UNIVERSITY OF CAPE COAST

POVERTY AMONG FISHER-FOLK AND CROP BASED FARMER HOUSEHOLDS IN THE KOMENDA EDINA EGUAFO ABREM DISTRICT IN THE CENTRAL REGION, GHANA

FRANCIS AGGREY BLUWEY

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BY

FRANCIS AGGREY BLUWEY

Thesis submitted to Department of Agricultural Economics and Extension of the School of Agriculture, University of Cape Coast, in partial fulfilment of the requirements for award of Doctor of Philosophy Degree in Agricultural Extension

JUNE 2012

DECLARATION

Candidate's Declaration

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

Candidate's Name: Francis Aggrey Bluwey

 Signature…………………………   Date………………..

Supervisors' Declaration

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

Principal Supervisor: Professor Edward Ntifo-Siaw

 Signature……………………   Date……………….

Co-supervisor: Dr. Albert Obeng-Mensah

Signature……………………………Date………………..

ABSTRACT

This study was conducted to examine poverty levels among fisher-folk and crop-based farmer households in the Komenda Edina Eguafo Abrem District (KEEA) in the Central Region of Ghana using cross-sectional survey. The study was significant as the result could help identify factors that influenced poverty among the fisher-folk and crop-based farmer households.

The population of the study was fisher-folk and crop-based farmer households in the District. The sample was chosen using simple random sampling technique. Documentary analysis was used to estimate the poverty line and participatory appraisal was used to determine the poverty levels. Descriptive methods, cross tabulations, chi-square and regression were used in data analysis.

Collectively; income, education, health and number of people in various occupations accounted for about 46.80 percent of the variances in poverty line. Significant statistical associations were also found between poverty levels and the socio-economic characteristics of poor fisher-folks and poor crop based farmer households. Poverty was also found to be more intense among fisher-folk than among crop-based farmer households in the target communities.

To design a good poverty alleviation programme, it is recommended that attention be paid to the socio-economic characteristics of the poor. Further studies to identify some other factors (besides income, education, health and number of people in various occupations) that could influence poverty line in the target community are recommended.

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DEDICATION

Dedicated to the memory of my late father,

Mr. Lawrence Yao Mensah Bluwey

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CHAPTER ONE

INTRODUCTION

Background to the Study

Various conditions in some of the rural communities in Ghana suggest the existence of various levels of deprivation. Some of these deprivations could manifest into conditions that may be likened to poverty situations. It is believed that the sustainable development of every individual or group of individuals depend on how effectively their economic and social activities support them. It is further believed that effective economic and social activities would lead to economic development, improvement in cultural practices and gains in skills for improvement in economic and social activities. However, the current study is of the view that ineffective economic and social activities could lead to various levels of deprivation. For this reason, this study agrees with Kippa (2005) that every aspect of human development becomes affected in the advent of poverty. These views of the current author are considered consistent with Kippa (2005) that; "poverty especially among rural dwellers is manifested in deprived lifestyles characterized by extreme hardships".

Notable definitions of poverty include the fact that poverty is the lack of certain amount of material possessions or money (Britannica, 2010). Poverty is also considered a denial of choices and opportunities, a violation of human dignity.

Poverty means lack of basic capacity to participate effectively in society. It also means not having enough to feed and clothe a family, not having a school or clinic to go to; not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation (United Nations Organisation, 2011). The World Bank (2011) also defined poverty as a pronounced deprivation in well-being and comprises many dimensions. It includes low incomes and inability to acquire the basic goods and services necessary for survival with dignity. Poverty also encompasses low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity to better ones life.

From these, the disagreement over an appropriate definition of poverty is evident. Others define poverty as a state of having very little money. Many others say it is a condition of a failure to obtain the basic necessities of life. Ogunleye (2004) and Oladunni (1990) for example identified the poor as lacking basic necessities such as adequate feeding, clothing, good health, education, adequate supply of potable water, electricity, good road among others. They extend the definition of poverty to include those who lack public recognition, lack political voice and the down trodden. Afolami (2004) also emphasized that a poor person is one who cannot boast of a subsequent meal apart from what is available to him for a moment. Fasoranti (2007) explained that poverty covers economic, human,

political, socio-cultural and protective abilities of society. These various definitions bring to fore the multidimensional nature of the concept of poverty whose definitions vary according to gender, culture, age and other socio-economic factors.

Despite the various definitions of poverty, all recognized that any policy directed towards a goal of reducing poverty must draw arbitrary lines to delineate the poor from the non poor. Poverty is seen by the current author as a problem predominantly in rural areas; as a considerable portion of the world's poor are suspected to be located in rural settings. Rural people often tend to be disadvantaged as poverty rates increase because poverty is considered as a painful situation that must be eradicated. The pain of poverty may even be more pronounced as rural areas become more remote. The current author suspects that it is partly against these backdrops of the painful nature of poverty that the first target of the Millennium Development Goals is set to decrease the extent of poverty to one-half by the year 2012.

