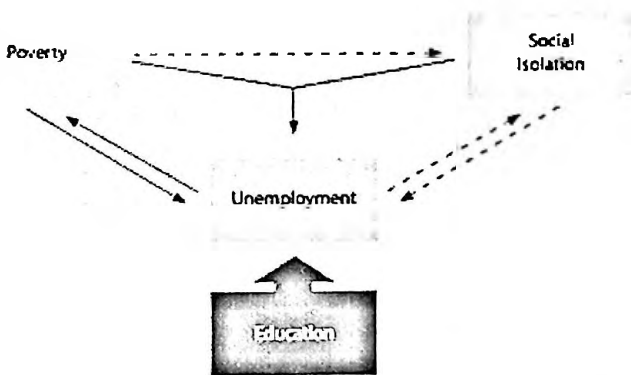
Note. Arrows with solid lines indicate a relationship of a tighter nature, while arrows with dashed lines indicate weaker and variable relationships

Source: United Nations Development Programme (2006) report on Croatia

While poverty and unemployment has a strong connection, both poverty and social isolation combine to impact significantly on unemployment and then there is role of access to education, which is another dimension of social exclusion, and the effect of poor access to education on unemployment also strengthens the connectedness between poverty and unemployment. This interaction is further re-considered in Figure 2.2
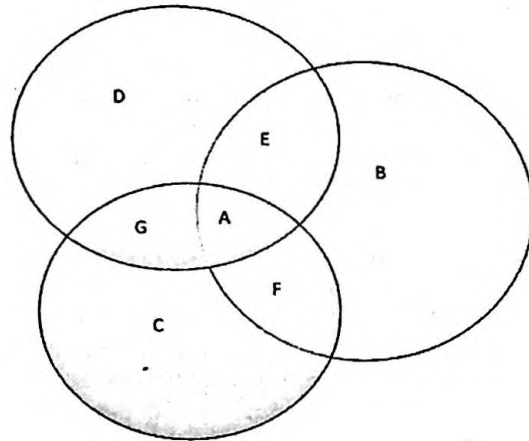
Figure 2.2: The intersections of poverty, unemployment and social exclusion
Legend:
Poverty
Unemployment
Social Exclusion (with components other than poverty and unemployment)

Figure 2.2 gives us a hint as to the crux of the matter in this paper. Social exclusion has the financial, health and education dimensions if we extract poverty and unemployment from these while literature recognizes that poverty and unemployment are significant contributors to social exclusion, the extent to which they interact with the other components of social exclusion is still in the dark. More often than not the A, B, C,...G sections of the diagram constructed above are determined via enumeration methods as evident in: UNDP (2006); Eurostat (2010); ONS (2013); while the German Survey Results (1998) discussed by Bohnke (2001) use of regression based methods. The enumeration based methods may provide information on the magnitudes but the direction of impact is lacking while the regression based methods provide information on both the magnitude and direction of impact as in the German Survey regression results and from these works we note that for different societies the categories A, B, C,...,G in the diagram above would be marked different but there may be some convergence on the

overall connection between poverty, unemployment and social exclusion (involving components other than poverty and unemployment).

For the purpose of our study, the proxies representing poverty, unemployment and social exclusion (capturing dimensions other than poverty and unemployment) and their sources are presented in Table 2.2

Table 2.2   Poverty, Unemployment and Social Exclusion Indicators, Proxies and Source Literature

Variable	Proxy		Source Literature
Poverty	Poverty headcount ratio (% of population living with less than $1 PPP/day		UNDP (2006); Eurostat (2010)
Unemployment	Ratio of em ployed persons to the gross domestic product		UNDP (2006); Eurostat (2010)
Social Exclusion Variable	Dimension	Proxy	Source Literature
Life expectancy	Health	Life expectancy, death rate of persons per 1000; Mortality rate of persons under 5 years per 1000:	Atkinson et al (2004)
Credit market exclusion	Financial	Lending rate (%)	Sen (2000); UNDP (2006); Silver (2007);
Economic Strain	Income	Inflation rate, exchange rate	Eurostat (2010)
Access to social infrastructure	Social	Persons per telephone line	UNDP (2006)

In the next section we discuss the method of analysis involved and how we seek to determine the categories A, B, C,…,G in the diagram above.

Methodology
Our method of research borders on stationarity and causality testing and on the basis of these we provide some elucidation of these and provide information on the procedure of studying the interaction between poverty, unemployment and social exclusion.

Stationarity testing: Comparing the Augmented Dickey Fuller and Kwiatkowski et al. tests
In this study we apply the combined results of the Augmented Dickey Fuller test and the Kwiatkowski, Phillip, Schmidt and Shin (KPSS) test in determining the order of integration of the variables used. The Dickey and Fuller (1976) test in the general sense considers the null hypothesis that the variable Y, has a trend and a unit root and the test equation involved is

defined as: $Y_t = \alpha + \beta t + \rho Y_{t-1} + \varepsilon_t$ where α, β, ρ real unknowns and $\varepsilon_t \sim NIID$ $(0, \sigma^2)$. On rewriting the equation we have: $Y_t = \alpha + \beta t + (\rho - 1) Y_{t-1} + \varepsilon_t$ and the null hypothesis asserts: $\rho - 1 = 0$ and the alternative asserts: $\rho - 1 < 0$. If we augment the test equation with lag values of the first difference of Y_t to account for higher orders autoregressive schemes then the test equations becomes: $\Delta Y t = \alpha + \beta t + \rho - 1)Y_{t-1} + \Sigma^k_{t-1} \Delta Y_{t-1} + \varepsilon_t$ (where the lag length k can be determined with the aid of information criteria like the Akaike, Schwarz, Hannan-Quinn information criteria and the finite prediction error (FPE)) and the null hypothesis and alternative hypothesis remain the same.

However due to the criticism levelled against the Dickey Fuller test as lacking power and hence reporting marginally stationary variables as having unit roots, the Kwiatkowski et al (1992) (KPSS) test was invented to circumvent that problem and this it does by designing a test statistic that reverts the hypotheses. The test equation for the KPSS test is given as: $Yt = \alpha + \beta t + \rho \Sigma^T_{t-1}\mu_t + \varepsilon_t$ where $\mu \sim NIID$ $(0, 1)$ and ε_t is the residual from the regression model. If we define $S = \Sigma^T_{t-1}\varepsilon_t$ and $KPSS = \frac{\Sigma_{T-1} S_t^2}{n^2 \sigma^2_{hac}}$ where σ^2_{hac} is the heteroscedasticity and autocorrelation consistent estimator of the variance of ε, then the $KPSS$ statistic can be used to test the null hypothesis that: $\rho = 0$ against the null hypothesis $\rho \neq 0$ It can be noticed that under the null ε_t is statistically significant and hence the $KPSS$ statistic will not be statistically significant. With the combination of these tests we shall determine the order of integration of the variables involved in this study which shall be of utmost importance in the determination of the nexus between poverty, unem-ployment and social exclusion in Nigeria.

Causality analysis: Dolado-Lutkepohl and Toda and Yamamoto tests
In tracing the connection between poverty, unemployment and social exclusion we avail the use of causality analysis. The popular technique for measuring causality is the granger causality as inferred from Gujarati (2005) stipulates that: X_t does not granger causes Y_t if given the information sets Ω_t, Ω'_t defined such that $\Omega'_t \supset \Omega_t$ and $X_t \notin \Omega'_t$, $F(Yt \mid \Omega_t) = F(Yt \mid \Omega'_t)$. This form of causality is based on view that X_t causes Y_t if the former precedes the later and this form of causality is bound by conditions stated in Gujarati (2005) one of which that the two variables X_t and Y_t must be stationary and hence cointegrated and/or stationary. This automatically rules out the use of this test for variables that are either not stationary or a mix of variables with different orders of integration. Further criticizing the granger causality method Kayhan et al. (2010) notes that the existence of first order integrated variables in the mix of variables could result in non-standard asymptotic distribution of the test statistics used in the determining the existence of causality – test statistics such as the Chi-square, F and t statistics – and this

could in turn be due to the singularity of the asymptotic distributions of the estimators (Lutkepohl and Kratzig, 2004).

To remedy the problem of having a mix of variables with different orders of integration and also the problem of non-standard asymptotic distributions of the test statistics involved in testing the zero restrictions required we adopt two measures that seek to adjust the granger causality method and these are the Dolado and Lutkepohl (1996) and Toda and Yamamoto (1995) methods.

The Toda and Yamamoto (1995) adjustment of the granger causality test involves specifying a vector autoregressive model: $A (L)Y_t = \varepsilon_t$ where $A (L) = 1 + \Sigma^p_{i=1} \alpha_i L_i$ and $A (L)$ is the matrix of lag operators and α_1 is the matrix of coefficients which are defined such that the root of the polynomials resulting from the matrix $A (L)$ is inside the unit circle and the test augments the optimal lag length p with the maximum order of integration d_{max} recorded in the mix of variables under consideration and hence the vector autoregressive specification used in carrying the causality analysis becomes: $B (L)Y_t = \varepsilon_t$ where $B (L) = 1 + \Sigma^{p+dmax}_{i=1} \alpha_i L^i$. This adjustment makes the causality analysis suitable for a set of variables with varying non-negative orders of integration provided the condition: $p \geq d_{max}$.

The Dolado and Lutkepohl (1996) test corrects the problem of non-standard asymptotic distribution of the test statistics involved in the zero restrictions by increasing the number of lags, given that the optimal lag length has been discovered, by unity such that the vector autoregressive model involved in the causality analysis becomes: $C (L)Y_t = \varepsilon_t$ where $C (L) = 1 + \Sigma^{p+1}_{i=1} \alpha_i L^i$. We notice interestingly that in the event that the set of variables under consideration have a maximum order of integration of unity then the matrix of lag operators would be such that: $B (L) = C (L)$ and hence the result of both adjustments would converge to solve the two problems discussed above.

The vector autoregressive specification that results from the above adjustments suggested by Toda and Yamamoto (1995) and Dolado and Lutkepohl (1996) can be used to trace the impulse response of the poverty headcount ratio and the ratio of employment to the GDP to social exclusion indicators found to have some form of causality relationship with the aforementioned – the relationship could be uni-directional or bi-causal giving evidence of a feedback between the variables involved.
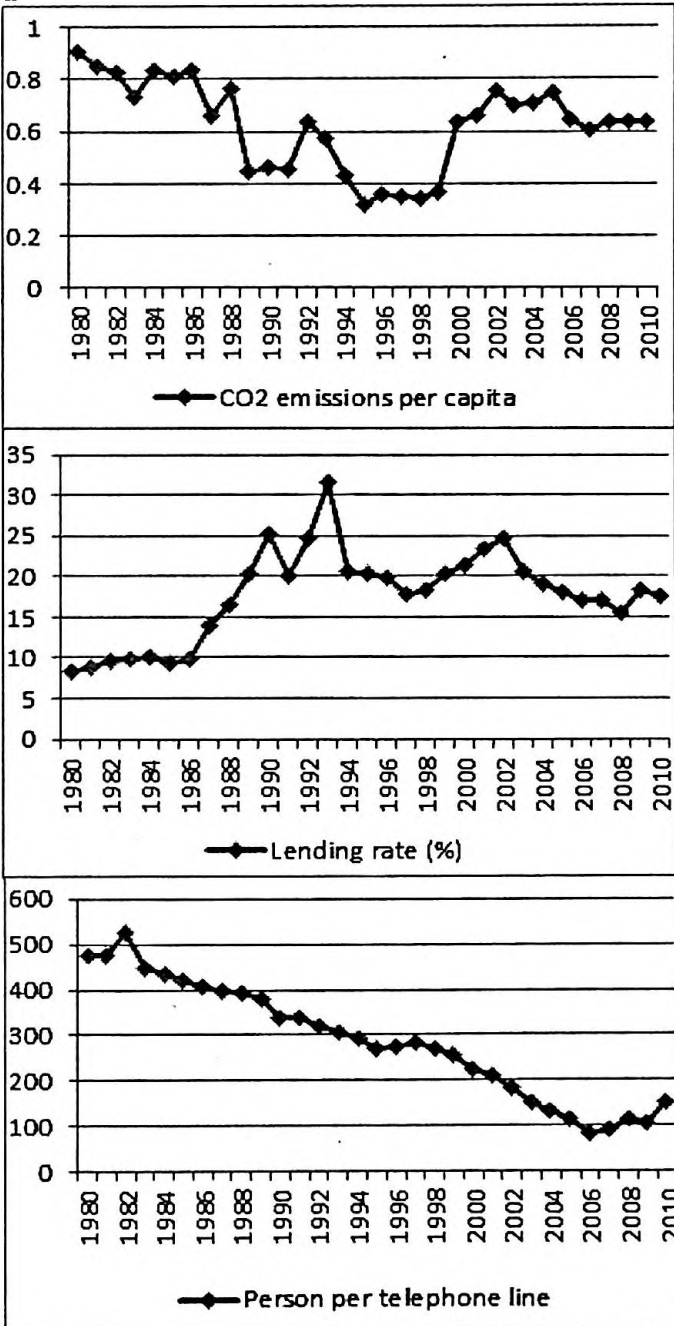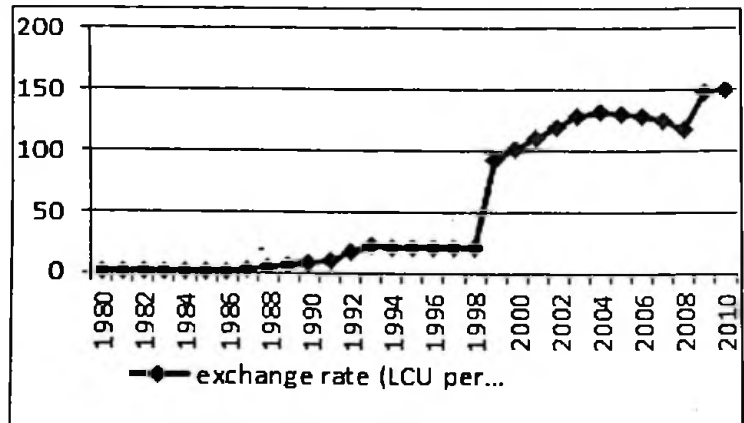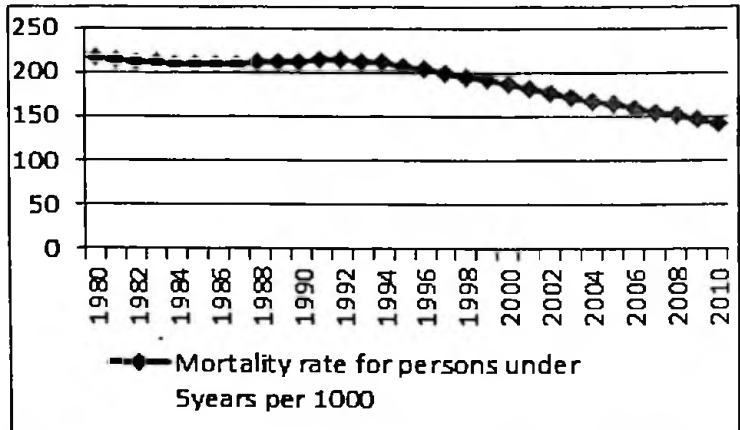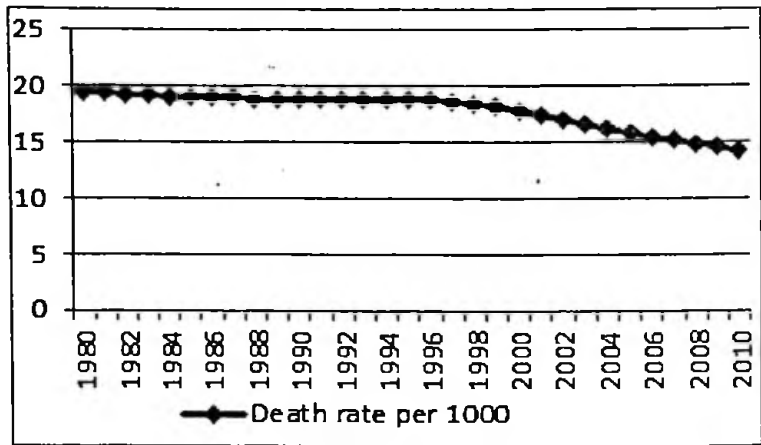
Empirical analysis

Exploration of components of social exclusion
We begin with a descriptive consideration of the time series involved in this study by first looking at a graphical depiction of these variables. CO_2 emissions per capita captures the exclusion to access to a healthy environment and in the Nigerian case we note that asides oil prospecting and exploration installations in oil rich areas in the Niger Delta which are largely impoverished another veritable source of CO_2 emissions can be found in large cities like Lagos, Kano, Oyo, Rivers and Katsina which have populations greater than 5 million persons (going by the 2006 census) with Lagos having the highest population density of all of 1207 persons per sq km (NPC, 2010) and hence in these areas we may find large groups of persons that are excluded from access to clean and low impurity breathable air. CO_2 per capita appears to decline between 1980 and the early 1990s with spikes recorded in 1983, 1987 and 1990 but with the increasing rural-urban migration and the increased exploratory activities in the Niger Delta amongst other activities the volume of CO_2 emissions rose in relation to the rising population and this led to further spikes in 2000 and a new higher average of about 0.65 CO_2 emissions per capita in the following years.
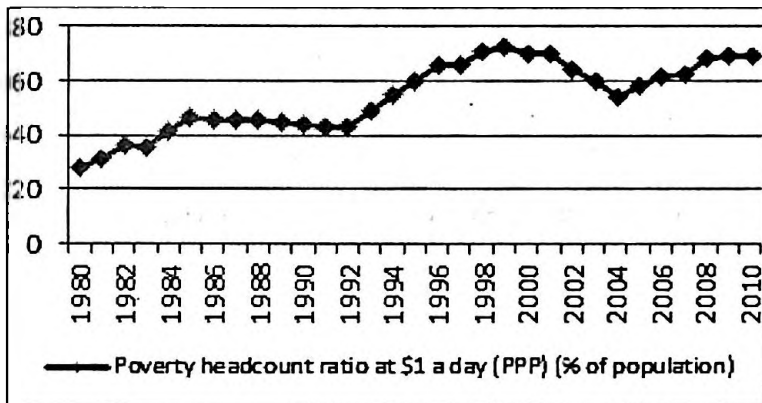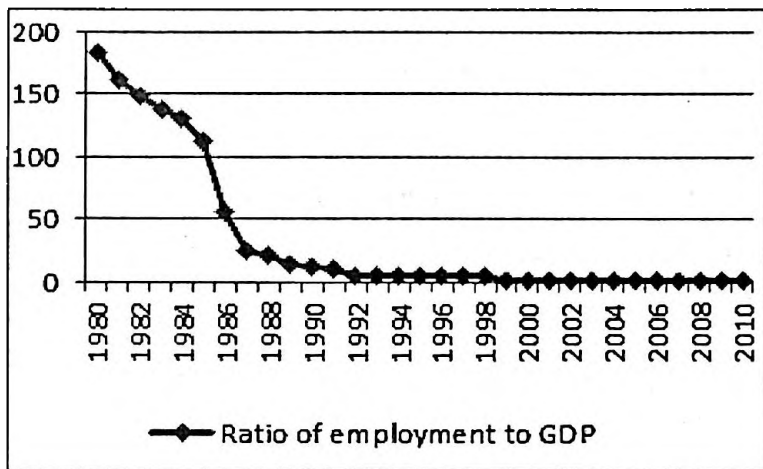
Inflation rate measures the denial of access to goods and services, of which food and energy form an integral component. While members of the high class may circumvent the problem of inflation by transferring their cash holdings to near money assets and hence earn income and capital gains that act as a buffer, the poor on the other hand and the socially excluded are forced to lose consumer surplus and have their standard of living depleted as incomes from salaries and wages do not necessarily evolve with the inflation rate. In the 1986 – 1989 and 1990 – 1996 period the inflationary impact of oil proceeds and the so called structural adjustment programme was profound as noticed from the graph and this has the effect of excluding certain groups of the society from a meaningful standard of living as they have to contend with high and accelerating prices of food stuff, housing materials and other necessary goods and services and though in the 2000s inflation rate is comparatively lower than those of the 1980s we notice that the inflation rate is in the double digit category between 2001 and 2006 and in the period after 2008 and it is at this point that the rising energy prices due to the deregulation of the downstream oil sector plays a pivotal role as the hike in fuel prices is expected to have a significant impact on the cost of production in Nigeria since most firms and households in the country are dependent on the use of fuel for power generation, transportation and household sustenance.