Sen (1992) broadened the understanding of poverty as he defined it as a condition that results in an absence of freedom to choose, arising from lack of what he refers to as the capability to function affectively in society. This multidimensional interpretation moves far beyond the notion of poverty as being solely related to a lack of financial resources. This viewpoint suggests that, inadequate education could, in itself, be considered as a form of poverty in many societies.

Based on research with over 20,000 poor people in 23 countries, the World Bank in her "Voices of the Poor" identified a range of factors which poor people

identified as conditions that made them poor. These include precarious liveli-hoods, excluded locations, physical limitations, gender relationships, problems in social relationships, lack of security, abuse of power, disempowering institutions, limited capabilities and weak community organizations (World Bank, 2007). Moore (2007) argued that some analysis of poverty reflect prejorative, sometimes racial, sterotypes of impoverised people as powerless victims and passive recipients of aid programs.

Warmaras (2007) identified that among local socio-economic groups, poverty is highest among food crop farmers. Even in the rural savannah zone of Northern Ghana which is noted for large scale crop production and rearing of livestock, the people still experience greater poverty.

Though poverty may be lessening in the world as a whole, it continues to be an enormous problem especially in Africa. It is reported that one-third of deaths of about 18 million people a year or 50,000 per day are due to poverty related causes. Also every year, nearly 11 million children die before their fifth birthday due to poverty of their parents. Further in 2001, 1.1 billion people had consump-tion levels below $1.00 a day and 2.7 billion lived on less than $2.00 a day. Be-yond these, about 800 million people go to bed hungry every day (Brown, 1995) .

According to World Bank (2011), Ghana is known as one of the countries with large numbers of the poor in the world today even though she is currently ranked as a middle income country. The World Bank maintains that Ghana is a poor country where one out of every three persons cannot afford the basic neces-sities of life and that 30 percent of its people are poor. This situation is buttressed

by the fact that life is difficult to live in Ghana especially in rural areas (World Bank, 2010). This has led to the massive migration of rural folks to urban areas in search of jobs in order to make a better living.

Some geographical locations in Ghana are noted to be poverty prone; especially, life in rural Ghana is known to be characterized by various levels of poverty. Central Region, a predominantly rural area for example has been identified as one of the poorest regions in Ghana even though poverty seems to be declining in the region in recent times (Ghana Statistical Service, 2008). On a poverty line of GHS288.47, Central Region was ranked ninth among the ten regions in Ghana in 1991/92. In 1998/99, the poverty situation in the region worsened making it the fourth poorest in Ghana. In 2005/06, the poverty situation improved; thus bringing the region to the seventh position on a higher poverty line of GHS 370.89 (Ghana Statistical Service, 2007).

Several factors are noted to create poverty situations in Ghana. For instance, at a national level, about 46 percent of those identified as poor are from households where food crop cultivation is their main economic activity. Other poor professional groups represent a smaller share of the national poor (Ghana Statistical Service, 2007).

Komenda Edina Eguafo Abrem (KEEA) district is a part of the Central Region of Ghana. Major pre-occupations of the people in the KEEA District are crop-based farming and marine fishing. Although, the people in this district are actively engaged in these and other minor occupations which could aid them in alleviating poverty, there are still major traces of poverty among the people. Var-

ious interventions such as Youth in Agricultural Programs, Global 2000, and PAMSCARD aimed at reducing poverty operate in the district. These were implemented in the district to reduce poverty but it is still observed that poverty continue to reign high among the people. It is doubtful if these existing poverty alleviation programs in the district have yielded any meaningful result. Kyei (2000) for example has identified that Poverty Alleviation Programs under the District Assemblies in Ghana have hardly influenced them positively.

Although Ghana has achieved impressive growth as a nation over the years, there is still evidence of high levels of poverty in most regions with Central Region being one of the most affected. For example, the Ghana Living Standard (GLSS) Reports 1-5 indicate that, some considerable level of poverty still persists among the people in the Central Region. This is evidenced in the pattern and trend of the living standard of the people in this region (Ghana Statistical Service. 2008). The Komenda Edina Eguafo Abrem (KEEA) district is one of the Administrative Districts in the Central Region. This district shares similar characteristic with other districts in the region hence it is believed that the poverty situation in this district is not better than that of other districts in the region.

To reduce poverty and to make life meaningful for people, it must be characterized by high incomes in economic activities, access to social amenities, high levels of productivity and good health among others. Various interventions that need to be put in place by government, non- governmental organizations, development partners, and individuals need to involve a critical assessment of what factors create poverty in the midst of implemented poverty alleviation strategies.

Statement of the Problem

A major challenge to the progress of society in the developing world which has been well documented is the issue of poverty (Behrman, 1990). The basic concern in this part of the world is the worsening poverty situation especially in Africa. The population of Ghana is currently estimated to have gone beyond 25 million people and over 48 percent of this population is considered poor (Ghana Statistical Service, 2011). Ghana is currently ranked as a middle income country (World Bank, 2011); but there are many people in Ghana who are still poor. Although there is also much evidence of efforts to reduce poverty among the rural people in Ghana in general and the rural people of KEEA district of the Central Region in particular; but there is still evidence of widespread poverty among the fisher-folks and crop-based farmers in the KEEA district (Central Region Coordinating Council, 2009).

Central Region of Ghana, of which KEEA is a part, is one of the poorest regions in Ghana; even though poverty seems to be declining in the region in recent times (Ghana Statistical Service, 2008, 2010). About 46 % of those identified as poor in KEEA are from households where crop-based farming and marine fishing are the main economic activities (Ghana Statistical Service, 2007). This seems to suggest that many of the people in the fishing and crop-based farming communities in this district are characterized by high levels of poverty. There is however no empirical evidence on which of the two main occupational groups in the KEEA district is poorer.

It appears the current poverty alleviation strategies in use seem to be omnibus and appear not to take into consideration how previous economic and poverty alleviation strategies benefited the people. This seems to suggest that the factors which account for the poverty levels in the KEEA District are not well identified and documented despite the interventions and strategies adopted.

It also seems that there is no strategy that takes account of the characteristics of the poor fisher-folks and poor crop-based farmers in terms of identifying the characteristics of the target group through a proper assessment of the poverty situation on the ground. Even though, crop-based farmers and fisher-folks are in business, it appears there are certain factors creating poverty which have not been properly assessed. It appears this is lacking in the case of KEEA district with regard to interventions applied to the fisher-folks and crop based farmers. Effective information that can guide designers of poverty reduction strategies towards the formulation of effective poverty reduction interventions seems not to be readily available.

According to a report by International Fund for Agricultural Development, poverty is deeper among food crop farmers than among fisher-folks. This report indicated that poor food crop farmers are mainly traditional small-scale producers and about six out of ten small-scale farmers are poor and most of them are women. What is creating poverty among the crop-based farmers and fisher-folks despite their active engagement in their occupations are issues of concern and therefore need further investigation (IFAD, 2009).

For poverty alleviation interventions to be effective, the design and implementation of the interventions should take account of well identified demographic characteristics of the target groups. A good poverty alleviation intervention should also take into account the relationships that exist between and within the factors that cause poverty among various groups of people in a target community. It appears poverty alleviation programmes in the KEEA district have not taken account of the characteristics of the main occupational groups in the district. There is also no empirical evidence on which of the main occupational groups of people in the district is poorer. Also absent in poverty literature is the lack of an empirical basis of identifying the poor in the KEEA district. There is also no empirical evidence of the effects of poverty on the poor in the KEEA district.

The intensity of poverty and the characteristics of the poor in KEEA district are also not documented in literature. Further, the relationship and the pattern in income and expenditure of the poor in the district are also not documented. Also, the relationship between poverty lines and the characteristics of the poor in the district are unknown. It is therefore imperative to fill these gaps since they are considered essential in formulating appropriate poverty alleviation policies and interventions and are also required in poverty policy decision making. This study therefore seeks to examine the state of poverty among fisher-folk and crop-based farmer households in the KEEA district.

Objectives of the Study

The general objective of this study is to examine the state of poverty among fisher folk and crop-based farmer households in the KEEA district. The specific objectives therefore are to:

a. determine the intensity of poverty among fisher-folk and crop-based farmer households in the KEEA district in terms of poverty line, incidence and levels of poverty;

b. compare the relationship between the levels of poverty and the socio-economic characteristics of the poor fisher-folk and poor crop-based farmer households;

c. describe the relationship between the socio-economic characteristics of the poor and the poverty lines computed for the study area;

d. analyze the pattern of the income and expenditure among the poor fisher-folk and poor crop-based farmer households in the study area;

e. discuss the effects of poverty on the socio-economic livelihood of the fisher-folk and crop -based farmer households in the target communities.

Research Questions

This study is guided by the following research questions:

a. What is the intensity of poverty among the fisher-folk and crop-based farmer households in the target communities?

b. What is the relationship between levels of poverty and the socio-economic characteristics of the poor fisher-folk and poor crop-based farmer house-holds in the target communities?

c. What is the relationship between the socio-economic characteristics of the poor and the poverty lines computed for the study area?

d. What is the pattern of income and pattern expenditure among the poor fisher-folk and poor crop-based farmer households in the study area?

e. What are the effects of poverty on the socio-economic livelihoods of poor fisher-folk and poor crop-based farmer households in the target communities?