Graph set 4.1: Variables Capturing Different Aspects of Social Exclusion

CO2 emissions per capita

Lending rate (%)

Person per telephone line

Death rate per 1000

Mortality rate for persons under 5years per 1000

exchange rate (LCU per...

Ratio of employment to GDP

Poverty headcount ratio at $1 a day (PPP) (% of population)

Source: Based of Field data

The lending rate captures financial exclusion and we note that the higher it is the more difficult it is for small business and other enterprises engaged in by the poor are stifled as they do not get the requisite finance to expand their business and from the graph we see that between 1980 and the early 1990s the lending rate has a positive trend indicating the increasing difficulty in securing loans for investment and in the period after the 1990s into the 2000s the lending rate stabilized at a mean of about 20% with spikes recorded in 1992 about 31%, 2002 about 23% and 18% in 2008.

Access to communication infrastructure is considered by the number of persons per telephone line and from the graph we notice a steady negative trend which depicts the increasing exclusion of persons in the country from communication infrastructure but at the trough recorded in 2006 with 85

persons per telephone line we notice a rise in this variable although this rise did not achieve the 2001 high of 211 persons per telephone line and this suggests the large sections of the society – as the population grew and rural-urban migration took place – were denied access to communication infrastructure.

Medical facilities in the country appeared to improve since the late 1990s as the death rate per 1000 and the mortality rate for persons under 5 years per 1000 both decline continuously from the averages of 18 per 1000 and 201 per 1000 respectively in the pre 1990 era. Although the present level of these aggregates may not be suitable on an inter-country basis – particularly when the basis of comparison are the developed countries of the west – we notice that these aggregates decline continuously this signifying that fewer persons are excluded from health care services in the country.

The exchange rate of the naira to the dollar shows the purchasing power of the naira vis-à-vis foreign commodities and since Nigeria is characterized by high import propensities the value of the naira sends signals concerning the welfare of Nigerian households with regards to the consumption of goods and services imported. The graph shows depreciation spikes in the naira in 1998 - 2004 and 2008 - 2010 as the exchange rate jumped by more than 80% and 20% respectively and this reveals that the effect of a price rise in the dollar prices of imported commodities would have significant impact on the welfare of Nigerian households given the astronomical reduction in the value of the naira vis-à-vis the dollar (which happens to be the reserve currency).

The graphs on the poverty headcount ratio and the ratio of employed persons to the gross domestic product suggests that Nigeria has recorded high levels of unemployment even as the economy grows – the rising oil prices and increasing quantum of oil production and exportation – as well as ridiculously high levels of poverty. Despite the positive oil price shocks and attendant oil revenue from oil exportation, Nigeria still had its poverty headcount ratio rising from 28.1% in 1980 to 43.6 in 1986 and from 44% in 1992 to 72.9% in 1999 and though the poverty headcount ratio fell to about 50% in 2004 it rose to the neighbourhood of its previous high at almost 70% and this indicates that not only has the population clearly outstripped the available jobs with fresh graduates lacking creative ideas or denied access to finance but also we have about 70% of Nigerians living below the sustenance level of $1 per day.

On the whole, we notice that the social, financial and macroeconomic indicators suggest the prevalence of social exclusion in all ramifications in the Nigerian society.

Unit Root/Stationarity Testing of the Variables in our Model

We subject the variables in this study to unit root/stationarity testing using the augmented Dickey Fuller test for unit root and the Kwiatkowski et al test for stationarity and these results are presented in the tables below.

The two tests agree on the order of integration of all variables except the CO2PC, LENRATE, DRATE and EMPLGDP and it is suspected that the detection of a unit root by the ADF test is due to its low power and hence inability to reject the null when there is no evidence in support of it and this is why the KPSS test rejects that null by redefining the test statistic such that variables that are marginally stationary are not reported as non-stationary. In addition considering the case of EMPLGDP we find that the ADF erroneously fails to detect the presence of a unit root. A close inspection of the graph on EMPLGDP reveals the tendency for varying mean and variance but the ADF tests fails to detect this but the KPSS succeeds in detecting the presence of a unit root and reveals that the variable is first order integrated. Hence we shall adopt the findings of the KPSS tests in further analysis.

Table 4.1 Augmented Dickey Fuller test for unit root

Variable	ADF at level	ADF at first Difference	ADF at Second Difference	Order of Integration	Test equation Specification
CO2PC	-2.187439 (-2.963972)	-6.196588 (-2.967767)	-	I(1)	Intercept alone
INFRATE	-3.125894 (-2.967767)	-	-	I(0)	Intercept alone
LENRATE	-2.145629 (-2.963972)	-6.004470 (-2.967767)	-	I(1)	Intercept alone
PPFL	-4.343382 (-3.622033)	-	-	I(0)	Intercept and trend
DRATE	-3.247435 (-3.587527)	-3.353890 (-3.622033)	-4.154543 (-3.587527)	I(2)	Intercept and trend
MORT5	-5.334039 (-3.580623)	-	-	I(0)	Intercept and trend
EXR	-1.984873 (-3.568379)	-5.175798 (-3.574244)	-	I(1)	Intercept and trend
EMPLGDP	-6.279004 (-2.981038)	-	-	I(0)	Intercept alone
POV	-1.689935 (-2.967767)	-3.607646 (-2.967767)	-	I(1)	Intercept alone

Note: The values in parenthesis are 5% critical values below which the test statistic rejects the null hypothesis of the presence of unit roots in the variables and the test equations reported with trends have statistically significant trend components at the 5% level also.

Table 4.2 KPSS Test for Stationarity

Variables	KPSS at Levels	KPSS at First Difference	KPSS at Second Difference	Order of Integration	Test equation Specification
CO2PC	0.250078 (0.463000)	-	-	I(0)	Intercept alone
INFRATE	0.179560 (0.463000)	-	-	I(0)	Intercept alone
LENRATE	0.359419 (0.463000)	-	-	I(0)	Intercept alone
PPFL	0.055828 (0.146000)	-	-	I(0)	Intercept and trend
DRATE	0.218562 (0.146000)	0.123686 (0.146000)	-	I(1)	Intercept and trend
MORT5	0.222444 (0.146000)	0.110609 (0.146000)	-	I(1)	Intercept and trend
EXR	0.159630 (0.146000)	0.077919 (0.14600)	-	I(1)	Intercept and trend
EMPLGDP	0.199774 (0.146000)	0.105068 (0.146000)	-	I(1)	Intercept and trend
POV	0.622701 (0.463000)	0.119134 (0.463000)	-	I(1)	Intercept alone

Note: the values in parenthesis are 5% critical values beyond which the test statistic rejects the null hypothesis of the stationarity of the variable and the test equations reported with trends have statistically significant trend components at the 5% level also.

Since the KPSS test for stationarity reveals a maximum order of integration of unity then the pair-wise granger causality test would be inappropriate considering as examined in the previous section on methodology and hence we adjust the conventional granger causality technique on the recommendations of the Dolado and Lutkepohl (1996) and Toda and Yamamoto (1995) and these are carried out in the next section.

Causality Analysis of Poverty, Unemployment and the Components of Social Exclusion

The methodology of the Dolado and Lutkepohl (1996) and Toda and Yamamoto (1995) tests for causality ensures that for a set of variables, made up of a mix of stationary and first order integrated variables the causality results converges and this is because if the Dolado and Lutkehpol (1996) test for causality stipulates a lag order $\rho = \rho^* + 1$ and the Toda and Yamamoto (1995) causality test stipulates a lag order $\rho = \rho^* + d_{max}$ where each variable is integrated *I (d)* of the order d $\forall$ d = {0, 1} (where ρ^* is the optimal lag length determined with the agreement of a set of information criteria) then the both tests converge if the maximum order of integration of the variables under consideration is unity which is the case in our study. We

commence with the causal connection between poverty and the selected aggregate indicators of social exclusion.

The vector autoregressive model specification connecting the poverty headcount and the CO2 emissions in Nigeria appears to be optimal at the unit lag length and this means that both tests for causality involved in this study stipulate a VAR model with the lag length 2 and this is specified below along with the Wald test for the zero restrictions that enable us determine the extent of causality and the nature of such between the two variables and from the Wald tests we see a p-value of 0.41 for the overall effect of CO2 emissions on poverty and 0.35 for the overall effect of poverty headcount on CO2 emissions and this shows the absence of causality between the two variables. The appropriate lag length for the VAR model containing the poverty headcount and the inflation rate is unity and hence the VAR (2) model with the maximum lag length 2 is estimated to correct for the varying orders of integration and from the VAR specification and the Wald tests we see that poverty headcount does not granger cause the inflation rate and vice versa.

The VAR(6) equations are estimated for the poverty headcount and the lending rate, since the optimal lag length is 5, going by the information criteria and we see that the while lending rate granger causes the poverty headcount ratio with a p-value of the Chi square statistic 30.80660 is approximately 0, the poverty headcount ratio does not granger cause lending rate as signified by the Chi-square statistic 1.366793 with a p-value of 0.9678. This suggests the presence of a uni-directional relationship that runs from the lending rate to the poverty headcount ratio.

The VAR (6) equations are estimated to measure causality between the poverty headcount ratio and the person per telephone line since the optimal lag length is 5. Person per telephone line does not granger cause the poverty headcount ratio significantly as noted by the Chi square statistic 3.480713 with a p-value of 0.7465 but on the other side we notice that the poverty headcount ratio granger causes the person per telephone line with a Chi square statistic of 93.37199 and a corresponding p-value approximately equal to zero.

Death and mortality rates are significantly granger caused by the poverty headcount ratio with Chi-square statistics 13.26285 and 17.18330 respectively with corresponding p-values 0.0390 and 0.0042 in VAR(6) and VAR(5) equations. However both variables do not the poverty headcount ratio. This means that while the unavailability of health facilities couple with poor sanitation and environmental hazards which increase the death and mortality rates significantly impacts on the level of poverty in the

country the reverse is not the case and hence there is no feedback relationship between the pair of variables.

The poverty headcount ratio significantly granger causes the cross exchange rate (naira/dollar) as evident in the VAR(2) equation with Chi square statistic 9.570057 and the corresponding p-value of 0.0084 and from the coefficient statistics we see that an increase in the poverty headcount in a preceding period (last year) coincides with a depreciation in the following period (current year) as noticed by the approximate coefficient value 0.96 and hence we can assert that whatever factor that increases the poverty headcount ratio also plays a major role in the depreciating the cross exchange rate (naira/dollar).

On the causality results for unemployment and the selected components of social exclusion, we adopt a proxy for unemployment which is the ratio of employed persons to the gross domestic product (the unavailability of time series data for unemployment for Nigeria makes us resort to this proxy) and from the first causality results estimated via VAR (2) equations shows that CO_2 emissions and the ratio of employment to the gross domestic product do not granger cause each other in any direction and this is evident in the Chi-square statistics 1.197930 and 0.876525 with p-values 0.5494 and 0.6452 respectively indicating that CO_2 emissions do not granger cause the ratio of employment to GDP and vice versa.

In like manner also the ratio of employment to the gross domestic product does not granger cause the inflation rate and vice versa and this is noted by the statistically insignificant Chi square statistics 4.467878 and 9.064756 and corresponding p-value 0.4842 and 0.1065 respectively in the VAR(5) equations estimated. In like manner also the lending rate as well as the cross exchange rate (naira/dollar) also does not granger cause the ratio of employment to the gross domestic product and vice versa and both equation specifications are VAR (2).

However the persons per telephone line granger causes the ratio of employment to the gross domestic product significantly as noted by the Chi square statistic 35.75441 and the corresponding approximate p-value 0 but the reverse is not the case as the employment proxy does not granger cause the number of persons per telephone line in the estimated VAR(5) equations. Marginal significant bi-causality is recorded between the ratio of employment to the gross domestic product and the death rate as the p-values indicating the granger causality of the death rate by the ratio of employment to the gross domestic product and vice versa 0.0817 and 0.0993 miss the 5% significance mark but not the 10% level and hence the causality between these pair of variables is marginal but in the case of the mortality rate we

notice that unlike the death rate, the mortality rate significantly granger causes the ratio of employment to the gross domestic product with a Chi square statistic of 28.09256 and p-value of 0.0001 while marginal significance, depicted by the p-value of 0.0806, is recorded as we consider whether the ratio of employment to the gross domestic product granger causes the mortality rate.

In summary, and on the one hand, we observe that the lending rate, death rate and mortality rate all determine the poverty headcount ratio with no evidence of a feedback and the poverty headcount determines the number of persons per telephone line in the country and on the other hand we observe that persons per telephone line, death rate and mortality rate play some role in determining the employment proxy with little evidence of a feedback effect. We re-consider the impulse response functions of the VAR specifications that yield these results with a view to determining how these variables interact in the event of a shock to any of the variables.

Analysis of the Responses of Poverty and Employment Proxy to Shocks on Social Exclusion Variables

In this section we consider using the VAR specifications in the previous section to trace the impact of exogenous shocks to the death rate, mortality rate, persons per telephone line and the lending rate on the poverty headcount ratio and the employment proxy.
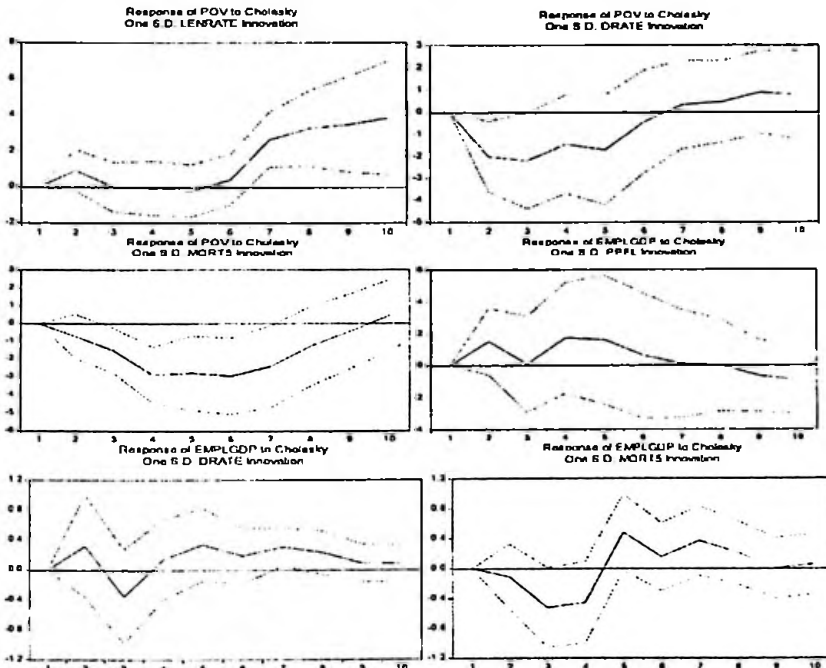
It is readily observed that positive shocks to the lending rates initially increase level of poverty headcount to 0.99 and between the third and sixth years it falls back to nil and later exhibits a positive trend. This suggests that magnitude of the effect of exogenous shocks on the lending rates determines the magnitude of the jump in the poverty headcount ratio and the long run poverty headcount ratio. Shocks to the Death and Mortality rates both impact on the poverty headcount ratio in like manner as the positive response of the poverty headcount is witnessed after seven years and nine years, respectively.

A shock to the number of persons per telephone line has the effect of raising the ratio of employment to the gross domestic product in the first year but in the years that follow the ratio of employment to gross domestic product peters out after another rise between the fourth and sixth years. This could be rationalized by rising demand for telephone lines, the attraction of investors and the consequent increase in the demand for labour and in like manner the ratio of employment to the gross domestic product spikes in the first year in response to a shock in the death rate and this peters out in later periods after other spikes recorded in the fifth and seventh years.

However the mortality rate does not trigger a similar response in the ratio of employment to the gross domestic product like that death rate as shocks to the mortality rate initially depresses the ratio of employment to the gross domestic product up to the fourth year beyond which it rises in the fifth and peters out in later periods. The responses of the poverty headcount ratio and the ratio of employment to the gross domestic product suggest the importance of lending rates (which captures financial exclusion) over the health service exclusion variables in explaining the response of the poverty headcount ratio and the importance of number of persons per telephone line and death rates in engendering an immediate decline in the unemployment rate in the country.

Discussion and Conclusions

The analysis in the previous section makes us understand that the financial and health dimensions of social exclusion have some serious role to play as far as poverty and unemployment are concerned. The exclusion of persons from access to finance has the effect of stunting the growth of small and medium scale enterprises and hence employment which in turn reflects in the level of poverty. Also there is the case of unfavourable socio-economic and political happenings in Nigeria that may render a comparatively high paying job somewhat inadequate in raising the standard of living. Monetary policies may have some positive impact with regards to reducing poverty but it has not done enough as the monetary policies are yet to trickle down to the poor masses that constitute over 60% of the Nigerian population. Social

exclusion in Nigeria as captured by demographic, health, environmental sustainability, access to financial services and educational attainment variables suggests a rather poor connection between poverty and social exclusion and this could be traced to the fact that while some components reveal rising levels of social exclusion some others go contrary and when aggregating these variables using the principal components method we find that their relative effects are balanced out thus yielding a relatively inconclusive result.

On the whole, it is clear that despite the promising oil revenues accruing to the Nigerian economy compared to other Sub Saharan African countries, there is the indication that certain groups of the Nigerian society do not enjoy these proceeds and appear to be shut out. This calls for more concerted efforts by the Nigerian authorities to provide a means of reintegrating the socially excluded into the society as they also provide potential resources for the development of the country.

Finally, the characteristics allure of our local cultures should be harmonized, integrated and made to reflect love for one another as well as success in the struggle for nation building. Culture as it stands today will be Nigeria's greatest challenge in the future. The impact of social exclusion felt today is nothing compared to a full scale effect that descends on a once well-off country like Nigeria. Strengthening cultural securities requires an audit of the impact that the present structural arrangement in Nigeria is having on cultural and ethnic sentiments. If the result is suspicion and resentment as it is at present, the leaders should think again. On the other hand, if people belief in themselves and the value of their way of life will be enhanced by restructuring and decentralization agreed under a Sovereign National Conference as is being currently demanded, then, the calls should be launched with fair and a bit of hype. Yet at the same time as doing this thing which has never been done before, the Nigerian government as a matter of urgency must improve on the general welfare of the populace by ensuring the provision of basic social amenities like good pipe-borne water, electricity, basic health care, good roads while tackling the growing sense of social exclusion. Only thus one can say that the hopes and fears of the restive ethnic nationalities and sub-nationalities be reconciled, in a way that they never have been since the day of the country's independence.

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Poverty, Vulnerability and Exclusion in Ghana: A Socially-responsive Methodological Approach

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Abstract

In identifying vulnerabilities that predispose people to chronic poverty and/or exclusion, causal factors to determine the vulnerable groups have always been a challenge to the change agent's concerned. It is only in rare cases that people succeed in teasing out important causal issues. This is rather disturbing as policy will neither be coherent nor proactive without a clear acknowledgement and appreciation of the adversities and challenges responsible for causing and/or perpetuating chronic poverty. In particular, those at risk are likely to be missed out if the causal factors are not properly identified. There is high diversity in the issues underlying vulnerability and exclusion. Using a socially-responsive methodology which includes such criteria as incidence, severity, and marginalisation, poverty issues could be captured in a broader context to enable wider inclusion of vulnerable and excluded groups in society. The paper argues that a deployable and acceptable methodology will necessarily entail trade-offs. In particular, it takes account of existing gaps in the identification of the poor, vulnerable and excluded.

Introduction

Poverty is a widely used and understood concept but its definition has suffered wear and tear of the time. The term 'poverty' can be considered to have a cluster of different overlapping meanings depending on what subject area or discourse is being examined (Gordon and Spicker, 1998).Inadequate access to water, for example, forms a central part of peoples' poverty, affecting their basic needs, health, food security and basic livelihoods. Poverty is no longer seen as simple lack of income or, at the national level, low per capita Gross National Product. Poverty is about deprivation in wellbeing and should be recognised as multi- dimensional with complex interactive and causal relationships between the dimensions (Nkum, 1998; Ahmad, 2003).