Hypothesis

The following hypotheses were tested in the study:

H_o: $\underline{R} = 0$, that the socio-economic characteristics of the poor will not predict their poverty line;

H_A: R $\neq 0$, that the socio-economic characteristics of the poor will significantly predict poverty line;

Also,

H_o: $\underline{R} = 0$, that no association exist between poverty levels and the socio-economic characteristics of the poor fisher-folk and poor crop-based farmer households.

H_A: R $\neq 0$, that association exists between poverty levels and the socio-economic characteristics of the poor fisher-folk and poor crop-based farmer households.

Variables of the Study

The dependent variable of this study is poverty line among fisher-folks and crop-based farmers. This study defines poverty multi-dimensionally. It is taken as low income below a poverty line, lack of health facilities, absence of social amenities such as schools, poor image in society and all forms of social deprivations.

Poverty line was calculated based on Consumer Price Index (CPI). Lack of health facilities and absence of social amenities were measured by responses on their availability in the communities.

The independent variables of this study are the socio-economic characteristics of the target communities. The study defines socio-economic characteristics of households as household factors that are both social and economic in nature. These include educational attainments of household heads and educational attainments of dependants. Educational attainment was assumed as the extent to which a household head or household member attained formal education. Educational attainment was assumed to span primary, secondary to tertiary educational levels.

Other independent variables include number of dependants in a household, composition of household workforce, occupation of household head, source of labour to households, seasonal food shortages in household, influence of household in society. The number of dependants in a household was taken as a count of number of people under the care of a household head. This covered all those clothed, fed, medically cared for and educated by a household head. Composition of household workforce was taken as a count of number of people who belong to and offered labour in a household. They were categorized as males and females into various age groups. Occupation of household head was assumed to be the main business or occupation to which a household head was engaged. Those in government employment were however not covered by this study because they were considered to be earning incomes above the poverty line. Source of labour to

households was taken as 'who offered manpower to households'. This ranged from personal, spouse, children to hiring. This study defined seasonal food shortages as how often a household run short of food staples they produce themselves during the year. Measurement of food shortages was in multiples periods ranging from daily through weekly to months. Influence of household in society was defined by this study as the role played by a household head towards the development of his community. This was measured in-terms of regularity in the payment of levies, attendance at meetings, payment of annual religious tithes, and regularity of making funeral donations and how well a household head relates with other members of his community.

Demographic independent variables of this study include age of household head, marital status of household head and sex of household head. Age was taken as number of years as at last birthday. Marital status was defined as whether a household head was having a wife or a husband at the time of the study. It also related to whether household head was divorced, widowed or single. Sex was on the basis of gender- either male or female.

Other independent variables are household size by equivalent scale, items of household expenditure and items of household income. The study defined household size by equivalent scale as the sum of the product of the number of household members at various ages and predetermined equivalent scales declared by Ghana Statistical Service (2007). Items of house expenditure include expenditure on repair work on housing, payment of monthly rent on housing, availability of pipe borne water to household, availability of electricity to households. Items

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of household expenditure include expenditure on education, payment on development levies, funeral donations, church levies, hospital and medical bills. The items expenditure was taken as those items on which a household spends its income during the year. Items of household income include sale of farm produce, gift from friends, loans from financial institutions and monies burrowed from friends. These items were also assumed to be the sources from which a household derives its income annually.

Description of KEEA

The study area was KEEA district. It is situated in the Central Region of Ghana on the coast of Gulf of Guinea. It is to the west of the Greater Accra Region of Ghana. Specifically, KEEA is located on latitude 5° $05'$ North 15^0 North and longitude 1° $20'$ West and 1° $40'$ West. This Central Region falls within the dry equatorial climatic zone. The geographical and economic characteristics of the Central Region have resulted in most settlements falling along the coast-line. The region has been identified as having a predominance of fishing and farming activities with industries and trade on a small scale. There are sixteen administrative districts in the Central Region including the KEEA district. The KEEA District (Figure 1) is bordered on the north by Twifo-Hemang-Lower Denkyira District. On the south, it shares a boundary with the Atlantic Ocean; Cape Coast Municipality borders KEEA on the east. The western side is flanked by the Mpohor West District of the Western Region. The land area occupied by the KEEA district is 372.49 sq km. There are also 156 settlements in the district; with Elmina as the district capital**.** The KEEA district is situated on a plain land with isolated

hills. Along the coast are a series of lagoons and marshy areas into which a number of rivers and streams drain and flow.

Source: KEEA District Assemble (2011).

Figure 1: The KEEA District

The district lies partly in the dry equatorial zone and partly in the west semi - equatorial zone. Annual rainfall ranges from 100cm along the coast to about 150cm or more in the interior. Both areas have double maxima rainfall. Major rainy season is from May to July and the minor season is from September to October. These situations are ideal for fishing and crop-based farming activities (Berry, 1995).

The economically active male population constitutes about 65 percent of the labour force in the KEEA district. About 48 percent of the total population in

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the district engages in agriculture. This involves 50 percent of the female population aged 15 years and above. About 35 percent of the economically active female population is also engaged in trading (Ghana Statistical Service, 2008).

As at 2008, the attributes of the district included the fact that Elmina is the second largest fishing port in Ghana with about 294 canoes and 60 in-shore vessels. This is the capital of KEEA. The district also contributes about 15 percent of the country's total fish output. Against this background, it was estimated that an annual harvest of 130, 000 metric tons of fish were landed in the Elmina area in 2008. The medical facilities available in the district as at 2008 includes two hospitals at Ankaful, three health centers and one Clinic. In these medical facilities there were five Medical Assistants, 188 nurses, 299 paramedics and one Pharmacist. Other utilities include pipe-borne water in 45 settlements and six communities with mechanized water systems. Two communities also have Post offices, three with line telephones, twenty two with electricity and three with banking facilities. The district has 31km of asphalt roads and 1,556.7km of feeder roads. The main road is the Accra -Cape Coast –Takoradi trunk road which is part of the Trans-West African Highway. This trunk road is linked by a number of second and third class roads to the settlements in the district.

Investment opportunities in the area of agro-processing include processing of citrus fruit drinks, production of pineapple fruit drinks, and establishment of sugar factory, vegetable production and cassava processing. Non-traditional exports in the district include the production of crops like Cashew, Black Pepper, Papaya, Spices, and fish farming. Agricultural activities in the dis-

trict are dominated by subsistence farming under which farmers rely mainly on traditional methods of production. Eighty-six percent of total land area is arable. Average holdings are between 1.5 to 3 hectares.

According to the 2004 Crops and Livestock census about 51,571 people were engaged in farming activities in the district. Of this figure, women represented 41percent while the males form 59 percent. Those in 40-49 year age group (both males and females) form the bulk of farmers (31 percent), followed by 50-59 years age group (19.4 percent). Major crop-producing areas in the district are Agona, Birease, Dwabor, Ayensudo, Kissi, Dominase, Kwameta and Simiw. Sugar cane is cultivated in low lying areas in the district. Large tracts of coconut trees have been attacked by Cape St Paul Wilt- a devastating virus disease of landrace coconut. The animals reared in the district include cattle, sheep, goats, pigs and poultry. Commercial poultry farmers are few. Some selected grass-cutter farmers have been trained in grass- cutter production technologies as part of efforts to boost the production of non-traditional commodities. There are two cold storage facilities at Elmina. The inadequacy of storage facilities has resulted in the pervasive fish smoking along the coastal zone of the district (Ghana Statistical Service, 2007).

Alternatively, some of the smoked fish is converted into fish powder, which is packed for sale. This product can be preserved much longer than the smoked fish. Two main types of fishing are practiced. These are marine and inland fishing. Inland fishing is done on a limited scale by fish farmers who usually combine it with their normal farming activities. Two groups of fishing fleet en-

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gage in marine fishing. These two groups together have a total fleet of 760 canoes and fishing vessels. Fishing is carried out for six days of the week targeting mainly sardines, some demersal species and crustacean.

A variety of fishing gears are used in both the marine and inland fishing. These include trawl for motor fishing vessels, drag-net for large canoes, set net for small and medium sized canoes; and beach seine net which is manually used in both inland and marine fishing. Elmina is the only fishing town in the district with a fish landing site which offers the only berthing and landing facilities for both inshore and canoe fleet. The rest of the fishing villages and towns lack this facility. There has been continuous decline in fish landings since 1995 due to many factors. Notable among these are the high cost of fishing inputs, unprotected and deteriorated landing beaches, unfavorable weather and the indiscriminate use of carbide and explosives. Fish landed by the canoes and inshore fleet is sold directly to the fishmongers who smoke the bulk of it with the rest being sun-dried or salted. Some of the fish is also sold directly to consumers at the landing sites. Fish processing is done mainly through smoking by using the traditional round mud ovens. The peak season of fishing lies between June and September and most of the fish caught in the KEEA district is landed in Elmina alone.