It is incorrect to assume that poor people are solely concerned about inadequate financial or economic assets and opportunities (e.g. income, savings, credit, remittances, insurance instruments etc.). Poor people are also concerned about deprivation and challenges in other essential

livelihood assets which may include a combination of some or all of the following (NDPC 2004): **financial/ economic barriers** (inadequate access to investment capital, constrained job market, low access to productivity-enhancing technology); **natural/ environmental barriers** (unfavourable or inequitable land tenure arrangements, inadequate access to productive water sources, pollution of water sources, erratic rainfall, windstorms, wild fires, pest plagues, crop diseases, livestock diseases, deforestation, infertile or degraded soils, flooding, unregulated surface mining, geographical remoteness); **human asset barriers** (malnutrition, high fertility or dependency rates, poor sanitation, low immunity to disease, education and skill); **physical asset barriers** (homelessness and unsafe accommodations, poor standard construction; and **social barriers** (gender, cultural, governance/ participation).

The International Institute for Sustainable Development defined livelihoods as the activities, assets and entitlements that poor people use to survive (Elliott, 1999). Livelihoods encompass the material, human and social conditions and how these either allow people to live well or prevent them from doing so. It comprises the capabilities (especially education, health), assets (including natural, human, social, human and physical capital) and activities required for a means of living (Chambers, 1997; Rakodi, 1999). Sustainable livelihoods, thus, comprise: ability to recover from shocks; ability to maintain levels of financial and institutional resources when external support is withdrawn; ability not to deplete natural resources, including water resources. Experience shows that, in any competition over access to resources, whether these be natural resources or man-made services and livelihood opportunities, those in poverty do less well than others, unless there are agents acting on their behalf to manage to secure their relative interest *vis-à-vis* those with more economic, social and political clout (GWP, 2003).

The Second World Water Forum and Ministerial Conference (The Hague) acknowledged that the right to land and access to water for example is the key to breaking out of the poverty trap (Rahaman and Varis, 2005). This is because when poor people are directly asked about poverty, in the majority of cases, they identify the lack of access to water as one of the key causes of poverty and improving access to water as one of the top priorities in reducing poverty (Annamraju, Calaguas and Gutierrez, 2001. This is why the World Summit on Sustainable Development (WSSD) in 2002 recommended that water issues should be harmonised with overall sustainable development objectives of nations into national poverty reduction strategies. Issues relating to the degradation of soils, forests, biodiversity, and water quantity and quality have been analysed in relation to environmental costs and protection measures, but the interactions

between these phenomena and livelihood systems, based primarily on the natural environment, have been insufficiently noticed (Essaw, 2008; Biswas, 2004).

Conceptual underpinnings of poverty, vulnerability and exclusion

The past two decades have seen an increased debate about social protection with several key donor institutions, such as the World Bank, United Nation Development Programme (UNDP) and International Monetary Fund (IMF), heavily involved in facilitating participatory policy development in the name of 'Poverty Reduction Strategy Papers' (World Bank, 2000). With growing recognition that economic growth strategies by themselves are no panacea to deepening poverty and vulnerability in the developing countries, attempts in poverty reduction have generally been geared towards a holistic response to the Millennium Development Goals (MDGs). While the desire sounds noble, inadequate access to water, declining agricultural prices, growing unemployment, lack of job-creation, deteriorating real wages, and the effects of HIV/AIDS, have created a complex tapestry of challenges against the 'war on poverty'. However, optimism continues to grow in looking towards social protection as an effective and alternative avenue to addressing social shocks and stresses (Chronic Poverty Research Centre, 2008).

As policy makers, donor agencies and the international development organisations muster support in combating poverty, there is an increased need to establish the relationship between water poor, vulnerability, and exclusion in an attempt to identify the groups that are most likely to be affected by shocks and adversaries that predispose people to vulnerability and exclusion.

Several commentators have provided broader overviews of the meanings of poverty (Ajulu, 2001; Alcock, 1997; Chambers, 1983; Myers, 1999; Mensah, 2008). From a basic needs perspective, poverty, in absolute terms, is understood as inability of an individual, community, or a nation to satisfactorily meet their basic needs. Relative poverty, on the other hand, is defined as a condition in which basic needs are met, but where there is an inability to meet perceived needs and desires in addition to basic needs (Burkey, 1993: 4).

Hulme (2003) also described poverty as chronic when an individual experiences significant capability deprivations for a period of five years or more. The distinguishing feature in his definition of chronic poverty is its extended duration. The period though debatable, five years of poverty in individual's life is enough evidence of poverty perpetuation. While it is possible to assess chronic poverty in either absolute or relative terms, most

existing work, focus on chronic absolute poverty. Such a focus is consistent with the approach of most poverty analysis in developing countries. But, it should be noted that Yaqub (2002) argues that chronic relative poverty (i.e. always being in the bottom quintile of a country's income distribution) may be as hard, or even harder to escape than chronic absolute poverty.

In Ajulu's (2001) assessment, poverty is about "social exclusion". To Biswas (2004), poverty is about inadequate access to water for various uses. Biswas' definition places the "unfair" treatment of the poor who often have to live in "undesirable" marginal areas, more at risk from flood, water-related diseases and do not have alternatives open to them, as do the wealthy. All these can place the poor within a tapestry intertwined with such issues as powerlessness, isolation, vulnerability, spiritual and material deficiencies, all of which are the real causes of poverty. As Adjapawn and Makuwira (2006: 232) contend:

> *"the poor are in some ways trapped in some sort of a cage, highly restricted and limited in exercising their physical, mental, social, and spiritual freedom. The limiting factors can emanate from both macro and micro-levels in the form of people, systems and structures so powerful that they exploit the powerless to their advantage".*

Every attempt to define poverty implicitly emerges with factors that contribute to its causes. Poverty could therefore be summed up as; deprivation in wellbeing and other essential livelihood assets, including: natural resources, human capability, basic physical assets and supportive social systems. These issues have expression in material deprivation, isolation, alienation, dependence and domination, lack of decision-making power and freedom of choice, vulnerability and insecurity.

The term used in development circles that most closely corresponds to social exclusion is vulnerability, meaning insecurity, defenselessness and exposure to risks and shocks (de Haan 1998, 15). The concept of vulnerability *(susceptibility, insecurity)* attempts to construct a dynamic view of poverty and is concerned with the sensitivity of people's wellbeing to adversity. Adversities (also referred to as shocks) may take the form of (sudden) crises or trends/prolonged difficulties. Crises, in turn, may be recurrent (e.g. cyclic) and predictable -- such as the "lean season" and cerebro spinal megnitis (CSM) -- or sudden and unexpected -- such as earthquakes. Examples of adverse trends and prolonged difficulties in the wider environment are deforestation and chronic illness of the main breadwinner. Vulnerability is particularly concerned with the inability to recover from such adversity.

According to Sen (1999), the determinant of deprivation is not what people possess but what enables them to meet social conventions, participate in social activities and retain self-respect. To Sen, gender differences should be considered in poverty analysis since men and women experience poverty or exclusion in difference ways. Exclusion is first, about the barriers in society that alienate some segments of society, rendering them voiceless and/or prohibiting them from exercising their rights and participating in the development process. Exclusion is also about depriving people from sharing in the benefits of development (i.e. the "national cake"). People may be excluded from key economic resources as well as from institutions especially those responsible for healthcare, education, water and sanitation, agriculture and information. Exclusion may be either active or (more commonly) passive (e.g. holding "dialogues" in elitist language). Self-exclusion is not uncommon and often results from other factors such as stigmatisation, a history of failed promises/ policies and sheer loss of hope. Much exclusion and conflict arise from poor access to dependable, timely and continuous information on social entitlements and poverty-relevant policies (NDPC, 2004).

The operational definition of poverty as "deprivation of wellbeing and other essential livelihood assets"; "vulnerability as inability to recover from adversity" and "exclusion as barriers in society that alienate some segments, rendering them voiceless and/or prohibiting them from exercising their rights and participating in the development process" will serve as basis through which the causal factors predisposing people to various forms of vulnerability and exclusion will be anchored in the derivation of a socially responsive methodology in the subsequent sections.

In the North, the socially excluded represent 10-15 per cent of the population. However, in Africa, over 50 percent of the population of most countries live in absolute poverty (46 per cent in sub -Saharan Africa are without access to safe water, 52 per cent are without access to sanitation, 35 percent are not expected to survive to age 40, 41 per cent of adults are illiterate, and 31 per cent of children under the age of five are underweight (UNDP, 2000, 171). Where such a large majority is unable to meet basic needs or enjoy social rights, the social exclusion classification seems to be meaningless.

Poverty situation in Ghana

In explaining poverty, the Ghana Living Standards Survey (GLSS) uses economic index, those surviving on a per capita income of less than two-thirds of the national average to define poverty. The poverty lines were estimated using the cost of basic needs method in order to pay for a food basket providing 2900 kilocalories per adult equivalent. Those deemed to be

in extreme poverty or below the 'hard core' poverty line incomes are below one third of the national average. Majority of the poor in Ghana are engaged in food crop cultivation as their main economic activity as opposed to private formal and public sector employment. The definition has been broadened by the National Development Planning Commission (NDPC) to include non-income factors such as education, health, access roads and other social and economic indicators.

Analysing the poverty trends in Ghana, the Ghana Statistical Services statistics indicated that in 1991/92 the share of the Ghanaian population living in poverty reduced from 51.7 percent to 39.5 percent in 1998/99, and by 2005/2006, it was reduced further to 28.5 percent. Though there is a decline, still about 28 percent of the Ghanaian populace is still poor earning less than a dollar a day (Coulombe & Wodon, 2007). The spatial distribution of poverty per the GLSS report of 2008 revealed that despite the decrease, income disparities and regional disparities exist and the actual number of impoverished people in Ghana is more a rural problem than urban.

According to Coulombe and Wodon (2007), more women have been seen to be more prone to poverty than men and such groups are mostly faced with problems such as low income, malnutrition, illiteracy, and endemic diseases and increased prevalence of HIV/AIDS. This poses a lot of questions: For example, are all women poor and vulnerable? Which category of women constitutes the poor and vulnerable? Are all men free from vulnerability?. Identification of the poor and vulnerable have mainly been associated with women and children in general, people with various forms of disabilities, etc. A single parent who may be a male and living below a dollar a day is likely to be left out. These and many concerns, such as who constitute the poor and vulnerable, necessitated the need for an all-inclusive methodology that will be responsive to this call.

Approach adopted

Ideas from the conceptual underpinnings of poverty, vulnerability and exclusion informed the design of a responsive methodology aimed at identifying vulnerable groups. The design of the methodology became necessary following consistent shortcomings in the social protection dimensions of the District Development Plans of Ghana. The National Development Planning Commission (NDPC) Guidelines for the preparation of District Medium-Term Development Plans, for example, had sections which address the theme of vulnerability and exclusion (V&E). However, identification of vulnerable groups appeared to be treated as an afterthought by Districts -- a mere add-on to sectoral (or so-called thematic) planning without subjected to scrutiny.

A review of selected Medium Term Development Plans (MTDPs) across the country demonstrates little connectivity between the situation analysis stage and the identification of priority V&E groups. With a few notable exceptions, Districts either made no real effort to consult widely or else they merely substituted the views of Assembly representatives, local leaders and public officials for those of the V&E. Yet, there is abundant evidence that the realities of primary stakeholders and those of their typically non-representative leaders and officials differ significantly. The dearth of consultation is largely explained by:

the impression among senior officials that technical expertise is superior to the opinions of poor people ("we know best" syndrome);

in some cases, active resistance centred on unwarranted fears:

that participation is time-intensive and will derail project timeframes;

that the public will not share the DA's views and that public involvement will, therefore, cause DAs to lose control over planning;

Closely related to the above, the review also revealed a conspicuous absence of systematic frameworks for diagnosing vulnerabilities and causes of exclusion.

Thus, the real value of the methodology lies in its transparency and potential to stimulate diagnostic dialogue and to foster democratic engagement around otherwise hidden vulnerabilities and causes of exclusion. In this respect, it is important to note that prioritisation has always happened in the identification of the vulnerable groups in the District Development Plans in Ghana, but in a rather opaque, arbitrary and undocumented way. The main difference is the introduction of the livelihood framework that provides vital inputs of rationality, transparency, participation and accountability to an otherwise arbitrary process.

The design of the methodology recognised that structured tools alone cannot suffice for identifying and prioritising the V&E as well as for planning satisfactory responses to their situations. It thus, combines structured diagnostic tools, consultations with primary stakeholders and guided collaboration and consensus building among district stakeholders. The diagnostic framework includes hazards from water barriers which have the potential to leave the majority of the populace in Ghana vulnerable to various forms of threats, such as poor health, droughts or flood, and pollution.

To assist in assessing the level of social policy literacy among the stakeholders, participants from selected Districts across the country and mainly from the Northern, Upper East, Central and Eastern Regions were encouraged to share their functional understandings of the concepts of poverty, vulnerability and exclusion. Participants' appreciation of the

concept of exclusion was generally adequate and included expressions such as: "non-involvement in decision-making"; "non-participation in policy making"; "lack of access to the decision-making process"; "social and economic disenfranchisement"; "lack of access to the benefits of development"; "non-access to common resources"; "not catered for by *de facto* policy"; "overlooked in planning"; "untouched by public policy"; "denial of information on national/ topical issues"; "sidelined as a result of unfortunate social, economic and other circumstances"; "ignored in the development process ... and in the distribution of the national cake". Water poor issues were conspicuously missing in their analysis.

When asked to identify significant adversities/ vulnerabilities predisposing residents in their localities to chronic poverty and/or exclusion, participants tended to skip this step and simply jump into listing the groups they considered as vulnerable. Only in the rare cases people succeed in teasing out important causal issues. This was rather disturbing as policy will neither be coherent nor proactive without a clear acknowledgement and appreciation of the adversities and challenges responsible for causing and/or perpetuating chronic poverty. In particular, those at risk (as opposed to those who have already suffered shocks) are likely to be missed out if the causal factors are not properly identified.

Though the causal dimensions were not adequately appreciated by participants, a wide range of vulnerable groups were nevertheless identified by the stakeholders. Groups mentioned included: lepers; people with physical impairments; people with mental illness; sex workers; abandoned and neglected children; single mothers; widows; fostered girls; women accused of witchcraft and cast out of their home communities; adolescent girls from poor households; the aged with limited means of financial and social support; and sufferers of onchocerciasis. From the foregoing:
There is high diversity in the issues underlying vulnerability and exclusion. Eliciting the issues/ challenges responsible for causing chronic poverty needs time, and facilitation of the process cannot be rushed.

While some of those affected/ at risk exist in organised or clustered groups, most are simply hidden within the countless residential communities. These pose a major challenge to targeting and will require community-level involvement to pinpoint effectively.

If poverty strategies are defined as "policies and practices that promote the livelihoods and welfare of people suffering from unacceptable levels of poverty" (NDPC, 2004), then it can be argued that, to have a holistic approach to addressing poverty, identification of the vulnerable groups should be based on principles of inclusion, fairness, and transparency. The

question is: How should the poor, vulnerable and excluded in society be identified to ensure inclusiveness?

Socially responsive methodology for identifying the V&E groups

As noted from the preceding discussion, when stakeholders from the selected Districts were asked to identify significant adversities/ vulnerabilities predisposing residents in their localities to chronic poverty and/or exclusion, they tended to skip this step and simply jump into listing the groups they considered as vulnerable. Such a mishap is not peculiar to the stakeholders from Ghana. As noted from the literature, causal factors that predispose people to vulnerability are often ignored.

In response to addressing this gap, three socially responsive criteria were employed as indicative of social efficiency in the identification of the vulnerable groups. These are: *incidence*, reflecting the relative numbers *directly* affected/ threatened by the issues; *severity*, reflecting the seriousness of the adversity/ situation -- the most severe case being where the lives of those directly affected are significantly threatened; *marginalisation* (neglect), reflecting the extent to which the issues/ groups are ignored by policymakers and implementers. The real value of the three criteria lie in its transparency and potential to stimulate dialogue and to foster democratic engagement around otherwise hidden vulnerabilities and causes of exclusion.

Diagnostic framework for eliciting hazards predisposing people poverty

To have a holistic approach to addressing poverty and the identification of vulnerable groups, the application of the diagnostic framework (Table1) provides the basis to ensuring that the principles of inclusion, fairness, and transparency inherent in the socially responsive criteria - incidence, severity and marginalisation - is applied.

This section presents, in stepwise format, the detailed activities required to execute the methodology systematically. There is a need, therefore, for a systematic methodology to facilitate a more objective diagnosis of V&E issues and to capture and feed the priorities of V&E groups into the design process.

The groups whose situations the methodology aims at improving may be collectively described as the primary stakeholders. These comprise the current poor, those excluded from the decision-making process, and those at significant risk of slipping into chronic poverty. Other interest groups may be classified as secondary stakeholders in the sense that while they are important in the decision-making process, their own lives will not be affected directly by the methodology. The standpoints of secondary

stakeholders can differ significantly from the experiences of primary stakeholders. For that reason, primary stakeholders need to be deliberately identified and also consulted separately.

The causes of vulnerability and exclusion are not just diverse, but also overlap and interact in complex ways. Recent consultations show that the continuing marginalisation of V&E issues is not simply the result of the failure to match policy rhetoric with dedicated funding, but is also reinforced by a weak appreciation among policymakers and implementers of the complex causes and varied manifestations of V&E. The causes span a wide range of livelihood assets categories as follows:
natural/ environmental factors;
financial/ economic bottlenecks;
human capability barriers;
accessibility constraints;
life cycle challenges;
gender and cultural/attitudinal challenges;
governance/ participation barriers; and
water barriers.

Planning for vulnerability and exclusion should begin with a deliberate recognition and analysis of the multiple processes that drive people into poverty and keep them poor. The causes are not just diverse, but also overlap and interact in complex ways. The modified framework on Table 1 is designed to assist in eliciting and investigating the key hazards and challenges predisposing citizens to chronic poverty and exclusion. When tested in a 20-District trial, the framework proved helpful in identifying the less visible vulnerabilities and sources of exclusion as well as groups who are not-so-poor but are at significant risk of falling into chronic poverty if action is not taken to protect them from foreseeable adversities. In this way, the framework identifies broader vulnerabilities affecting wider populations, while allowing for the most affected to be pinpointed for more specific support. The discussion then moves down to the micro level to capture the views of primary stakeholders and to sharpen the targeting of citizen groups most affected by the key challenges diagnosed.

Table 1: **Diagnostic framework for eliciting significant hazards and conditions predisposing people to chronic poverty or exclusion**

Livelihood Dimensions	Key hazards and challenges	Prelim screening of hazards and challenges (max 2 constraints per category)	Identity of groups significantly affected/ at risk (associated challenges in parenthesis)
1 Natural/ Environmental hazards and challenges which threaten people's wellbeing or subject them to exclusion	Flood Crop failure Fire outbreak Pest and disease outbreak	Flood Crop failure	Small Scale farmers (A) Food Traders (B) Residents of Flood areas (C)
2 Financial/ Economic barriers and challenges threatening people's livelihoods and wellbeing			
3 Barriers and challenges undermining Human Capability[1]			
4 Vulnerabilities/ causes of exclusion associated with Accessibility			
5 Causes of vulnerability associated with Life Cycle[2]			
6 Gender and Cultural/ Attitudinal barriers which threaten wellbeing or subject people to exclusion			
7 Governance/ Participation barriers which threaten people's wellbeing or subject them to exclusion			
8 Water barriers which threaten people's livelihoods and wellbeing			

Source: Adapted NDPC (2004)

It is important, in planning support to address V&E, to carefully identify the challenges and hazards that lead to V&E in a location specific (the District, community, etc). In this regard, it should be noted that self-exclusion is, indeed, a form of exclusion, and it is important to identify the root causes/ reasons for self-exclusion in order that it may be properly addressed. Declaring self-exclusion and self-induced vulnerability as unworthy of attention will only perpetuate the problems.

The facilitator should encourage detailed discussion of the issues mentioned in Column 2, with the aim of enhancing understanding of the nature and nuances of the vulnerabilities and causes of exclusion. At this stage, precision is much less important than achieving a shared appreciation of the causes of V&E. A dedicated note-taker should be assigned to record important opinions raised during the discussions, paying particular attention to connections between the diverse adversities.