Seventy-five percent of the inhabitants of Elmina perform jobs which are directly and indirectly associated with fishing. Among the types of fish landed in Elmina is Burrito, Round and Flat Sardines, Cassava fish, Tuna, Scald mackerel, Sea breams, Red fish, Ribbon fish, Barracuda, Lobsters, Prawns and Crabs. Elmina has four fish landing sites, namely Mpoben, Zion, Liverpool Street and Post

Office. The Chief fisherman and his advisors make regulations about fishing in Elmina, receive non-citizen fishermen in Elmina and settle disputes. To support their duties, each vessel makes a financial contribution for the running of the governing body. The Chief fisherman is not only a spokesman for the fisher-folks, but also interacts with other agencies to make it easier for fisher-folks to acquire fishing assets and capital. Similarly women, who buy the fish from the fisher-folks and either process or market it, have a queen mother. Together with her advisors, she sets the rules for fish trading and settles misunderstandings. Both the Chief fisherman and the Queen mother are channels through which communication, information, and education pass to the fishermen and fish traders. Local organizations do not price the fish catches. Fisher-folks are employed by owners of fishing equipment, and share the profits with the owners after deduction of amortization amounts for the vessel or canoe, the outboard motor, nets and fuel. The gear owner takes a greater proportion of the profit and the rest is shared among the fishermen. Especially during the lean season, catches sometimes do not cover the cost of fuel used for each fishing trip.

During the major fishing season, bumper catches are obtained, which lower prices and makes the fisher-folks no better. New approach of financing fishing in the district involves the purchase of gears for the fishermen by the fishmongers who reserve the right to first choice and first buy of the fish caught by vessels they bought for the fishermen. Kakum Rural Bank in Elmina is helping fishermen with financial investments, especially for outboard engines and nets; on condition that the fishermen make savings with the Bank. Besides, the fisher-folk are en-

gaged in a non-formal mode of saving money. This involves paying a specified amount of money each day to a bank official who acts as a collector. The salary of the collector is made up of a day's deduction from the contributors to scheme. The scheme earns no interest, but encourages savings. Fish is sold raw, smoked, or salt dried. Very little is fried and used to prepare street foods for sale. Of the named processing methods, smoking is the most common. Most of the fish landed in Elmina is taken outside the town after processing. The usual places of sale are Kumasi, Techiman and the forest regions. Information gathered from the fishing sector suggests regular oversupply in the market which forces prices down. For this reason cold stores and tinned fish factories are projects that could improve the living conditions in Elmina. Markets of different sizes and varieties abound in the district. The Elmina fish market is the dominant one in the area. Ordinary markets are found in the major settlements such as Komenda, Kissi, Kafodzidzi, Ayensu-du, Eguafo and Abrem Agona.   There is always a continuous flow of people especially women traders between the crop producing hinterland zone of the district and the coastal stretch where fish is obtained. Traders also come from outside the district to purchase fish along the coast as well as other foodstuffs produced in the Eguafo and Abrem areas with the intention of selling them outside the region (KEEA, 2006).

Justification of the Study

Although, World Bank (2007) revealed that Ghana is one of the poor countries in Africa making progress in reducing poverty since the adoption of its Economic Recovery Program in 1983, every three persons cannot afford the basic

necessities of life. World Bank (2011) identified same. It is further noted that, the current GDP growth rate of 5 percent per annum is too meager to eradicate poverty when population is growing at 5 percent per annum. It is against such a backdrop that there is the need to expand poverty research beyond what pertains now to cover rural dwellers, traditional occupational groups such as crop-based farmers and fisher-folks so as to increase economic growth. Identifying the inherent causes of poverty among the poor and finding solutions to mitigate the menace of poverty is a sure way to accelerate development.

To formulate a poverty reduction strategy that could reduce the level of poverty among rural people Kippa (2005) suggested the need to gather reliable information about the people. Such information according to Kippa (2005) should be accurate and timely and should be on the demographic and socio economic characteristics of the people. Kippa (2005) further noted that, in poverty reduction, policy makers and development partners require information on the targeted poor people especially at the household and community level. The required information should especially be on their population size, location, environmental potentials and improvements brought about by other interventions. The views expressed by Kippa (2005) in determining the success of poverty reduction programs can be realized through effective research. There is therefore, the need to carry out comprehensive study on the two main occupational groups and their poverty levels in the KEEA district. It is also imperative to identify issues influencing their poverty levels as this could facilitate the development of appropriate interventions to mitigate poverty in the district.

The study is also necessary in the sense that it may unearth some other factors which serve as barriers to reducing poverty among fisher-folks and crop-based farmers. It is therefore, in place to provide an evidence-based account of the reality of issues on poverty. This study has also identified priority issues related to poor crop-based farmers and fishers which could accelerate poverty reduction. Further, it may unearth sectors requiring attention in the fight against poverty in the KEEA district.

Questions about groups that must be targeted in fighting poverty, up to what extent the fight against poverty should be intensified; the required approach to use, measures and degree of various interventions that should be adopted may also be answered. Beyond these, the study may give an impetus to further research on poverty reduction; since KEEA district is near University of Cape Coast and University of Education Winneba. Findings of this study therefore have a potential of generating much interest in poverty research and the poverty debate as a whole.