Where the challenges identified in Column 2 are more than 16, it is helpful to undertake the prioritisation in stages. Under each of the eight broad categories listed in Column 1, a preliminary screening can be performed by asking the stakeholders to highlight (in Column 3) the 2 most significant

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[1] Health and knowledge/ skills
[2] "Life cycle" barriers acknowledge that poverty experienced at certain critical points in an individual's life (especially pregnancy/childhood, adolescence, marriage and old age) can have consequences extending over the rest of the person's life as well as over the lives of other members of the household. For example, lack of child immunisation services can lead to long-term impairment. Similarly, overly expensive marriage and funeral rites can result in long-term impoverishment for households.

causes/ constraints. This will generate a maximum of 16 highlighted issues to be carried forward to the next stage ("Most significant" issues distinguish those challenges with a disproportionately **high propensity** to cause/ perpetuate vulnerability or/and exclusion.) While an appreciation of the broad range of vulnerabilities and nuances is undoubtedly important, it is nevertheless necessary to acknowledge resource limitations and to prioritise among these for the purpose of investment.

The method recognises that while there are variations in the level of deprivation confronting discrete V&E groups (and requiring concentrated targeting), there are also broad vulnerabilities which predispose wider populations to significant risk and which require a more diffused approach to targeting and investment. Stakeholders (Fig 1) should be carefully selected to include all categories of interest groups at all levels (national, regional, district, community, household, and individuals)

Pair-wise matrix for ranking vulnerable and excluded groups
While an appreciation of the causes of vulnerability and exclusion is undoubtedly important, it is nevertheless necessary to acknowledge that resource constraints will limit the realisation of social development goals and rights for the foreseeable future. This raises the need for rationing and for prioritising the agreed issues mentioned as adversely affecting social protection outcomes in the District or the community concerned. It has to be acknowledged that estimating and comparing the diverse dimensions of vulnerability and exclusion is not easy. However, applying a pair-wise ranking procedure can greatly assist in simplifying this task and in generating useful discussion around the adversities identified. The prioritisation criteria recommended for application with the pair-wise procedure are:

incidence (magnitude) -- this permits a comparison of the relative numbers directly affected;

severity (seriousness) -- this compares how serious or life-threatening the issues are;

marginalisation (exclusion/ neglect) -- this compares the relative degree to which the issues being compared are neglected by policymakers and implementing agencies.

Participants could be put into three groups and assign one prioritisation criterion per group so that you have an "*Incidence Group*", a "*Severity Group*" and a "*Marginalisation Group*" to deliberate on the issues separately or one group could discussed the three criteria separately. The groupings should be done in such a way that those from broadly similar organisations (e.g. NGOs) and with the most similar mandates are distributed across the groups. The groups should be of approximately equal size. Ideally, there should be at least five to ten participants per group.

Each group appoints one member as a facilitator and another as a note-taker. The note-taker's role is to listen quietly and intently to the discussion within the group and jot down important points. By "important points", it is meant comments and views that are relevant to policymaking. Using the pair-wise ranking tool (Table 2) each group compares two adversities at a time and using an established ordinal scale which is used as the criteria of measure. The ordinal scale (Likert scale) that is used for scoring is, to a large extent, subjective.

Example: The facilitator for the *Incidence Group* asks his/her team, "which of the 2 adversities (A or B) directly affects more people in the District or the community concerned?" Opinions are expressed and discussed. The note-taker records important comments. When consensus has been reached within the group, the answer to the question is recorded on the group's copy of the pair-wise matrix. The facilitator then moves onto comparing the next 2 adversities (say A vs. C) and so on till the pair-wise matrix has been completed.

In plenary, the results from the three groups (Incidence, Severity and Marginalisation) should be transferred onto Table 3 and added up as provisional composite scores. Each note-taker should present a summary of the key points from their group discussion. Consensus should be built after compiling the provisional composite scores. The agreed results are then recorded in the last column and these constitute the identified vulnerable groups in the community or the district concerned. The methodology could be applied in geographical location specific. It is important to note that some of prioritisation and analysis of vulnerability and exclusion are already happening but only in an entirely opaque, arbitrary and undocumented way.

Table 2: Pair-wise matrix for ranking V&E groups (specify criterion i.e. Incidence or severity or marginalisation)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Criterion Score (e.g. Incidence)
A	*	2	1	2	2	2	1	1	1	2	2	2	2	2	2	2	26
B	1	*	1	1	1	2	2										20
C																	23
D																	19
E																	
F																	
G																	
H																	
I																	
J																	
K																	
L																	
M																	
N																	
O																	
P																	

Source: Adapted NDPC (2004)

Table 3: Priority Ranking of V&E Groups

V&E Groups	Incidence Score	Severity Score	Marginalisation Score	Provisional Composite Score	Consensus Rank
A	26	24	23	73	2nd
B	20	28	26	74	1st
C	23	19	20	62	3rd
D	19	18	22	59	4th
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					
O					
P					

Reflection and conclusion

An important feature of the diagnostic process is that participants were encouraged to explain and debate how the issues identified adversely affected (or threatened) social development outcomes in the District. The ensuing discussions were lively and increased shared learning about the policy significance and connections between the diverse adversities and challenges identified.

Following the identification of the key V&E issues, participants proceeded to list the groups most affected by the issues and to provisionally prioritise the groups. Several participatory scoring and ranking tools (and variants thereof) were tested in the trials. The main ones were scoring with seeds and

pair-wise ranking. After several trials, it was established that the *pair-wise ranking* tool (Table 2) best meets District demands for clarity, transparency and effectiveness. The tool does take more time to work through, mainly because it generates considerably more sharing, debate and consensus-building.

The overwhelming opinion from the District trials is that the methodology offers a more structured and more effective framework for diagnosing the nuances of vulnerability and exclusion. Participants noted that the methodology had enabled them to unpack and dialogue more fully on a much wider range of less visible adversities and social development challenges (such as regressive funeral practices, high "bride price", the breakdown of traditional support systems, corruption, non-consultative representation, governance and political intolerance, various forms water barriers without means of protection) that are significant in their Districts[5]. By contrast, the unsystematic approach applied in developing the V&E sections of the MTDPs often produced scant lists of adversities confronting vulnerable and excluded members of society. Target beneficiaries were typically the most "visible" groups (e.g. disabled people, HIV/AIDS sufferers, women, children), and interventions were dominated by infrastructural items, such as school buildings.

District stakeholders perceived further that the *shared learning* preceding the application of the methodology had also proved helpful in identifying V&E groups who are not-so-poor at present but who face significant risks of slipping into chronic poverty if action is not taken to protect them from foreseeable adversities. Notwithstanding the positive attributes of the methodology, some participants noted that it does require careful and experienced facilitation.

In conclusion, vulnerability is multi-dimensional as well as highly dynamic. In other words, it is usually produced by a *combination* of shocks/ adversities and characterised by *constant changes* in the range, form and intensity of these shocks. The complex and interwoven nature of vulnerability and exclusion poses practical difficulties in the identification and measurement of vulnerability, and also implies that any effort at targeting the poor, vulnerable and excluded in society should carefully follow a methodology that will be all-inclusive in the identification of the vulnerable groups rather than mere listing by a small group claimed to be experts.

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[5] Such vulnerabilities (and the groups most affected by them) are consistently missing from the District plans because of their invisibility.

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Residents' Perceptions on the Manifestation of the Natural Resource Curse in the Tarkwa-Nsuaem Municipality, Ghana

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Abstract

Natural resources have often been found to be a curse to some nations that possess them instead of being a blessing. In several developing economies, civil wars, environmental and health hazards have been associated with the extraction of such natural resources. This paper investigated residents' perceptions on the effects resulting from natural resource extraction in some mining communities in Ghana. Underpinned by the interpretivist philosophy, this case study employed in-depth interviews, focus group discussions and observation to collect data from the residents in Odumase and Teberebie communities in the Tarkwa-Nsuaem Municipality, in the Western Region of Ghana. Purposive and snowball sampling techniques were used to select 77 respondents for the study. Data collected was transcribed, coded into themes and categories, and manually analysed. The study found that the mining communities were confronted with a number of environmental challenges, including pollution (air, water, soil, and noise), deforestation, abandoned mine pits and dumping of rock waste on fertile agricultural lands. Residents have become marginalized as a result of the difficulty to access potable drinking water, fertile agricultural lands and inability to come out of poverty since their livelihoods have become unsustainable. It is recommended that collaborative efforts should be adopted by various stakeholders to sustainably manage the exploitation of mineral resources. Central and local governments' policies and regulations regarding natural resource use, and in particular mining need to be enforced with local residents in mind.

Keywords: Environmental management, Deforestation, Stakeholders, Mining Communities, Natural resource curse

Introduction

"We are partly to blame, but this is the curse of being born with a copper spoon in our mouths." (Kenneth Kaunda, former President of Zambia, 1964-1991). "All in all, I wish we had discovered water" (Sheik Ahmed Yamani, Oil Minister, Saudi Arabia, 1962-1986).

Why should a country be rich in natural resources, and yet be poor? What would make someone express regret for their country's abundance of natural resources? Why should a resource be given such a negative connotation as a "curse"? The natural resource curse (NRC) phenomenon is probably one of the abnormal correlations between natural resources and a country's economic development (The World Bank Group, 2006). Besides the imbalance of this relationship, civil and ethnic wars have persistently plagued some developing economies with these endowments of nature.

A dismal picture is often presented of countries such as the oil states in the Gulf, Nigeria, Cote D'Ivore, Sudan, Angola, Congo, Mexico, Venezuela (Frankel, 2010; Sachs & Warner, 2001)and many others. Nigeria's "disastrous development experience" is often cited as an example of NRC because of the deepened poverty situation which has increased from 30 per cent of people living on less than $1 a day before oil was discovered in the mid-1970s to the current rate of 70 per cent (Sala-i-Martin & Subramanian, 2003;Newshour, n.d.). The resource curse thesis is, however, not always proven right, as Botswana, a developing country, has lived beyond the "curse" (Sachs & Warner, 2001).

Much of the literature on NRC presents it from the economic, political and social perspectives. Among the favourite topics are decline in terms of trade for primary commodities, killing of manufacturing industries, revenue volatility, civil war, poor state institutions, and the afflictions of the "Dutch Disease"; not much attention has been paid to the environmental fall out of NRC (Frankel, 2010; Kuwimb, 2010; Siegle, 2009; The World Bank Group, 2006; Mehlum, Moene & Torvik, 2006; Caselli, 2006; Alayli, 2005; Palley, 2003; Ross, 1999). Critical issues presented in most of the literature on the subject are reduced to units and figures which often ignore the effects on residents who are the target of every development effort. This paper presents empirical evidence of the NRC from the perspective of view of residents in two mining communities in the Tarkwa-Nsuaem Municipality of the Western Region of Ghana.

Genesis of the resource curse thesis
Richard Auty is credited with having first used and popularised the phrase "natural resource curse" in 1993 in his book *Sustaining Development in Mineral Economies: The Resource Curse Thesis (RCT)* (Frankel, 2010; Kumimb, 2010). The RCT describes a paradoxical phenomenon of countries that suffer from slow or little economic growth, and/or are plagued by armed civil conflict in spite of their ownership of abundant natural resources. According to Kuwimb (2010), Auty found himself in a "dilemma" trying to understand why the long-established notion of the role of natural resources in sustaining economic growth and development had failed to be the case in most resource-rich economies. He argued:

A growing body of evidence suggests that a favourable natural resource endowment may be less beneficial to countries at low-income levels of development than the conventional wisdom might suppose. Two important pieces of evidence are the developing countries' post-war industrialisation efforts and the performance of mineral-rich developing countries since' the 1960s. The new evidence suggests that not only do many resource-rich developing countries fail to benefit from a favourable endowment, many actually perform worse than less well-endowed countries. This counter-intuitive outcome is the basis of the resource curse thesis (p.28).

In addition to Auty's (1993) seminal discourse, there is a large volume of evidence that tends to corroborate the thesis. Sachs and Warner (2001) report that the works of Sachs and Warner (1995, 1999), Sala-i-Martin (1997), Gylfanson et al. (1999), Doppelhofer et al. (2000) and many others have also extensively digested the phrase since its introduction. A surprising feature of economic life is that resource-poor economies invariably outperform resource-rich economies in economic growth (Sachs & Warner, 2001). Since its inception, the subject of NRC has spread rapidly among academia, policy makers, donor agencies and non-governmental organisations. This observation is perhaps due to its link to instability, corruption, confrontational governance and poverty. It is very common for politicians and politically-connected individuals in natural resource-rich countries to greedily benefit at the expense of the many (Siegle, 2009).

Transmission channels of the natural resource curse
There are four well-known explanations to the resource curse thesis; these are (i) the decline in terms of trade for primary commodities in resource-rich countries; (ii) instability of international commodity market; (iii) the poor economic linkages between resources and non-resource sectors; and (iv) the repercussions of the "Dutch Disease". There is also the view that ownership of resources (property rights) may have direct or indirect explanation to the curse (Ross, 1999). According to Kuwimb (2010), all other explanations to the cause of the curse could best be grouped into legal, economic and political facets.

Legal explanation
Two legal hypothetical explanations exist in the literature on the causes of the curse in resource-rich economies. The first originates from the neoliberal economic model of the principal-agent theory. The theory, credited to the work of Luong and Weinthal (2006), looks at the ownership structure and control over the extraction of resources, and stipulate that the curse may arise from the kind of legal structures of ownership and control of

natural resources (Kuwimb, 2010). To Luong and Weinthal (2006), four ownership regimes – state ownership with control, state ownership without control, private domestic ownership, and private foreign ownership could be identified.

The private domestic ownership regime is the most acceptable form of ownership structure for resource-rich developing countries in order to avert the curse of a resource boom. Thus, unlike the other regimes, the private domestic ownership promotes and strengthens local institutions since domestic owners depend on local supplies and also produce for the local market. Profit generated from their operations is eventually re-invested locally. In spite of its dire consequences, the state ownership with control is renowned in many resource-endowed developing countries, perhaps, due to international factors such as the structure of the international oil market, and policy convergence. Another reason is the legacy of colonialism inherited by most developing countries which sanctioned the state as the owner of resources in her terrain. The bane of the state ownership with control is its notorious ability to incapacitate fiscal and regulatory institutions which are supposed to supervise the exploitation of state resources. This mediocrity results from blurred and equal relations that exist between state elites and bureaucrats (main actors in the management of resource exploitation), which allow them to engage in what Kuwimb (2010) refers to as "mutual hostage-taking". These managerial accomplices take advantage of their relationship to freely access and hide capital from resource exploitation for unprofitable endeavours.

Wenar (2008) advances the second legal explanation to the resource curse and postulates that a curse is the eventual outcome in most resource-rich developing countries because unscrupulous and corrupt regimes take ownership of resources from traditional landowners and sell them to international corporations. This is how Wenar (2008) bluntly put it: "The natural resources of a country belong...to its people. The blessing of resources turns into a curse when tyrants and insurgents are allowed to sell off a country's resources while crushing popular resistance, and to use the proceeds in ways that make the people worse off"(p.8).

Economic explanation
Two main economic explanations have been popularised in orthodox economic literature as the causes of the RCT. They are the Dutch Disease and the crowding-out effect. There are others such as linkages failure, long term decline in the terms of trade, and revenue volatility. In this paper, only the two main explanations are briefly discussed. The Dutch Disease appears to be the highest-flying economic explanation for the ailment of resource-exporting countries since the 1980s (Ross, 1999). The phrase is often used to

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describe an economic situation whereby the manufacturing and agricultural sectors of a resource-rich economy decline and suffer general inflation as a result of booming natural resource exploitation. Sachs and Warner (1995) describe the situation in this manner:

> The greater the natural resources endowment, the higher the demand for non-tradable goods, and consequently, the smaller will be the allocation of labour and capital to the manufacturing [and agricultural] sector. Therefore, when natural resources are abundant, tradable production is concentrated in natural resources rather than manufacturing, and capital and labour that otherwise might be employed in manufacturing are pulled into the non-traded goods sector. As a corollary, when an economy experiences a resource boom (either an improvement in terms-of-trade, or a resource discovery), the manufacturing sector tends to shrink and the non-traded goods sector tends to expand. The shrinkage of the manufacturing [and agricultural] sector is dubbed the "disease" (p.6).

Bagattini (2011) affirms this explanation because, according to him, the natural resource sector is capital-intensive, and the growth of the sector is not enough to absorb the lost jobs in manufacturing and agriculture (labour-intensive). This in turn, makes the economy de-industrialise and become more dependent on the now booming natural resource sector. Also, the Dutch Disease has gained currency because of the underlying assumptions of the explanation –that an economy's capital and labour are fixed in supply, and are efficiently and fully used before the boom; and that domestic and foreign goods are perfect substitutes (Ross, 1999). Granted that the assumptions are right, especially the second, manufacturing sectors of the resource-rich developing economy can import intermediate goods, which becomes cheaper when the exchange rate appreciates, hence boosting their ability to compete.

Related to the Dutch Disease is the crowding-out effect which describes a situation where large oil, gas and mineral projects (as compared to other sectors of the economy) effectively, are able to attract some resources like skilled labour at the expense of the other sectors of the economy. The wealthy minority are the major beneficiaries of a natural resource boom in developing economies. These groups of people unfortunately do not reinvest the revenues they accrue in the economy; instead, they adopt "Western" consumption and spending patterns, an act which may be normal for the individuals' wellbeing, at the expense of social welfare. Their newly adopted affluent lifestyle results in the rise in the prices of non-tradable goods and services. Since the manufacturing sector uses non-tradable goods and domestic labour as inputs for production, their products will not be

competitive on the world market, hence, killing the manufacturing sector (Kronenberg, 2004). This account of the curse is highly applicable in smaller countries where the size of the investment project is relatively large.

Political explanation

There are several explanations to the political cause of the NRC. According to Ross' (1999), there are the cognitive, societal and statist approaches to explaining the curse. The cognitive approach first appeared in the works of Machiavelli, Montesquieu, Adam Smith, John Stuart Mill and Bodin's (1967) *Six Books of a Commonwealth* which maintains that "men of a fat and fertile soil, are most commonly effeminate and cowards, whereas contrariwise a barren country makes men temperate by necessity, and by consequence careful, vigilant and industrious" (cited in Ross, 1999:309). In plain terms, the approach implies that resource boom or exploitation leads to myopic or short-sighted euphoria among leaders in either public or private sectors. This position received much popularity in the 1950s and 1960s, from several development scholars including Wallich and Levin (1960) as well as Nurske and Watkins.

Ross (1999, citing Wallich and Levin, 1960) argues that development patterns of sugar exporting economies are mostly thwarted by the "sugar-mentality" resulting in sloppy economic planning and insufficient diversification. Again, Ross (1999, citing Nurske and Watkins posits that any economy with excessive resource exploitation "leads to irrational exuberances, producing a get-rich-quick mentality among businessmen and a boom-and-bust psychology" among decision-makers. Despite the criticism of this approach, including the fact that it has no explicit and testable basis (but rather are deployed in an ad hoc manner), the cognitive approach has succeeded in providing a simple means to make clear why resource boom countries, and especially their governments fail to make full benefit of the exploitation of their resources.

Societal approach or explanation suggests that resource export empowers sectors, classes, and interest groups (non-state actors) that encourage growth-impeding policies. This is a highly exceptional case in most developing countries since natural resources, i.e. minerals, timber, oil, and many others are state-owned, and for that matter have first claim of resource rents (Ross, 1999). An opportunity like this should consequently grant the state leverage over the non-state actors by giving the state non-tax revenue cushion to shield it from interest group pressure and finance payoffs to government opponents. Contradictory scenarios are rather the case in most of these countries, resulting in the curse.

The last aspect to the political explanation is the state-cantered approach, a hybrid of the cognitive and societal arguments. The approach argues that institutions of states with resource boom appear to be weakened by the exploitation of such resources. According to Ross (1999, p.312), "if policy makers are rational and the behaviour of societal actors are held constant, it becomes difficult to explain why resource exporters should respond so poorly to their predicament". This approach has been very popular in explaining the non-democratic nature and poor development in oil-exporting nations of Middle-East, and recently, to the underdevelopment of commodity-exporting states of Sub-Saharan Africa (Clark, 1997; Yates, 1996; Bellin, 1994; Chaudhry, 1994).

In addition to the three approaches to the political explanation by Ross, Robinson, Torvik and Verdier (2006), four new political approaches to the political explanation can be cited. These are: The political tendency to over-extract natural resources relative to the efficient extraction path because they discount the future too much; Efficiency of the extraction path caused by resource booms; Resource boom raises the value of being in power and by providing politicians with more resources which they can use to influence the outcome of elections, causing increased resource misallocation in the rest of the economy; and the overall impact of resource boom on the economy depends critically on institutions since institutions determine the extent to which political incentives map into policy outcomes.

Study setting and methodology
This study was conducted in the Tarkwa-Nsuaem Municipality (TNM) of the Western Region of Ghana. The municipality is located between Latitudes 4^{0}N and $5^{0}40'$ N and Longitudes $1^{0}45'$ W and $2^{0}10'$ W (Figure 1). It shares boundaries with four other districts, namely, Wassa-Amenfi East to the north, Ahanta West to the south, Nzema East to the west, and to the east by Mpohor-WassaEast.TNM has a total land area of $2.578km^{2}$. Tarkwa is the administrative capital of the municipality (www.ghanadistrict.com).

Precambrain rocks such as Birimian and Tarkwaian dominate this forest-disserted plateau region with the land rising between 240 meters and 300 meters above sea level (Dickson &Benneh, 2001). Several mining companies are found in the municipality since several important minerals such as gold and manganese are imbedded in these rocks. Indeed, the municipality has nearly a century of gold mining history and has the largest concentration of mines in a single district on the continent of Africa. These mining companies are located around a number of settlements in the municipality. Mining communities constitute almost about half of the total settlements in the TNM (Akabzaa & Darimani, 2001). For the purpose of this study, two of these communities – Odumase and Teberebie – were

selected. The choice of these two communities was based on the fact the communities have been home to mining companies such as Golden Star Resources and AngloGold Ashanti Iduapriem in Odumase and Teberebie respectively, for at least, a decade. Naturally, the operations of these mining companies have come with a number of consequences that raise concern, hence their choice.
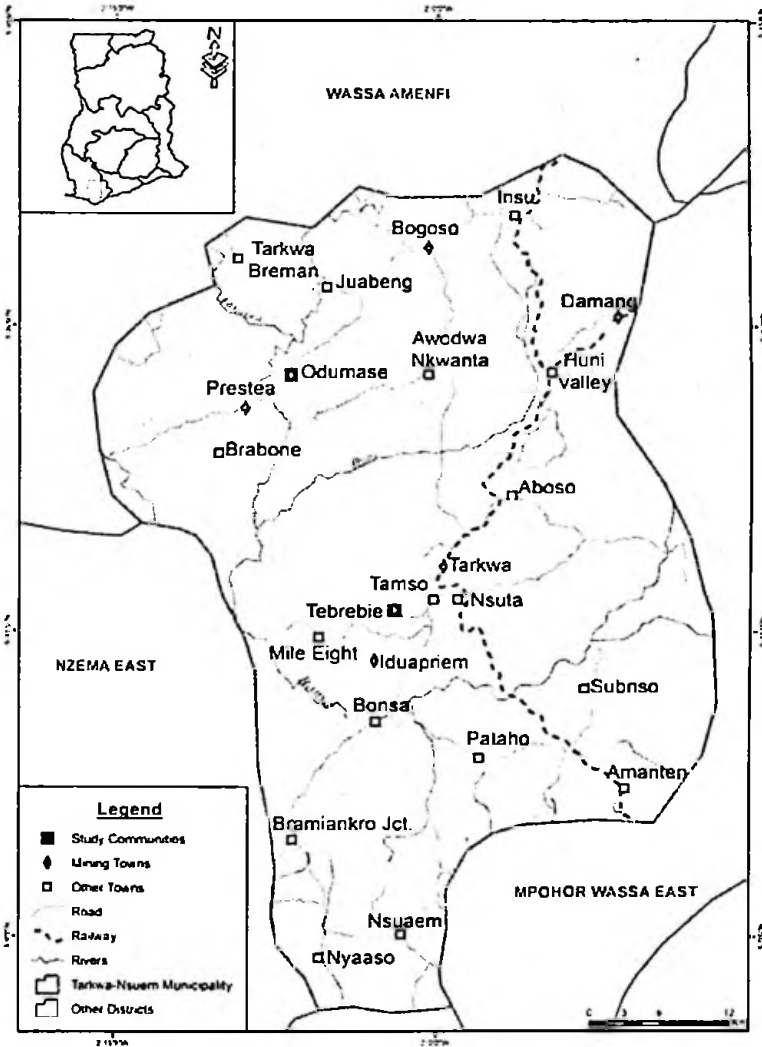
Figure 1: Study Area in Regional and National Contexts
Source: Cartography and Geographic Information System Unit, Dept. of Geography and Regional Planning, UCC

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The single case study research design was employed in this paper and was built on the interpretive philosophy or school of thought where people do construct their own social world view (social constructivism) (Creswell, 2007; Mertens, 2005). This philosophy is based on the reality that people constantly change their views about the environment or the things around them. Interpretivists believe that people are able to describe reality in a language they understand (subjective) and not what others think might be the case (objective).   In the view of Creswell (2007), interpretive researchers mostly depend on "participants' views of the situation" (p. 20) being investigated. The approach gathers mostly qualitative data in a natural setting, a method which is referred to as naturalistic inquiry.

Accordingly, non-probability sampling techniques were employed in the selection of respondents. For instance, purposive sampling technique was used to select certain members of the Wassa Association of Communities Affected by Mining (WACAM), an environmental non-governmental organisation (ENGO), officials of government agencies, and opinion leaders. Snowball sampling technique was also employed to select individuals mainly from the study communities who had benefited directly from the operations of WACAM in a number of ways. These include people whose capacities have been built on Ghana's Mineral and Mining Act, human rights issues and on environmental management. Again, WACAM has supported some residents to claim compensations due them. Snowballing technique was also used to sample some residents who strongly believe that the activities WACAM in the communities were detrimental to the development of the communities.

In all, primary data were sourced from 77 respondents using focus group discussions (FGDs), in-depth interviews (IDIs) and observation.   There were 66 participants in the FGDs (31 in Odumase and 35 in Teberebie). Thus, in all four FGDs were organised in each of the two communities. In each case, composition was done with respect to age and sex covering people 18 years and above. Additionally, 11 IDIs were conducted. These key informant interviews were conducted with seven WACAM officials, two opinion leaders and two (2) government agencies. Altogether, for both the FGDs and IDIs carried out, 40 males (52%) and 37 females (48%) were covered.

A major limitation worth mentioning was that the mining companies were not willing to participate in the study. Consequently, the inputs of mining companies in the study area that would have provided useful perspectives and also thrown more light on pertinent issues raised by the mining communities are missing in the analysis. In spite of this shortcoming, the study provides some useful insights into the negative fallout of mining as

well as challenges facing mining communities as a result of mining operations in the area.

Results and discussion

Ordinarily, mineral extraction in an economy should be a source of relief to residents in whose environment the resource is found. This is because of the numerous socio-economic benefits that accrue to the economy at large, and sometimes, the communities in particular. However, there is the perception that poverty and lack of sustainable development in mining communities and Ghana in general have been caused by the behaviour and operations of mining companies (Boon & Ababio, 2009). In the current study, mineral extraction and mining companies in Odumase and Teberebie were perceived to be responsible for the marginalisation of residents. Residents perceived mining companies as entities whose operations were detrimental to their livelihoods. They further complained that mining companies were only interested in taking over their farm lands without due process. As stated by a 41 year old man in a FGD at Odumase:

> You know, the mining companies are to blame for our woes; most of the time, they do not inform one before taking over one's farmland. Before you realize, they are working on it and destroying whatever property on it; no negotiations; nothing!.

In a similar manner, a 34 year old man in a FGD at Teberebie found nothing good with the mining companies and their operations. According to him:

> Most mining communities are at the mercy of the mining companies. They come and grab the wealth in the land and leave nothing for us; they act with impunity; they destroy the resources on the land without any proper arrangements for compensation.

Another resident believed that not only did mining operations affect physical environment negatively, it also infringed on their human rights. According to him:

> The mining company violates our human rights almost on daily basis. Could you believe that when one complains they do not care a hoot and when you organize demonstration, the company is able to bring armed personnel, sometimes including the military and dogs' to thwart your efforts? [A 32 year old FGD participant, Odumase)

These sentiments by residents are shared by others around the globe. For instance, a survey conducted in some mining communities in Canada indicated mining as the least preferred industry, out of 24 others. Destruction to visual environment and agricultural lands, water siltation and contamination, destruction to forest, damage to recreational lands and native claims, noise, dust, truck traffic, and many others were reasons why

residents ranked the industry low (www.ualberta.ca). In a similar survey, residents of Tapanahonie and Brokopondo Regions of Suriname [in Central America] recounted awful experiences about mining for the same stated reasons (Heemskerk & Olivieira, 2003).

Residents' views on environmental degradation and compensation issues

Several of mans' economic activities contribute to making the environment unsuitable for agricultural activities. These include farming on a particular land for a long period of time, especially when farming methods include slash and burn and inappropriate use of agro chemicals (fertilizers, pesticides, and weedicides). This concern is captured by a 68 year old opinion leader from Odumase as follows:

> Long before the arrival of mining companies here, the environment was serene and the land very fertile. Whatever you planted did so well. But now, the whole place is totally destroyed.

The current state of the environment does not reflect the earlier description of the area in the literature; namely a forest dissected plateau. It is not uncommon these days to come across mined pits and waste rock dumps rising steeply around the communities. For the residents, the heap of rock waste denies farmers space (farmlands) for farming and, hence, makes it difficult to earn a decent living. To some residents, their lands are less able to sustain socio-economic activities such as farming and hunting as a result of the mining activities. An opinion leader, a 68 year old man at Odumase in an interview complained:

> These days our environment is really degraded. Our lands and streams etc. are all gone... My father and my forefathers left for me lands, which fed me and my children for decades. Things changed with the advent of surface mining in Odumase by the mining companies; all our lands, including our rivers and all our properties, have been destroyed...
>
> ...This[pointing to an uncompleted building near-by] used to be my house. It was brought down by the blast from the pit (blast sites). Again, a falling rock from the blast site cut through my roof and entered my room in 2001. At the moment, our lives are at risk in this community.

It emerged from the study that residents were not satisfied with the compensation packages paid them (the lucky ones) for the destruction of their farmlands and other properties. Residents almost always had to resort to court action before securing compensation from the mining companies. A 47 year old farmer in a FGD at Odumase expressed her anguish in this manner:

Imagine you have for decades been farming on a piece of land and, suddenly without any notice a mining company begin excavation on your plot. You are treated like rag; nobody listens to your protestations because you're an illiterate villager. This is not fair, you know!

It is often difficult to believe that residents were not consulted at all before their farmlands were taken over by a mining company–often without compensation. But this was the general view held that emerged at both the FGDs and IDIs. Most residents were unhappy about the take-over of their farms –without consultations and without compensation. Where are agreements are reached prior to mining operations,, these could be broken with impunity by the mining companies. On the issue of compensation, it could be inferred from residents' narrations that should the mining companies pay the 'right' compensation to the indigenes the unending conflict between them and the communities would be forestalled. This could be surmised from the following complaint by a 54 year old FGD participant in Odumase:

> I must say that though I own the land, but the concession is in the hands of the government for the good of the country, and so it must be managed well. But if you leave it in the care of the companies, they will extract the very last ore from it. When they arrived here, we had cocoa, cassava, yam, pepper and many more on our farms. But we understand that the minerals buried in the land belong to the state so all I need is the right compensation for clearing my farm; the state can take the minerals. In that case, everyone will be comfortable. That's all we pray for!

Supporting views were expressed by other FGD participants from Teberebie as follows:

> You don't just give me any money and tell me that the cocoa farm I have worked on for over 40 years is "small" [44 year old female petty trader].
> When the company came to destroy our farm, they gave us what amounted to a pittance; they cheated us because they felt we were illiterates. The compensation paid us was nothing to write home about. It was woefully inadequate! These lands were cultivated by our forebears before being inherited by us, but when the company takes over we are paid only GH¢200 which can hardly see my family through one month [51 year old male, a farmer].

Farming, a traditional occupation handed down to descendants, is the main source of livelihood for the people of Odumase and Teberebie. The advent of surface mining in the communities, however, has been stifled and therefore

insufficient to support their livelihoods. Nevertheless, there are is evidence gathered from the study to confirm the claims by Aubynn (n.d.) that destruction caused to the farmlands as a result of surface mining caused unemployment among local residents in the mining communities. Some residents, male, female, the youth and the aged alike have almost lost their major source of livelihood – their natural capital, the land resources. In Teberebie, a disgruntled34 year old woman said in an FGD session:

> Let me tell you, we had a land around Badukrom but the company came to claim ownership of it, and that we should not come there again. Anytime you make attempt to go there, they chase you with their big dogs. They even threaten us with guns...and truly if you dare, they'll shoot you. Since then we only depend on one of my brothers who's working in Tarkoradi...he support me and my parents because there's no job for us to do...me especially.

Unfortunately for residents, the hope of being employed in the mining companies have, at the time of the study, been a mirage as the residents were denied of jobs in the mining companies for lack of competence or skills and meaningful education. This tends to agree with Aubynn's (n.d.:30) opinion that "the job losses to subsistent agriculture will not be compensated for by employment in the mining sector although secondary jobs can emanate from the mining activities". To buttress this, a 27 year old man from Odumase remarked that:

> ...even they won't employ the chief's son...how much more you who is nobody in the community. Yes, I don't know anybody so I won't even go there...Ask this man here, we have been there so many times but they only tell us we don't qualify to work there. My brother, do you need a certain qualification to sweep or to become a messenger?

Other physical conditions

Residents' perception of the nature of water and air quality
Apart from the destruction caused to the physical structure of the land and hence agriculture with its attendant problems, massive pollution of water bodies and air is evident in Odumase and Teberebie. Undoubtedly, clean water is of primary importance to all manner of people. It provides drinking water as well as water to cook, bathe, and wash clothes and dishes. Residents claim that water existing bodies, either surface or underground, are rendered non-potable due to mining operations which to them, occur through seepage of some soluble minerals into underground water, and through direct discharge of toxic product used in mineral processing into rivers. Eventually, most water bodies in these communities have dried up or even extinct. A male opinion leader from Odumase cries that:

The company has deprived us of so many things, and now the community is a ghost town because the entire environment particularly water bodies have totally been destroyed. Mind you "water is life", but water is totally destroyed here, and God is the one who is taking care of us, either than that all of us would have been dead...We are even going to lodge a complaint against them because the silt (mining waste) that they have dumped on our lands has washed down into our rivers to destroy it, even at the downstream at Mansim and so all the farmers along the banks of this river have suffered this effect.

A 51 year old woman shares a similar sentiment. She says:

It's serious! When you put water in a saucepan, there is rusting of the saucepan over a short period. When you cook with the water, the food becomes dark. For instance, when you put a peeled plantain in the water, it becomes dark. We can even demonstrate it to you now. It's amazing. Something serious should be done about these things...[FGD Participant, Odumase].

To confirm the observation about the water turning blue-black (dark) when it comes into contact with fresh plantain, a demonstration was done with the participants of the FGD in Odumase. The pictures indicated as Plates 3a-3d show the demonstration stages:

The plausible explanation to the blue-black (dark) colour of the groundwater from the borehole selected and many others could be attributed to the type of rock in the area – Birimian and Tarkwain. Particularly, the Birimian rocks have a very high iron (Fe) content which renders groundwater pH falling below 6.5. For instance, Kortatsi (2007) found that some boreholes at Odumase had pH below 4.0, which indicate strong acidic character. This value falls below the recommended World Health Organisation's (WHO) limits of pH range for water potability of 6.5 to 8.5. The high acidity increases the capacity of the water to attack geological materials and leach toxic trace metals such as cobalt (Co), nickel (Ni), silver (Ag), etc. into the groundwater. When this toxic or polluted water comes into contact with any starch (as is found in plantain), it forms a complex with the Co, Ni, and Ag, etc., giving it the blue-black or dark colour.

Though the mining companies may not be directly involved in this natural occurrences, they are to a great extent blamed for accelerating the process. Possibly, explanation such as these could be advanced that: persistent blasting of rocks by mining companies in these mining communities create fracture in the rock structure in the area, making it vulnerable for acidic water to leach toxic trace metal from near-by sources to pollute

groundwater. Moreover, the fractures also increase the rate of seepage of toxic chemicals from tailing dams owned by mining companies into groundwater aquifers, hence, polluting it. Also added to these is the fact that provision of boreholes in most mining communities mainly rest with the mining companies (sometimes in collaboration with the Government of Ghana) who does it as part of their corporate social responsibility.

Scientists of the mining companies, realising the impurity of the groundwater from the boreholes could have capped it, instead of fixing a pump on it for use. They could also have raised awareness to the communities about the poor condition of the groundwater to prevent the communities from using the borehole. The other reason why the mining companies could be blamed for the poor conditions of the groundwater in the study communities is that the intense mining activities have polluted the surface waters (rivers and streams) which used to be the main source of drinking water for Odumase and Teberebie (Kortatsi, 2007). This leaves the communities with no option than to use the polluted groundwater. The use of the underground water affects the communities in a numbers of ways.

Groundwater in hard-rock aquifers, particularly in mining areas is well-known to be susceptible to contamination making it potentially harmful for human consumption. The high acidity of the water gives it a sour taste (Kortatsi, 2007). A number of studies in Odumase and Teberebie have shown that water quality in these communities is not good for human health (Armah et al., 2010; Commission on Human Rights and Administrative Justice (CHRAJ), 2008; Kortatsi, 2007). For instance, the CHRAJ report showed that the amount of silica in the Teberebie borehole water was higher than the levels allowed by the WHO. Additionally, the hardness of the groundwaters (resulting from carbonate sources since alkalinity values have exceeded the total hardness in most cases) leads to soap wastage or more soap requirement for washing.

There is also the issue of air pollution confronting the residents in the study communities. Laing (1994), thinks that all dust, be it toxic or not, carries with it a serious nuisance for nearby communities and has damaging effects on vegetation through the blocking of plant pores and reducing light penetration and photosynthesis. The dusts are mainly generated through the explosion of rocks by mining companies at their various blast sites. Odumase and Teberebie are no exception to these consequences due to the decades of mining operations in these communities. However, the situation is relatively worse in Teberebie than Odumase since the concession site is so close to the community. Moreover, movement of mining trucks and other vehicles of the mining companies pass through the community, generating clouds of dusts, which *cover* the communities on a number of occasions. Below are some complaints from the two study communities:

...Oh as for the dust, don't talk about it – we eat it; drink it; smell it; wear it; bathe with it and what...just name it? Every time they will blast, and their cars are always moving up and down on this dusty road [pointing to the road]...so what do you expect...you can't stop them. So we only watch them. Look, when their cars pass by right now, you'll[referring to interviewer] close your nose; but I won't because I am used to it.[FGD participant, 31 year old man, Teberebie]

Even now, as am talking with you, when they blast the rocks at 13:30, you will feel the smoke (fumes) that will come out. It's really bad! [A 68 year old man, opinion leader, Odumase]

Residents' perception on the impact of mining on their health

Admittedly, there are elementary problems in establishing a direct association between the present increasing surface mining activities and the state of health. It is evident that pollutants, accidents, and direct inhalation of toxic particles could be responsible for the poor health condition of these communities. While it takes a long period of time to see the negative health effects of some of the pollutants (such as mercury), others like cyanide is immediate (Akabzaa & Darimani, 2001). In as much as residents of Teberebie and Odumasemay not have scientific proof to buttress their assertions, they perceive their deteriorating health conditions are as a result of the mining activities in the area. A 30 year old woman at Teberebie complained that:

Sometimes I am even scared. At night, my husband will be coughing seriously as if he's going to die. It always difficult for him to sleep...Yes, it's because of the mining because it wasn't like that when he was in Agona-Nkwanta until he came to settle here about three years ago.

And to support this allegation, 38 year old woman put it:

Who told you he's the only one suffering from that disease? It is TB, and I can say without excuse that everybody in this community has it...yes, am serious, everybody has some in this community.