The results of this study could also assist decision makers in the formulation of economic and social policies on fisher- folks and crop-based farmers. This may further aid in the identification of specific target groups for government assistance, develop models to stimulate the impact of various policy options on the two occupational groups, analyze the impact of various decisions that border on fisher-folks and crop-based farmers and provide benchmark data for the KEEA district. This study has generated substantial literature on the extent of poverty among fisher-folks and crop-based farmers which hitherto were negligible. To

alleviate poverty in this district therefore require reliable information on the fisher folks as well as the crop based farmers; which this study seeks to achieve. On the whole, the information generated could enable a comparison be made so as to determine the extent of emphasis and type of intervention to adopt in poverty alleviation among fisher-folks and crop-based farmers.

This study would therefore contribute to the ongoing debate on poverty reduction so as to facilitate the achievement of the Millennium Development Goals.

Scope of the Study

This study covers fisher-folks and crop–based farmer households in the KEEA district. The study focused on households because it is the key socio-economic unit and provides valuable insights into conditions in Ghana (Ghana Statistical Service, 2008). Information on fishing and cropping activities of the farmers was limited to their activities within the district; thus absentee farmers and absentee fisher folks were not covered in this study. The fishing activities were also limited to marine fishing while the cropping activities cut across all crops grown and consumed by the people in the district.

Limitations of the Study

Poverty is a phenomenon that can change from time to time. The level of poverty today may change in years to come. Farmers identified as poor during the time of the study may not be poor in future times. The duration between the compilation of the findings of this study and the commencement of another research is sufficient to change the findings of the study. Coupled with this, the introduction

of new interventions could also affect the poverty situation in the district positive-
ly.

The inability of the farmers and fisher folks to keep good records on their
activities   and their unwillingness to volunteer information to third parties is a
further limitation to this study. Further, some of the variables of the study are
weather dependent and could influence the result of the study. For example im-
proved rainfall pattern could improve food crop production hence reduce poverty.
Also upwelling could induce bumper harvest of fish and increase incomes of fish-
er-folks hence reduce poverty within the season. These situations could improve
food availability and increase the income of both crop-based farmers and fisher
folks, make poverty figures and derivatives unstable and dynamic. These situa-
tions could therefore put much restriction on the level of argument one could ad-
vance on poverty reduction strategies.

Delimitations of the Study

This study is restricted to KEEA district of the Central Region along the
coastal savannah belt and the immediate forest fringes. This region has been iden-
tified as one of the poor districts in Ghana. The study is also restricted to marine
fisher-folks and crop-based farmers; the two main traditional occupations of the
people in the KEEA district.

Organization of the Thesis

This study is reported in five chapters. Chapter one is the introduction. It consists
of the background to the study, statement of the problem, objectives of the study,
research questions raised, hypothesis, and variables of the study, description of

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the study area justifications, agricultural investment potential of the district, scope, limitations, delimitations and outline of the study report. Chapter two reviewed literature related to the study. This chapter captured poverty in Ghana, regional trend in poverty in Ghana, poverty among fisher-folks theoretical framework, measures of poverty, participatory poverty assessment methodologies, and measuring poverty in Ghana. Chapter three outlined the methodology used by the study. This comprise of an introduction, research design, computation of 2009 poverty level for Central Region, participatory wealth ranking among fisher folks and crop based farmers, population of the study, sampling technique, sample size, instrumentation, validity and reliability and mode of data collection. Chapter four presents the results and discussions. The discussions were in relation to the research questions raised. These research questions were built on the key themes such as intensity of poverty, characteristics of poverty, effects of poverty and items of household expenditure and income. Chapter five presents the findings, conclusions and recommendations on the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter presents the literature reviewed for the study. The review is focused on the concept of poverty covering the key variables raised in the research questions and some empirical studies related to poverty. Sections of the literature review presents the theoretical framework, conceptual framework, reasons for measuring poverty and poverty measuring indices. Also, the levels of poverty, poverty in Ghana, trend in poverty by regions in Ghana and trend in poverty by economic activity in Ghana are presented. Finally, the effects of poverty, characteristics of the poor, characteristics of household in Ghana, household income and household expenditure are highlighted.

Theories of Poverty

There are various theories put forward by various proponents to explain the concept and causes of poverty. These theories serve as the foundation upon which poverty reduction strategies are based. These theories include:

Poverty as a personal failing

Appadurai (2004) argued that there are two main lines of thought in the poverty debate. The most common according to him is that a person is poor be-

cause of personal traits. These traits in turn cause the person to fail. This theory presupposes that traits range from personality characteristics such as laziness to low educational levels. Despite this range, poverty is always viewed as the individual's personal failure in life. According to Chakravarti (2006), this thought pattern of poverty as a personal failing stems from the idea of meritocracy and its entrenchment within societies. Meritocracy, according to Newman (1999), is the view that those who are worthy are rewarded and those who fail to reap rewards also lack self-worth.