There is enough evidence to support the accusations made by residents in these mining communities. For instance, according to Akabzaa and Darimani (2001) data available at the Municipal Medical Office, Tarkwa, indicated that mining impact related diseases such as malaria, diarrhoea, upper respiratory diseases (pulmonary tuberculosis and silicosis), skin diseases, acute conjunctivitis and accidents form the top ten diseases in the area. Specifically, tuberculosis (TB)was noted to have a strong history in these areas due to the very high silica content of rocks which contains the gold. Therefore, the dust generated by mining activities contains silica,

which causes the silicosis, tuberculosis and silico-tuberculosis diseases. Anyone, miners and residents, who inhale this dust, are thus exposed to these diseases. This explains the increasing trend for respiratory diseases in the area. It is reported that between 1992 and 1998, the incidence of upper respiratory tract infections (URTI) was relatively high in the Municipality, with an annual average of 840 reported cases. Pneumonia and pulmonary tuberculosis follow, with annual reported cases of 199 and 109 respectively (Akabzaa & Darimani, 2001).

Discussion

There are some forms of destruction and deprivation resulting from the extraction of mineral resources in the study areas by various mining companies. The destruction, including deforestation and pollution of all forms deprive the residents of Odumase and Teberebie respectable livelihoods, human rights; and eventually, plunging them into vicious cycle of poverty. Indeed, the curse of the resource, as it is the case in several other resource-endowed countries, is explained by either one, two, or in most cases, all of the transmission channels. The current study is not different. Within the local context (i.e., per the study area), it is convenient to attribute the curse to the legal and political explanations of the resource curse thesis.

There is little evidence to disprove the fact that residents of Odumase and Teberebie have been denied their traditional ownership of lands available to them so many years back. These lands which hitherto were their major source of livelihood have been taken over by the state of Ghana, vested in the President, and eventually transferred to multinationals – argument advanced by Wener (2008) to explain the legal cause of the curse. This is clearly made known in the Mineral and Mining Act (703) (2006), Section 1 (*Ownership of minerals and cadastral system: Minerals property of Republic):*

> "Every throughout the country, the exclusive economic zone and an area covered by the territorial sea or continental shelf is the property of the Republic and is vested in the President in trust for the people of Ghana." mineral in its natural state in, under or upon land in Ghana, rivers, streams, water-courses.

This power offered by the constitution of the Republic is not a hidden truth, as some residents are aware of, and has fewer problems with, as speculated by a 48 year old male FGD discussant at Odumase:

> I will say that even though I own the land, but the concession is in the hands of the government for the good of the country, and so must manage it well. But if you leave it in the care of the companies, they will do things anyhow.

Residents' major concern is how the resource is extracted and managed at the expense of their comfort; leaving them with nothing but excluding them from enjoying their full rights as citizens of the Republic of Ghana.

Furthermore, aiding and abetting with the mining companies to cause destruction to the environment and human life were some of the accusations made by residents against government officials. According to Luong and Weinthal's (2006) *principal-agent theory* of the legal explanation, such "mutual hostage-taking" allows manager of the resource free access to revenue accrued from the exploitation of the natural resource. Undoubtedly, this situation would thrive on weak institutions and policies of state, as explained by the political cause of the curse (Robinson et al., 2006; Ross, 1999; Clark, 1997; Yates, 1996; Bellin, 1994, Chaudhry, 1994). This evidence supports the aforementioned facts in relation to Odumase and Teberebie. For instance, a 37 year old man from Odumase, in an FGD alleged:
They [Ghana's Mineral Commission] *are one of the "bogus" and useless government institutions I have ever seen.*

Similarly, 41 year old man, a public servant in the same discussion group comments that:
The EPA and those people, we should not even talk about them. They are only interested in their selfish interest. That is all!
Now the thing is that the government has "share" in whatever money they make, so they don't care about the people.

(Female FGD participant, Teberebie)
Possibly, it would be logical to reject the orthodox economic explanation to the curse as argued in this paper based on these obvious reasons. However, recent studies have debunked the influence of both the Dutch Disease and the crowding out effect. The situation is not always the case. A study by Gelb (1988, cited in Ross, 1999) indicated four out of seven oil exporting countries during the 1971 to 1983 boom witness a drift of labour and capital from the manufacturing and agricultural sector to the resource sector. Again, they are discredited as less common and evident in less developed countries than earlier on professed in the 1980s. Thus, it is unacceptable to fit "a square peg in a round hole" – relating situations in an advance economy like Holland to a resource-rich developing country like Ghana, and for that matter, a local (micro) condition in the Tarkwa-Nsuaem Municipality.

This contention seems plausible because many resource-rich countries are neither industrial nor commercial agricultural-based economies as postulated in the Dutch Disease and crowding out effect explanations. They are rather "mineral economies" as described by Auty (1994) or subsistence-

based economies since most people in such economies are simply dependent on the subsistence sector (Kuwimb, 2010). Additionally, governments of developing countries can offset the problems associated with the Dutch Disease and crowding out, should they feel it is necessary (Ross, 1999). This is strongly supported by Neary and Wijnbergen (1986) who argue that *"in so far as one general conclusion can be drawn [from our collection of empirical studies] it is a country's economic performance following a resource boom depends to a considerable extent on the policies followed by it governments"* (cited in Ross, 1999: 307).

Following from the above on the possible transmission channels of the curse in many resource-rich countries, and in the case of the Tarkwa-Nsuaem Municipality, *managerial or leadership (style)* is at the centre. Thus, as strongly believed by authors such as Ross (1999) and Neary and Wijnbergen (1986), tied to the successful stories of natural resource booms of Norway, Finland, and Botswana; we tend to be convinced that good policies adopted by governments unquestionably would ward off the problem of the curse. Thus, there is ample evidence to show that many resource-rich countries such as Britain, Germany USA (in the late 19th century) and Botswana have experienced stable economic growth as a result of good government policies, strong political leadership, and wise use of proceeds from natural resources (Hobenu, 2010; Newshour Extra, Iimi, 2006; n.d.).

Therefore claim by Bodin (1967) in *Six Books of a Commonwealth* that: *men of a fat and fertile soil, are most commonly effeminate and cowards, whereas contrariwise a barren country makes men temperate by necessity, and by consequence careful, vigilant and industrious* (cited in Ross, 1999) cannot be wholly accepted in the light of these questions: which element in a fertile soil is responsible for the timid behaviour of people; which element in barren soil makes people behave courageous and active; and taken that there are such elements, what is responsible for the differences in outcome in space, and perhaps, time – the case of say, Botswana and Nigeria?

The very common feature emanating from the ensuing argument of the NRC thesis is apparently, leadership – the human *(men)* factor. The problem is not the physical existence of the resource, rather the humans, or what may be referred to as *"natural resource managerial defect"*. This is taken to mean that all the hullaballoo of curse associated with natural resource boom lay with the behaviour/attitude of managers(or stakeholders), and policies and institutions of management of the resource in question, and therefore makes a lot of sense to deal with the curse from the root – managerial (human) perspective.

Conclusions

This paper has brought to the fore, some of the negative impacts associated with mining operations on the environment, and eventually on the residents of Odumase and Teberebie in the TNM of Western Region of Ghana. Arguably though, the ultimate outcome has been the low income situation of the people, and they being excluded from enjoying some natural and social benefits due them — clean air, water, ambient environment, job opportunities, good health, and several others. Residents acknowledged how they have been deprived of a number of assets, particularly the natural and physical ones, plunging them into vicious cycle of poverty. All these happenings are eagerly due to the loads of mineral resources concealed underneath of the region. It is therefore not wrong to conclude from the findings that these communities studied feel accursed with the natural resources within their borders.

Recommendations

Considering the misconception residents have about the mining companies and their operations, coupled with occasional clash (either between some community members themselves or some community members and mining companies), it is recommendedthe sustainable management of the exploitation of the mineral resources by involving all who matter –aged, youth, men's and women's groups, chiefs and opinion leaders, non-governmental and civil society organisations, the mining companies, and any concerned arm of government. This effective collaborative measure is likely to avert allegations of payment or not, of appropriate compensations paid to families and individuals whose land properties will be taken over by mining companies. Appreciatively, this strife of compensation settlements will persist, but probable to trim down with effectual cooperation.

It is erroneous to think that there are no reliable and persuasive policies to dealing with some of the problems that come with the exploitations of mineral resources. The concern is the non-implementation of these policies on the part of government, giving the mining companies the audacity not to comply with it statutes. It is therefore right for central and local governments to enforce policies and regulations regarding natural resource (particularly mining) use and exploitation, with local residents in mind.

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Improving Access to Health Care Facilities through Decentralisation in Ghana

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Abstract
The study assessed the impact of decentralisation on physical accessibility to health care facilities in Ghana. It was conducted in the Asante Akim North Municipality, New Juaben Municipality and Twifu-Heman-Lower Denkyira District. The study was conceptualised within the geographical accessibility framework and the Geographic Information Systems (GIS) technique was used to create health buffers. It was found that health care facilities were expanded and physical accessibility improved, partly as a result of the implementation of the decentralisation programme. However, the study showed that the inequalities between and within Municipalities and Districts were not addressed. A meaningful intervention by the Municipal/District Assemblies (MDAs) and the Ghana Health Service (GHS) on inequalities requires mapping of existing health facilities. Application of coverage models using GIS is therefore recommended to the MDAs in collaboration with the GHS in order to reduce inequalities in physical accessibility to health care facilities.

Introduction
Decentralisation in Africa followed the recommendations of the World Bank for developing countries to devolve political and administrative powers to local and autonomous levels (Muriisa, 2008). Decentralisation was seen initially as having important political value. However, it has other potential benefits, including increasing community participation, equitable health care provision and speeding up health care coverage nationally. For instance, decentralising the delivery of social services is thought by some as a means to improve efficiency and effectiveness as well as make such services available to people who need them most (Malo, 1995). It is also expected to promote local autonomy and inter-sectoral coordination, increase management flexibility, adaptability, responsiveness and accountability (Conn et al., 1996).

The motivation for decentralisation varied from country to country. One of the justifications for decentralisation was to improve the delivery of social services such as health, education, water and sanitation (World Bank, 2003). For instance, it was carried out to improve service delivery in Uganda, Chile and Cote D'Ivoire. In Sri Lanka and South Africa, however, it was a response to ethnic and regional conflicts (Shah & Theresa, 2004). In Ghana the

decentralisation policy was expected to divest the centre of implementation responsibilities, and transfer such responsibilities to the Metropolitan, Municipal and District Assemblies (MMDAs) (Ministry of Local Government & Rural Development, 1996).

The present local government system is made up of a Regional Co-ordinating Council (RCC) and a four-tier Metropolitan and three-tier Municipal/District Assembly (MMDA) structures. Subject to the Constitution of the Republic of Ghana, an MMDA is the highest political authority in the district with deliberative, legislative and executive powers (Republic of Ghana, 1992). The assembly occupies a more strategic place and is indeed the focal point of the decentralisation programme and constitute a key unit in the system of local government. The MMDA, as set up under the Local Government Act (Act 462), is composed of a Chief Executive and one elected member from each electoral area. Others are member(s) of parliament from the district (who have no vote), and other persons whose number does not exceed 30 per cent of the total membership of the assembly appointed by the President in consultation with traditional authorities and other interest groups. The assembly has a Presiding Member who is elected from among its members by two-thirds of all the members of the assembly.

Civil service departments whose functions are decentralised constitute integral part of the DA. Local Government Act 462 of 1993 established eleven departments of DAs, including that of health. The departments are to implement decisions of the assemblies and provide quarterly reports to the executive committee through the office of the DA. In addition, the Ghana Health Service (GHS) among others is to increase access to improved health services; and manage prudently resources available for provision of health services. For instance, one of the strategic objectives of the Ghana Health Sector 2009 programme of work was to 'strengthen the health system's capacity to expand access, manage and sustain high coverage of health services' (MOH, 2009, p. 4.). This study therefore examined the impact of the implementation of the decentralisation policy on inequalities in physical accessibility to health care facilities in selected Municipal and District Assemblies (MDAs) of Ghana.

Conceptual issues

The concept of decentralisation means "reversing the concentration of administration at a single centre and conferring powers on local government" (Smith, 1985, p.1). Decentralisation has also been defined as the "transfer of authority to plan, make decisions, and manage public functions from a higher level of government to any individual, organisation or an agency at a lower level" (Rondinelli, 1981, p.137). In addition,

Rondinelli et al. (1989) defined decentralisation as a situation in which public goods and services are provided primarily through the revealed preferences of individuals by market mechanisms.

Different approaches to decentralisation are distinguishable primarily by the extent to which authority to plan, decide and manage is transferred from the central government to other up-country organisations and the amount of autonomy granted to these organisations in carrying out such tasks. Hicks (1961) and Rondinelli (1981) distinguish between different modes of decentralisation along the lines of deconcentration, delegation, devolution and privatisation. In Ghana the decentralisation policy first and foremost sought to devolve central administrative authority to the district level. It was also meant to fuse governmental agencies in any region, district or locality into one administrative unit.

Article 240(1) of the 1992 Constitution of Ghana stipulates that the country shall have a system of local government and administration, which shall, as far as practicable, be decentralised (Republic of Ghana, 1992). In furtherance of the decentralisation programme, which was aimed at local government reform, Parliament promulgated the Local Government Act 462 in 1993 that established District Assemblies (DAs) to serve as conduits in the promotion of development. Section 10 of the Act assigns deliberative, legislative and executive functions to the DAs. It gives them responsibility for overall development in the districts and authority to formulate and execute plans, programmes and strategies for effective mobilisation of resources necessary for development of the district.

Accessibility to health care entails a complex set of factors and processes including proximity to health care facilities, transportation networks, socio-economic characteristics and decision making strategies of individuals (Meade & Earickson, 2002). However, according to Hare and Barcus (2007) factors such as insurance status, employment, income and education jointly affect accessibility more than distance to service facilities. Research on access to services has been dominated by two assumptions. Firstly, the nearer one is to services, the greater is the access. Secondly, people living in areas with more services have greater access to health care (Rosenberg & Hanlon, 1996).

This study confines itself to measures of geographical accessibility, which refers to the relationship between location of health facilities and surrounding communities (Guagliardo, 2004). Accessibility may be expressed using a coverage distance. Coverage models are based on the simple notion that there is a distance within which patrons are served and beyond which they are not (Church & ReVelle, 1974). According to Berman

et al (2010), a community is assumed to be covered if it is located within a specified coverage radius of a facility.

WHO (1996) identified three contributing factors influencing the decision on seeking early medical care in Ghana. These are accessibility to medical institutions, inadequate medical care and the reported quality of medical care provided. It was found that the distance from the client's abode to the medical institution was a crucial variable influencing the decisions to go for early medical care. It was realised that people rarely wish to travel more than 10 kilometres to seek early medical care. Oppong and Hodgson (1994) observed this in the Suhum District in Ghana. People from the surrounding villages did not travel about 10 kilometres or more to seek early medical care. Ekumah and Garson (1995), in a study of five districts of the Western Region of Ghana, stated that poor physical accessibility, distance and other socio-economic variables accounted for low immunisation coverage in the region as a whole. World Bank Health Sector Review (1989) indicated the main problems concerning coverage of health services in Ghana as poor access and inequality of access in urban and rural areas. MOH (1998) indicated that 70 per cent of the population of Ghana resided in communities, which were 8km or more from a nearest health facility in the 1990s. According to Gyapong et al. (2007) geographic and financial access to health care still remains a challenge.

Study setting and methods
In 2002, Ghana had ten administrative regions with 110 Metropolitan, Municipal and District Assemblies (MMDAs). This study covered three municipal and district Assemblies: Asante Akim North, New Juaben and Twifu-Heman-Lower Denkyira. The districts were selected from different regions with dissimilar characteristics. The New Juaben Municipality falls within the Eastern Region of Ghana. It is geographically located between latitudes 6^0 03' N and 6^0 10' N and longitudes 0^0 13' W and 0^0 23' W. It is bounded by four other districts (East Akim District on the northwest; Yilo Krobo District on the northeast; Akwapim North District on the east and south, and Suhum Kraboa Coaltar District on the west) in the region as shown in Figure 1. The Municipal capital, Koforidua (which is also the regional capital), is located about 85km northwest of Accra, the national capital. The Municipality existed before the present local government system was initiated in 1989. The municipality has been classified as developed by the Ministry of Local Government and Rural Development (MLGRD, 1996). It covers an estimated area of 200 square kilometres, with population of 136,768 as of the year 2000 and was 83.4 per cent urbanised.

Asante Akim North District is one of the 27 MMDAsin the Ashanti Region. The district is geographically located in the eastern part of the Ashanti

Region. It lies between latitude 6° 30' N and 7° 00' N and longitude 0° 45' W and 1° 15' W. The district shares a boundary with Kwahu South District in the east (Eastern Region). Within the Ashanti Region, the Ejisu-Juabeng, Sekyere East and Asante Akim South Districts border it on the west, north and south respectively (Figure 2). It was carved out of the erstwhile Asante Akim District with Konongo as its capital. It is considered as one of the old districts in the country and has been classified as developed (MLGRD, 1996). Its total land area is estimated at 1,260 square kilometres and had a total population of 126,477 as of 2000 with 60 per cent of the people living in urban areas.

Twifu-Heman-Lower Denkyira District is one of the 17 MMDAs in the Central Region. It is located between latitudes 5° 10' N and 5° 55' N and longitudes 1° 15' W and 1° 50' W. It is bordered on the north by the Upper Denkyira District; on the south by the Abura-Asebu-Kwaman Kese, Cape Coast, and Komenda-Edina-Eguafo-Abirim Districts; on the west by the Wassa Mpohor District; and on the east by the Assin District (Figure 3). The district was created in 1989 and has been classified as deprived (MLGRD, 1996). It covers a geographical area of 1,370 square kilometres. According to the Ghana Statistical Service (2001) the district had a population of 107,787 with 13.8 per cent urban dwellers as of 2000.

The study relied on secondary data from the Ministry of Health and the Ghana Heath Service. In addition, primary data were collected from health care facilities which were functioning in the selected districts. A list of available health institutions in each district was obtained from the district directorate of the GHS. Each listed institution was visited and information on location, ownership and date of establishment was sought. The data collected were analysed using Geographic Information Systems (GIS) technique.

The use of GIS to measure physical accessibility is well established and has been applied in many areas (Cromley & McLafferty, 2002). In the area of health planning, the analytical capability of GIS to identify the geographic extent of a health facility catchment area, which corresponds to the area which contains the population utilising this facility, is particularly important (Ebener et al., 2005). Esri ArcGIS 9.3 was employed to generate maps and create buffers of 8 kilometres radius around the health care facilities in each of the sampled Municipalities and District. The guideline of the Primary Health Care (PHC) policy, which was adopted by Ghana in 1978, recommends a health facility in every 8 kilometres radius.

Results

The number of orthodox health care facilities (public and private) in the selected MMDAs increased over the years. The New Juaben Municipality had 16 health care facilities in 1990 and the number has increased to 19

(Table 1). The Municipal Assembly established a clinic at *Koforidua* in the year 2000 for the *Zongo* community and private health providers set up two facilities in *Koforidua* (1995) and *Effiduase* (1998). Thirteen out of the existing 19 health facilities in the Municipality are located in *Koforidua*, the capital of the municipality. The available facilities consisted of two hospitals (including a regional hospital), 12 clinics, two health centres and three maternity homes. Private providers owned the majority of the health care facilities (58 per cent) in the municipality. Eight out of the nine private for-profit health facilities are located in *Koforidua*.

All the communities in the New Juaben Municipality are within catchment area of health care facilities (Figure 1). Buffers of some of the health facilities, which existed before the implementation of the decentralisation policy cover the entire Municipality.

Table 1: Distribution of Health Facilities in New Juaben Municipality

| Location	Facility	Date	Owner
Koforidua	Koforidua Regional Hospital	1928	Government
Jumapo	Jumapo Health Post	1955	Government
Koforidua	Koforidua MCH/FP	1960s	Government
Koforidua	St. Joseph's Hospital	1964	Mission
Effiduase	Effiduase MCH/FP	1968	Government
Koforidua	Nightingale Memorial Home	1970s	Private
Oyoko	Oyoko Clinic	1974	Government
Koforidua	Eunice Memorial Clinic	1977	Private
Koforidua	Asomani Clinic	1979	Private
Koforidua	Koforidua Clinic	1981	Private
Koforidua	Bonna Clinic	1982	Private
Akwadum	Akwadum MCH/FP	1983	Government
Koforidua	Densuagya MCH/FP Clinic	1984	Government
Koforidua	Eureka Maternity Home	1985	Private
Adweso	Adweso Clinic	1987	Private
Koforidua	Pat's Maternity Home	1989	Private
Koforidua	Oman Medical Centre	1995	Private
Effiduase	Ahmadiyya Homeopathic Clinic	1998	Mission
Koforidua	Zongo MCH/FP Clinic	2000	Government
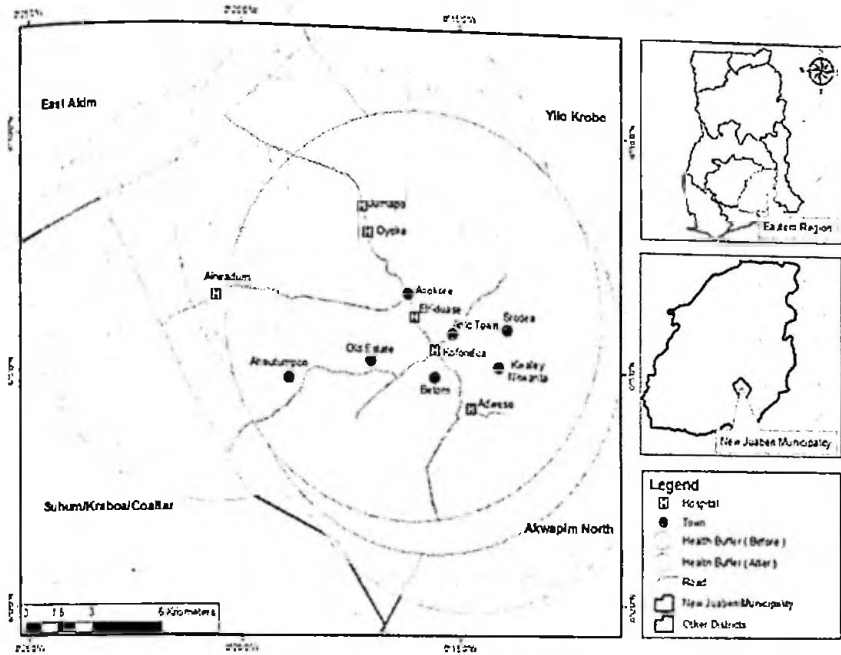
Figure 1: New Juaben Municipality - Health Buffers

Asante Akim North Municipality had six health care facilities in 1990. The number has increased to 12 (Table 2). The facilities, which are available, include three hospitals, three clinics, five health stations and one maternity home. The government owns 50 per cent of the facilities in the Municipality. Four out of the five private for-profit health facilities are located in *Konongo-Odumase* (the district capital). Six out of the 12 health care facilities were established after 1990. The Municipal Assembly in collaboration with the Municipal Health Management Team (MHMT) established two health facilities at *Nyinamponase* in 1999 and at *Brahabebome* also in the 1990s. Private providers set up four additional health care facilities (three at *Konongo* and one at *Hwediem*) after 1990.

Table 2: Distribution of Health Facilities in Asante Akim North Municipality

| Location	Facility	Date established	Owner
Agogo	Agogo Presbyterian Hospital	1931	Mission
Konongo	Konongo hospital	1964	Government
Praaso	Praaso Health Centre	1976	Government
Konongo	Adom Hospital	1979	Private
Dwease	Dwease Health Centre	1981	Government
Juansa	Juansa Health Centre	1983	Government
Brahabebome	Brahabebome Clinic	1990	Government
Konongo	Safety Life Clinic	1992	Private
Konongo	Life Land Clinic	1994	Private
Nyinamponase	Amantenaman Health Centre	1999	Government
Hwediem	Nyamebekyere Maternity Home	2000	Private
Konongo	Daasebere Health Services	2001	Private
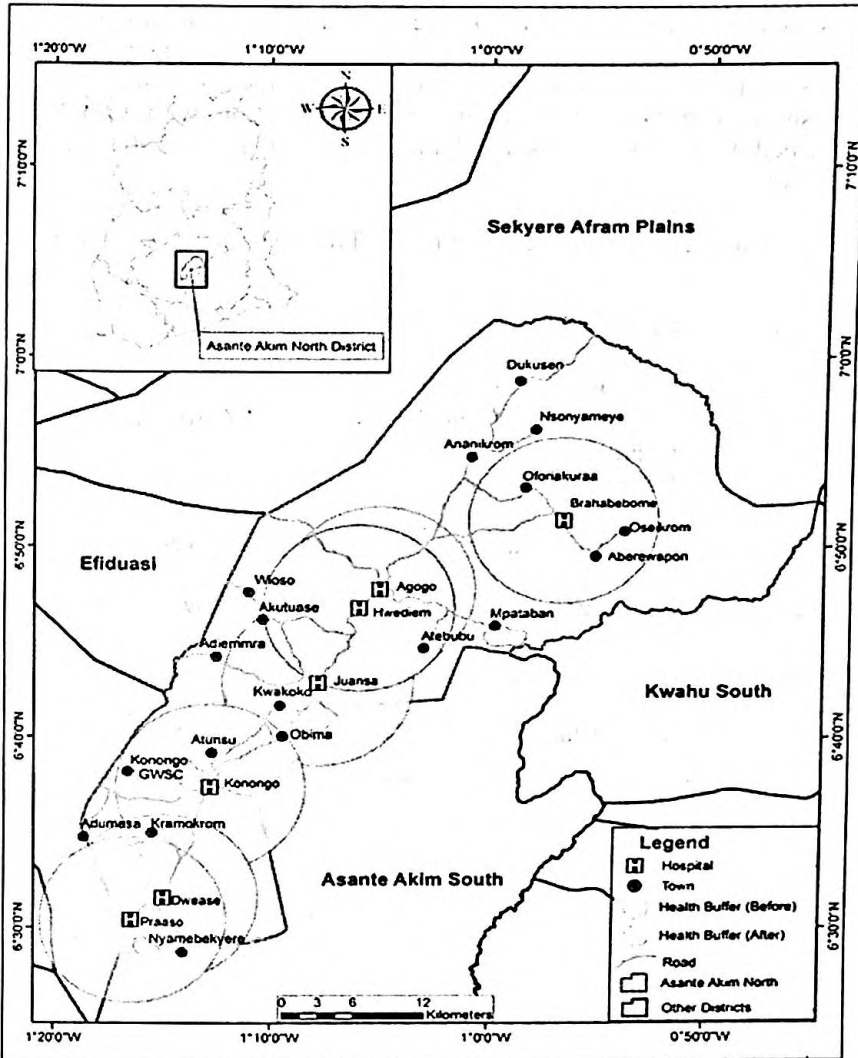
**Figure 2: Asante Akim North Municipality - Health Buffers**

The health facility, which was established at *Brahabebome* in the 1990's, is strategically located. The health buffer covers areas, which hitherto were outside the catchment area of existing facilities (Figure 2). However, the health buffer of a private clinic, which was, established at *Hwediem* in the year 2000 covers communities, which were already in catchment area of existing facilities. In spite of the increase in the number of facilities, there are communities in the north-eastern part of the municipality, which are not covered (Figure 2).

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Twifu-Heman-Lower Denkyira District had five health facilities in 1990 and recorded seven in 2002, comprising one hospital, four clinics and two health stations (Table 3). There was no private provider of health services in the district. The District Assembly in collaboration with the DHMT established two new clinics at *Agona* and *Frami* in 1990 and 1993 respectively.

Table 3: Distribution of Health Facilities in Twifu-Heman-Lower Denkyira District

Location	Facility	Date	Owner
Twifu Praso	Twifu Praso hospital	1968	Government
Ntefrewaso	Twifu Oil Palm Plantation Clinic	1975	Government
Heman	Heman Health Post	1977	Government
Mokwaa	Mokwaa Health Post	1984	Government
Jukwa	Jukwa MCH/FP Clinic	1987	Government
Agona	Agona Clinic	1990	Community/ Government
Frami	Frami Clinic	1993	Community/ Government
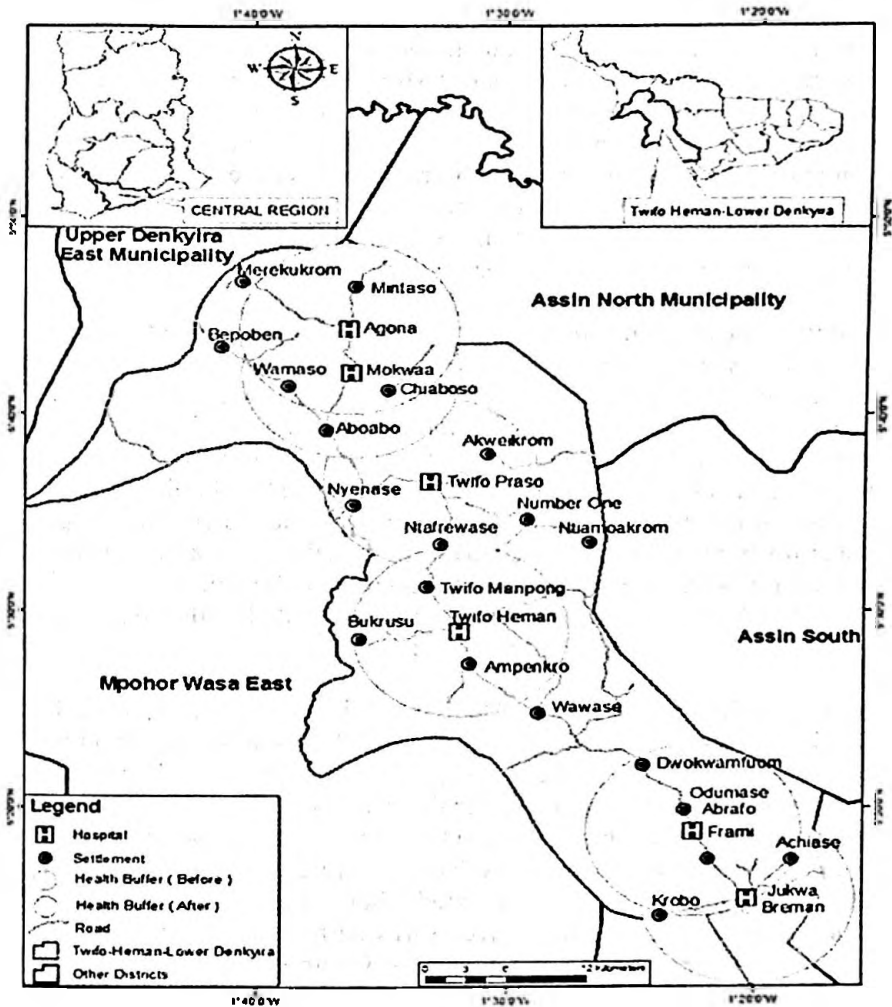
Figure 3: Twifu-Heman-Lower Denkyira District - Health Buffers

The buffers of the additional facilities established cover some communities, which hitherto were not in the catchment area of existing facilities (Figure 3).

Discussion

The results demonstrate an urban-rural difference in geographical accessibility to health care facilities. Residents of the predominantly urban Municipalities have physical access to health care facilities. For instance,

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the New Juaben Municipality is well endowed in terms of availability of health facilities. This is partly due to the fact that, Koforidua, which is the Eastern Regional and the New Juaben Municipal capital is supposed to have both regional and district hospitals. This is in keeping with the organisation and management of health services in the country. In addition, the Municipality attracts private health providers because it offers a potential market. Similar observations have been made in other studies. According to Thomson (1984) and Barros et al. (1986), the private-for-profit health care tends to flourish most in urban areas and respond to financial incentives.

In spite of the fact that half of the existing facilities in the Asante Akim North Municipality were established after 1990, some communities are without health care facilities and are not located within catchment area of any facility. This confirms the observation by Awoonor-Williams et al. (2004) that, about 30 per cent of Ghanaians were still living in areas outside 8km from a health care facility. The private providers in the Municipality mainly operate in the urban areas. For instance, with the exception of a private maternity home which is located in one of the villages (*Hwediem*), the other private-for-profit providers are located in the district capital. As observed by Bennett (1992), one problem commonly associated with the private for-profit sector is its failure to reduce inequality.

In the Twifu-Heman-Lower Denkyira District, the additional health facilities, which were established after 1990 by the Assembly, improved physical accessibility. However, there are a number of rural communities, which are not covered by any health facility. Hare and Barcus (2007) made similar observations in a study conducted in Kentucky, where residents at greater distance from health care facilities were of lower socio-economic status. Koivusalo (1999) indicated that decentralisation and local democratic governance are not necessarily sufficient to guarantee access to services for minority population groups. Contrary to the findings of this study, however, Tanzania experienced an equitable expansion of services across regions under a decentralised system. Maro (1990) found that there was a clear bias in favour of regions that had fewer facilities prior to decentralisation.

Conclusions and recommendations

The study has clearly shown that health facilities were expanded and physical accessibility improved under the decentralised system during the period under review. However, the implementation of the policy could not address inequalities within and between Municipalities and Districts. The available evidence suggests that the expansion of the health facilities did not tend to be equitably distributed. This is partly due to the fact that health facilities are provided by public and private without any regulated

coordination. The private for-profit providers especially show no equality concerns and operate in the urban areas in order to maximise profit. It can be concluded that decentralisation has the potential to reduce inequality in physical accessibility to health care facilities provided there could be effective regulatory mechanisms and collaboration among the relevant stakeholders.

In view of the fact that health sector development is a complex issue, which requires a wide variety of institutions and regulations, the following recommendations are made to reduce inequalities. The MDAs in collaboration with the GHS should employ GIS techniques to assess geographical accessibility of health care facilities to identify critical areas for efficient location of additional facilities. The activities of the private healthcare providers complement the efforts of the government towards improving physical accessibility. Government should therefore offer tax incentives to private providers who operate in the rural areas in order to attract them to such areas.

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Stretching to Informal Workers: the Ghana Trades Union Congress's Hand and Social Protection

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Abstract
Trade unions have adopted various ingenious strategies to reach out to groups of informal workers who were once considered beyond organisation. The unions claim this move is meant to offer protection to the unregulated workers. Drawing largely on secondary data (i.e. through the review of relevant documents) this paper shows that organisational coverage of unions to date lacks the substance of meaningful and genuine representation of their fluid affiliated informal workers. The voices and interests of affiliated informal workers are excluded from the mainstream activities of the formal traditional unions due to structural rigidities. It requires unions to temper its narrow focus on collective bargaining and embrace a much wider conceptualisation of their functions within the domain of social protection. This forms the central position of the paper. The paper also demonstrated that where unions are institutionally responsive, they can achieve some level of social protection for their associate informal worker groups.

Introduction
Informal workers are commonly regarded as lacking state protection and are often left to their own devices. Whether as street traders, food vendors, casual workers, and self-employed individuals, informal workers face different sets of challenges including harassments from state officials, evictions, employer abuse, operating under unhygienic conditions and low productivity (Unni & Rani 2003).

Traditionally, the academic studies on the informal economy had sought to unravel the forces underlying the expansion of the informal economy and the form that it takes (Portes & Schauffler 1993; Meagher, 1995). These studies often caste informal workers as victims of the onslaught of neo-liberalism. However, there are social and political spaces available to informal workers to protect themselves against official harassments and employer abuse. Confirming this assertion, recent studies have highlighted the various possible channels that informal economy groups can utilise to improve their lots (see contributions in Lindell, 2010). One such channel is the interface between traditional trade unions and informal worker associations or groups (Jimu, 2010, Jordhus-Lier, 2010; Boampong, 2010; Britwum, 2011). This interface is seen as a viable option for protecting informal workers since it offers some tangible benefits to informal workers.

Some concerns, however, have been raised about the motive of traditional unions in reaching out to informal worker groups and associations. Some authors maintain that traditional unions seek alliance with informal groups in order to achieve "trade union renewal" (see Lindell, 2010). There is the tendency for unions to be more obsessed with their renewal than with genuine protection of the interests of informal workers. That is, unions may seek to mobilise informal workers to reverse their membership losses in order to maintain political influence but do not necessarily seek meaningful protection for informal workers. This is not to downplay the importance of true trade union renewal; it is in fact an imperative response to increasing informalization. It is important to note that as unions seek to renew themselves through the mobilisation of informal workers, the interests of the informal workers should not be neglected.

It has been observed that the long-established bureaucratic structures of traditional unions tend to exclude informal workers. Questions have therefore been raised about the nature of the representation of informal workers in the structures of unions and how unions can effectively respond to the needs of informal workers? Britwum (2011) sought to address these· questions, by looking at the issue of representation of informal worker groups in the structures of the Ghana Trade Union Congress (GTUC). This paper takes its inspiration from Britwum's current efforts and demonstrates that organisational coverage to date lacks the substance of meaningful and genuine representation of their *fluidaffiliated* informal workers.

The voices and interests of affiliated informal workers are least represented in the mainstream activities of the formal traditional unions due to structural rigidities. However, in areas where unions have demonstrated institutional responsiveness, they have been able to provide social protection to informal worker groups. The paper, explored the representation of informal worker groups in the mainstream activities of trade unions and the role of the latter in the provision of social protection to the former. This paper is organised into five sections. The second section, which follows the introductory section, reviewed the discussion around insecurities pertaining to informal work and possible avenues for organising (and the inherent challenges) informal workers. The third section looks at the unions' focus on social protection as a more robust concept which could enable them to respond to the multi-varied needs of informal workers. This shifts unions' narrow focus away from collective bargaining functions which had traditionally catered for formal workers' needs. The landscape of the GTUC's attempt to stretch a hand of help to informal workers and issues of representations are captured in section four. Here, an attempt is made to unearth the social protection benefits informal groups derive from their union allies as well as the lack of meaningful representation in the mainstream structures of the unions. The fifth section concludes the paper.

Informal workers, insecurities and avenues for organising

Informal workers come in many forms and their heterogeneous nature makes it difficult to come out with a universal definition. Different groups of workers such as casual or piece rate workers, self-employed entrepreneurs, home-based workers, street vendors are often classified as informal workers. A core feature of these workers is that they operate mainly outside the protective arms of the state. In the view of Andrae and Beckman (2010), informal workers are characterised by varying stability and terms of employment and their conditions are not regulated by the state or through collective bargaining agreement. They, therefore, face different kinds of social and economic insecurities and the orthodox social security schemes rarely cater for them (Canagarajah and Sethuraman, 2001).

Unni and Rani (2003) identified two sources of insecurity that face workers in the informal economy; random shocks and structural insecurities. Random shocks are unexpected contingencies that hit individuals from time to time such as untimely deaths, illness, drought, crop failure etc. The structural insecurities emanate from the structural features of the individual such as gender, education, ownership of assets and activity status—whether the worker has a salary or stable job, casual work or self-employed. A further distinction was made between basic insecurities (food, shelter, health, etc) and economic insecurities (employment, capital, demand/market, organisation, skill and the policy environment). Unni and Rani (ibid.) particularly, stressed the primacy of structural factors to insecurities of informal workers. In their words, economic insecurities "...may arise from...random shocks, but structural factors have a much greater and more pervasive influence" (ibid, p144). The detail insecurities that workers tend to face in the informal economy are presented in table 1 In the table the economic insecurities informal workers with different activity status face (casual work, self-employment and trading) in the informal economy are listed.

Table 1 Economic Insecurities of Informal Workers

Activity Status	Employment Insecurities	Skill Deficits	Organization Deficits	Capital Insecurities	Demand Insecurities	Hostile Policy Environment
Casual work	Irregularity of work Low levels of income Multiple activities to complement income Deplorable working conditions Hire and fire at any time	Lack of marketable skills Inability to invest in new skills and knowledge Depend largely on insufficient informal sources for skill upgrading Easy transferability of skills(anybody could acquire this skill and flood the market with it)	Unionization often excludes workers from the unorganized economy Lack of voice and political influence Varied interests and heterogeneity make it difficult to unionize informal workers			Harassment form public officials as a result of lack of official recognition of their economic activites Lack of designated place for doing business Pay various forms of illegal/legal fees to local authorites for operating in "unauthorized" business locations on the grounds that they Cause congestion Represent health hazards
Self-employment				Weak access to credit and capital Low incomes generated by these activities constrain capital accumulation Formal banking institutions reluctant to lend to self - employed entrepreneurs	Weak demand or market for their products and services tend to limit their scope of expansion	
Street/Open market trading						

Author's construct

The literature reports of different organisational strategies the informal workers employ to minimize their insecurities; take the form of either horizontal or vertical alliances (Lindell, 2010). Horizontal alliance is where informal workers constitute themselves into self-help and independent groups to address common insecurities. Vertical alliance on the other hand, is where informal worker groups with record of strong self-organisation may take the initiative to align with an external agent or an external agent may reach out to groups of informal workers in order to help reduce the insecurities that face them. Current empirical studies on the vertical arrangement have highlighted the interface between informal worker groups and formal trade unions (Andrae and Beckman, 2010; Jimu, 2010, Jordhus-Lier, 2010; Boampong, 2010; Britwum, 2011). Trade unions may either directly recruit informal workers into their membership ranks or establish relationships with existing self-organised informal group of workers.

Generally, the organisational coverage of trade unions has favoured workers in the formal workplace environment and the current trend of formal-informal interface is regarded as something *new*. The argument had been that organising the unorganised sector was virtually impossible and beyond organisation by trade unions. The heterogeneous and short-termist nature of employment relations in the sector, and the challenge of locating informal workers make it difficult to organise them (Gallin, 2001; Boampong, 2010). This new path of trade unions and informal groups interface, therefore, has a unique challenge. This is because the interests of informal workers diverge from those faced by workers in the regulated wage sector. Reconciling these diverged interests poses a problem for unions. Collective bargaining agreement for example, has been designed to address the concerns of formal wage workers (Andrae & Beckman, 2010) and least addresses the needs of informal workers. Informal workers can as well trigger formal unions to restructure and redefine their functions (Britwum 2011) to address their economic insecurities. It is maintained in this paper that the concept of social protection provides a better framework for the redefinition of union functions towards informal workers.

Unions and Social Protection for Organised Informal Workers
From the literature, there is a distinction between basic and economic securities as a framework for analysing social protection. Social protection is defined to include basic and economic securities (Unni & Rani, 2003). Basic securities which are synonymous to right-based approaches include social security measures such as income, health, education and pensions. Economic security is defined to include "income generating productive work and the application of the core labour standards to all forms of work" (ibid: 133). The economic security dimension forms the prime basis of this

paper. It is comprehensive and work-based and therefore provides the appropriate foundation for any discussions on social protection for informal workers. Unni and Rani (ibid.) introduced security of employment, skill upgrading, welfare funds, organization, capital security, demand security and legal recognition as important elements of social protection for informal workers (Figure 1).
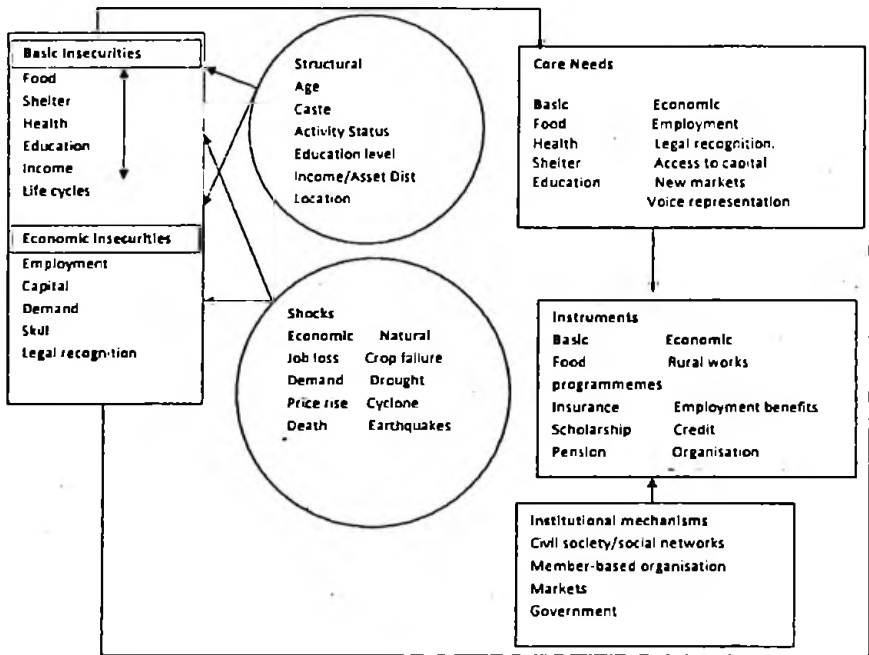
Unni and Rani, (ibid.) defined security of employment to include regularity of job, security from arbitrarily loss of employment; improve incomes and good working conditions. Skill upgrading encompasses the ability of informal workers to access vocationally-oriented training to make them more employable and improve on their production processes. With regard to welfare funds, levies and contributions from informal workers are used to establish the funds to provide social security to them in the event of contingencies. These funds are very often backed by state policy. Organisation or the strengthening of the voices of informal workers can help them to influence their informality or the sources of their insecurities for the better. Capital securities border on the ability of, for instance, self-employed informal workers to gain access to capital to expand their production base or being able to make savings for capital investments whereas demand or market security refers to consistent demand for the products and services of self-employed entrepreneurs to expand their scope of production.

The flipside of this discussion is that the lack of these elements of social protection results in economic insecurities of informal workers as illustrated in table 1. Social protection schemes should attempt to address these insecurities (ibid.). Figure 1 is a framework depicting social protection for the informal economy. As indicated earlier, insecurities facing informal workers are divided into basic and economic insecurities; giving rise to certain core needs (basic and economic) for social protection The framework also shows the structural sources of insecurities and the institutional mechanisms and instruments required to address the needs or insecurities of informal workers. This paper focused on economic insecurities of informal workers which are expanded in table 1 and the institutional mechanism (i.e. unions and informal worker group interface) for addressing these insecurities.

Insecurities   Sources of Insecurities   Social Protection

Figure 1: Social Protection for the Informal Economy
Source: Unni and Rani, 2003

These elements of social protection; security of employment, skill upgrading, welfare funds, organization, capital security, demand security and legal recognition should form the bases for trade unions' interventions in the informal economy. What has largely been missing in the discussion of the role of unions in organising informal workers is the failure to explicitly conceptualise unions' functions within the framework of social protection. Studies that have looked at the support of trade unions to informal workers do touch on isolated dimensions of economic insecurities/securities (Britwum, 2011) but the analyses are rarely conceptualised using the wider framework of social protection. Embracing the social protection concept by unions obviously extends the role of union beyond collective bargaining into areas of development that have traditionally been the preserve of the state. The attack on this path of thinking could be that unions have no business venturing into areas of development where the state has failed to deliver.

Unions are providing occupational inputs like tools, raw materials, skills and entrepreneurial training. [what] is important [to note] here is the diversionary and demobilisation impact when unions allocate to themselves the functions of the state lapses... (Britwum, 2011: 219)

Trade unions should not cover up for state failure but they can play a complementary role in providing support to informal operators and this has become more important considering the diminishing role of the state in the provision of social security. The lack of clear employer-employee relationships makes it difficult to determine who should bear the burden of social security provisioning (Unni & Rani, 2003). Unni and Raniindicated that besides the market and the state, a third form of institutional mechanism that plays a role in delivering social protection is the civil society. Trade unions clearly fall within the third sector or the civil society sector and can employ instruments such effective organisation, credits/welfare funds, employment benefits, advocacy and legislation to help informal workers to meet their economic needs. Increasing informalisation of work requires that trade unions transform themselves to meet the new and multiple demands their associate informal members place on them. Hence the need to embrace the concept of social protection which better captures the various needs or insecurities of informal workers.

It is just not enough for unions to restrict their functions to collective bargaining which best suits formal workplace workers. They should stretch their hands to provide social protection to the heterogeneous informal workers who form a large proportion of the working population but lacks protection. Already unions are transforming themselves in line with emerging challenges and as Jordhus-Lier (2010:118) declared: Both in an African context and beyond, we can detect a general shift away from bureaucratic formal trade unionism to more grassroot-based, less rigid organizing strategies.

This paper draws largely on secondary data[a] and an interview with the Informal Economy Desk Officer of the GTUC. The empirical discussion could have been strengthened with data from interviews with informal worker groups which are directly affiliated to GTUC but due to logistical constraints the author could not conduct these interviews. As indicated earlier in section three, there is the general lack of explicit conceptualisation of unions' functions within the framework of social protection. The effort in this paper is, therefore, to present initial thoughts and conceptualisation of

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[a]Largely based on the works of Britwum (2010 & 2011) which extensively mapped out the strategies deployed by unions to organise in the informal economy and also highlighted issues of representation of informal groups in the structures of GTUC.

the role of unions in the provision of social protection; to be followed with the collection and analysis of detailed qualitative data in the future.

The helping hand of GTUC and Informal workers

The nature of the various strategies that are deployed by the GTUC to reach out to informal workers and the associated social protection benefits derived from these arrangements are discussed in this section. The issues with regard to representation of informal workers in the union structures are discussed. The GTUC's role in the provision of social protection are discussed under the following thematic areas; organisation and representation of voice, welfare fund for informal workers, training and skill upgrading, employment security and policy influence.

A concerted effort by GTUC to organise workers in the informal economy dates back to the 5th Quadrennial Delegates Conference of the GTUC[7] in 1996. The Conference adopted the policy that set up a desk to coordinate unions' efforts at organising informal economy workers. In 2000, the Informal Economy Desk was established to carry out this coordination function. The 7th Quadrennial Delegates Conference of the GTUC adopted the policy to allow more informal worker groups to be directly affiliated to the GTUC as associational members. In the four year policy (2004-2008) of the GTUC, national unions were to give union coverage to informal workers. The strategy focuses not only on linking up with existing informal economy groups but also to design programmes and activities to respond to identified needs of informal workers (Britwum, 2011). The GTUC's strategy clearly looks beyond the effort of giving voice and representation to informal workers but also focus on designing interventions to address identified gaps in economic needs of informal workers. It can be concluded that the policy efforts by GTUC, are situated within the social protection framework which stresses the need for representation and voice for informal workers as well as building the economic capacity of informal workers.

Organisation: Union and Informal workers interface and representation

Britwum (2011) classified the interface between the formal trade union and informal groups or workers into six typologies. The first is the wholly informal economy unions with strong internal regulation mechanisms and which often initiate affiliation with unions after forming their own groups (e.g. GPRTU and Makola Traders' and Union. The second typology consists of formal based unions with active engagement with informal groups such as General Agricultural Workers' Union (GAWU) and Industrial and Commercial Workers' Unions (ICU). This class of unions directly recruit informal worker groups and give them union affiliation. The third comprises

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[7]The evidence suggests that GTUC direct engagement with GPRTU dates back to 1967 (Britwum 2011)

of unions which initiated effort to organise informal workers but have lost contact with groups they previously organised. The fourth applies to unions whose earlier attempt to organise failed. The fifth is what she referred to as prospecting unions which have identified informal groups but are yet to offer union coverage because of some perceived capacity challenges to offer meaning coverage. The final group are those unions that do not yet have plans to organise informal workers on the excuse that "the demands of their traditional members do not allow the union space to take on informal economy groups" (ibid: 208).

It is one thing for formal unions to reach out to groups of informal workers and another to create the space that engender independent active voices and meaningful participation of informal workers in unions' decision making process and activities. The nature of union membership offered to informal workers determines the strength of their voices and the extent to which their needs are addressed. Informal workers' access to the governing structures of the national unions, the right to hold union position and vote are important criteria defining union membership (ibid.).

Informal workers are affiliated to the national unions of GTUC as "associate members," meaning they do not enjoy full participation in the meetings and congresses of the unions. Leaders of the informal associations could attend meetings of their affiliate national unions as observers without voting rights. They cannot put themselves out for official positions within the unions. Voting rights is contingent on the ability of the informal workers to pay dues. This has reduced the associate informal members to mere "observers" during meetings:

...we have what we call Steering Committee meeting which is held bi-monthly...the leaders of these (informal) associations are invited to come to these meetings but as observers,...we are going to our QDC this weekend and they will be invited....but also as observers—meaning they don't have a voting right. The reason why they don't have a voting right is that we are not collecting dues from them... (Interview with Informal Economy Desk Officer, GTUC, 06/08/2012).

The low and irregular incomes of informal workers make it almost impossible for them to pay union dues. Even where informal workers can pay dues, there are questions about the capacity of unions to collect them from these iterant informal workers(Britwum, 2011). The unresolved contention is whether or not unions should put premium on the numerical strength derived from informal workers for political influence or the payment of dues as prerequisite for full membership (ibid.). Informal workers prefer the latter since their key resource is the numbers they add to the unions' membership.

There is also the evidence of some national unions opening up their structures and offering full membership to informal workers. Mention can be made of ICU and GAWU which have altered their governing structures to accommodate informal workers. Their constitutions offer equal membership to informal workers who make representation on their National Executive Boards, attend QDC with the right to vote and can be elected to union office. What is not clear with these unions is whether their informal groups pay dues to merit full membership and if so the mechanisms that are used to collect such dues. Answers to these may provide lessons for replication by other national unions which are engaged in organising informal workers.

Welfare Fund for Informal Workers
Formal pension schemes have very often eluded workers in the Ghanaian informal economy. Self-employed workers were not mandated under the social security law 1991 (PNDC L 247) to contribute to the SSNIT scheme. Being concerned with the exclusion of informal workers from the pension schemes, the GTUC advocated for the establishment of informal social security fund to cater for informal workers (Osei-Boateng, 2012). In 2005[1], the Informal Sector Social Security scheme was launched to extend security coverage to operators in the informal sector (Baah, 2009). However, the coming into force of the new pension act (Act 766) which was passed in 2008 restricts SSNIT to the management of the first tier of the three-tier pension scheme. The third tier covers both formal and informal workers who want to make voluntary contribution to enhance their pension benefits and its management are in the hands of private trustees that are to be licensed by the Pensions Regulatory Authority. Informal sector workers can participate as individuals or as groups.

The new pension act makes one wonders the legal basis of SSNIT's continuous management[9] of its Informal Sector Fund. There are indications that SSNIT is already considering farming out its informal sector scheme to a private entity to manage. The GTUC played a key role in advocating for the establishment of these pension schemes. The GTUC's dissatisfaction with the incompatibility of the previous pension schemes with the low and irregular incomes of informal workers led it to use:
> ...every platform to advocate for a special scheme for the informal sector. That informed the establishment of the SSNIT informal Sector Fund and the inclusion of the third tier in the new Pension Law (cited in Osei-Boateng, 2012:174).

[1]However, Osei Boateng (2012) claims that the SNNIT informal Sector Fund was established in 2008 to meet the needs of informal sector workers

[9]Osei-Boateng has indicated that the PRA began registering existing provident funds under the third tier in 2010 and temporary license was issued to the SNNIT informal Sector Fund. This adds to the confusion of SNNIT's legal mandate to manage its Informal Sector Fund per the new pension act.

These informal schemes are not without challenges. First there is the lack of appreciation of the importance of pension by informal workers and this is attributed to low education. Informal workers very often have low or no formal education and therefore less receptive to social security schemes. Second, the low and irregular incomes of most informal workers make it difficult for them to contribute to pension fund (Osei-Boateng, 2012). As recognised by the Informal Desk Officer of GTUC:

"...little deduction from people's income make a big difference. Most informal sector workers do not even consider what they do for income as employment" (cited in Osei-Boateng, 2012:175).

In view of the lack of awareness of the importance of pension among informal workers, the GTUC has sought to sensitize its associate members on the third tier pension scheme through a number of workshops. Osei-Boateng (2012) reported a number of workshops that have been organized by the GTUC to educate its informal sector members on the third tier scheme and also to use those training workshops as platforms to facilitate the enrolment of informal workers onto the scheme.

Training and skill upgrading programmes for Informal Workers
The skill levels of casual workers may be inadequate to gain employment in high paying jobs. Likewise, self-employed workers, very often do not possess the skills needed to improve on their production activities. The evidence suggests that some national unions organise educational programmes for their informal members in wide range of areas including managerial skills, grievance handling, basic book-keeping..."(Interview with Informal desk Officer, 06/08/2012), health and safety, marketing, leadership skills, business and financial management (GTUC, 2011).

The GTUC reportedly initiated a vocational training programme for some 60 food vendors under the Vocational Training Activity of Decent Employment in West Africa (GTUC, 2011). The initiative which was jointly executed with the National Vocational Training Institute (NVTI) was aimed at helping the food vendors to improve the unhygienic environment within which they produce and sell their foods, to safeguard themselves and workplace from fire outbreaks, to pay particular attention to the nutritional value of the food they prepare for sale and to treat their employees/apprentices with respect. The impact of this training initiative, according to the report, helped the food vendors to organise their workplace better, gained knowledge about the basic workers' rights, worked under hygienic conditions and practiced good customer care. These culminated into high patronage of their foods which translated into improved profits. Though beneficial in ensuring some level of skill upgrading for the informal

workers, the unions' dependence on donors to fund such initiatives may constrain their ability to sustain such initiatives.

Employment Security for Informal workers

Informal workers face all kinds of employment insecurities including low incomes, irregularity of work, working under poor conditions and could be hired and fired at anytime without notice. Available evidence suggests that if casual workers organise themselves into groups and align with national unions they can minimize some of the employment insecurities they face. Confirming this assertion, Boampong (2010) in a study revealed that casual port workers who were employed by the Ghana Dock Labour Company (GDLC) enjoy annual bonuses, transportation allowances, overtime allowance, and social security benefits. The casual dockworkers have formed a local union which is affiliated to the Maritime and Dockworkers Union (MDU). Even though they do not have any written contracts with the labour company, they enjoy these fringe benefits which are uncharacteristic of casual workers in general. These were made possible through the intervention of the union which is covered by collective bargaining agreement. The CBA enables the leaders to negotiate with the labour company for improved wages and benefits. It was reported that the conditions of the "...casual workers would have been worse in the absence of the local union or the mother union" (ibid: 145). On another level, there was the claim that MDU uses its membership on the board of labour company to influence decisions in favour of the casual workers and seeks to mainstream and protect the interests of the casual workers in board's decision making process.

Influencing the Policy environment and securing legal recognition

Informal workers by their very nature are unregulated and very often outside the protective arm of the state. Their activities are often labelled as "illegal" and therefore face harassments and hostilities from local authorities. If it is not about ejection from their location of work, it is about payment of illegal fees and taxes to local government authorities. Trade unions which are seen as providing voice to the voiceless do in some instances help their associate informal members to minimise the hostilities they face from government officials. Britwum (2011) and GTUC (2011) gave an instance where the Global Handicraft Association and Darkuman Traders' Association joined the Local Government Workers Union to secure the land on which they trade their wares. Their affiliation with the unions, according to Britwum (ibid.) strengthened their bargaining position with the local authorities and helped to insulate them from harassment and ejection by local government authorities.

Conclusions

The needs of informal workers are diverse and different from formal wage workers. They generally face various forms of economic insecurities taking the form of insecure employment relationships; lack welfare funds to help them to address personal contingencies, inadequate skill level to make them employable or to help them to improve on their production mainstream activities and decision making process of the unions. activities. They very often face harassments from local government authorities for operating "illegally". In the face of these predicaments, trade unions over the past decades have intensified their efforts of organising informal workers in order to offer them coverage and protection. There is, however, the emerging concern of lack of representation of associate informal workers in the structures of the national unions. Informal workers could merit full membership in unions' structure through the payment of union dues. Due to their low and unstable incomes they are unable to pay and as a result are denied voting rights at council meetings and congresses. As observers, their voices do not matter at these meetings. The "dues for vote" regime clearly excludes informal workers from.

There is the recognition that organising and protecting the interests of informal workers do not always lend themselves easily to the same procedures unions have adopted over the years to protect the interests of formal workers. Self-employed workers, traders and food vendors in the informal economy *may* not have an employer with whom improvements in working conditions can be negotiated. In effect, informal workers may not operate on the typical logic of employer-employee relations (Andrae & Beckman, 2010; Britwum, 2011). This poses practical challenge of applying collective bargaining agreement—designed around clearly defined production relations—to the sphere of informal work. If trade unions want to genuinely and meaningfully support informal workers, then they must restructure or adopt approaches that enable them to address the needs of informal workers (Jordhus-Lier, 2010; Britwum, 2011). This paper suggests that for unions to be able to address the varied needs of informal workers in an effective and comprehensive manner, they must build their approaches or situate their interventions for informal workers within the framework of social protection. The emerging evidence; whether it is about training, welfare fund, representation and employment security suggests that the Ghanaian unions are already providing interventions to their informal members which obviously fit into the social protection framework.

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