Poverty as a structural failing

Rank (2003) presents a contrary argument to the idea that personal failings are the cause of poverty. The argument presented is that poverty is a result of failings at the structural level. Key social and economic structural failings which contribute heavily to poverty include a failure of the job market to provide a proper amount of jobs which pay enough to keep families out of poverty.

Poverty as cultural characteristics

Development is known to play a central role to poverty reduction in third world countries. Some authors feel that the national mindset itself plays a role in the ability of a country to develop and to thus reduce poverty. Grondona (2000) on his part outlined twenty cultural factors which, depending on the culture's view of each, can be indicators as to whether the cultural environment is favorable or resistant to development. In turn, Harrison (2000) identified ten values which, like Grondona's factors, can be indicative of the nation's developmental environment. Finally, Lindsay (2000) claims the differences between development-prone

and development-resistant nations is attributed to mental models (which, like values, influence the decisions humans make). Mental models are also cultural creations. Grondona, Harrison and Lindsay all feel that without development orientated values and mindsets, nations will find it difficult if not impossible to develop efficiently, and that some sort of cultural change will be needed in these nations in order to reduce poverty.

Grondona, Harrison, and Lindsay all feel that at least some aspects of development-resistant cultures need to change in order to allow under-developed nations (and cultural minorities within developed nations) to develop effectively. According to their argument, poverty is fueled by cultural characteristics within under-developed nations, and in order for poverty to be brought under control, said nations must move down the development path.

Poverty as a label

Various theorists believe that the way poverty is approached, defined, and thought about, plays a role in its perpetuation. Green (2006) explained that modern development literature tends to view poverty as agency filled. When poverty is prescribed as agency filled, poverty becomes something that happens to people. Poverty absorbs people into itself and the people, in turn, become a part of poverty, devoid of their human characteristics. In the same way, poverty, according to Green, is viewed as an object in which all social relations (and persons involved) are obscured. Issues such as structural failings, institutionalized inequalities, or corruption may lie at the heart of a region's poverty, but these are obscured by broad statements about poverty. According to Green, the specific ways in which

the poor and poverty are recognized, frame them in a negative light. In development literature, poverty becomes something to be eradicated, or, attacked. It is always portrayed as a singular problem to be fixed. When a negative view of poverty is fostered, it can often lead to an extension of negativity to those who are experiencing it. This in turn can lead to justification of inequalities through the idea of the deserving poor.

Poverty as restriction of opportunities

Chakravarti (2006) argued that an environment marked with unstable conditions and lack of capital (both social and economic) together creates the vulnerability characteristic of poverty. Because a poor person's daily life is lived within his environment, his environment determines his daily decisions and actions based on what is present and what is not.

Appadurai (2004) indicates that, the key to the environment of poverty, which causes the poor to enter into it, is the poor's lack of capacities. Appardurai's idea of capacity relates to the ideas of voicelessness (Alayne, Evans, Timothy, Mohammed and Fransworth, 1997). Thus, a person in poverty lacks adequate voice and capacities with which they can change his position. Appadurai specifically deals with the capacity to aspire and its role in the continuation of poverty and its environment.

In the opinion of Akers (2010), to the different theories of poverty distinguish between individual, system, geographic, and cyclical causes. Theories that attribute poverty to individual circumstances and choices tend to place sole responsibility on the economically disadvantaged. System and geographic theories

of poverty focus on political, economic, and infrastructure policies. Cyclical caus-es combine both individual and system circumstances to explain the causes of poverty.

Theoretical Framework

Poverty is often examined in monetary terms and in terms of locality, re-gion and socio-economic groups. Poverty statistics are also provided on the prob-lem of basic needs – education, health, nutrition, housing, drinking water and san-itation. Poverty often shows signs of outward deprivation in human life character-ized by extreme pain and hardships. Akinde (1985) describes poverty as a situation of being unable to afford basic human needs, such as clean and fresh wa-ter, good and sufficient nutrition, health care, education, clothing and shelter. The various manifestations may take the form of poor housing, voicelessness in socie-ty, low education and poor health poor access to infrastructural development. This makes poverty a multi-dimensional issue with extensive manifestations as shown in Figure 2. The condition of having fewer or lesser resources which makes mankind deprived, plugs him into a state of pain, coupled with low income in society. Being a multidimensional issue, poverty should be measured not only by extent of income earned, but also by extent of access to public goods, such as education, health care, safe water supply, and availability of adequate basic re-sources.

Poverty is further seen as a rural issue. Lipton (2001), for example, as-sessed poverty as mainly a rural issue and basically agricultural. According to

him, for the agriculture and the rural sector, means for public action to reduce poverty is higher productivity and growth.

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                    ┌─────────────────────────────┐
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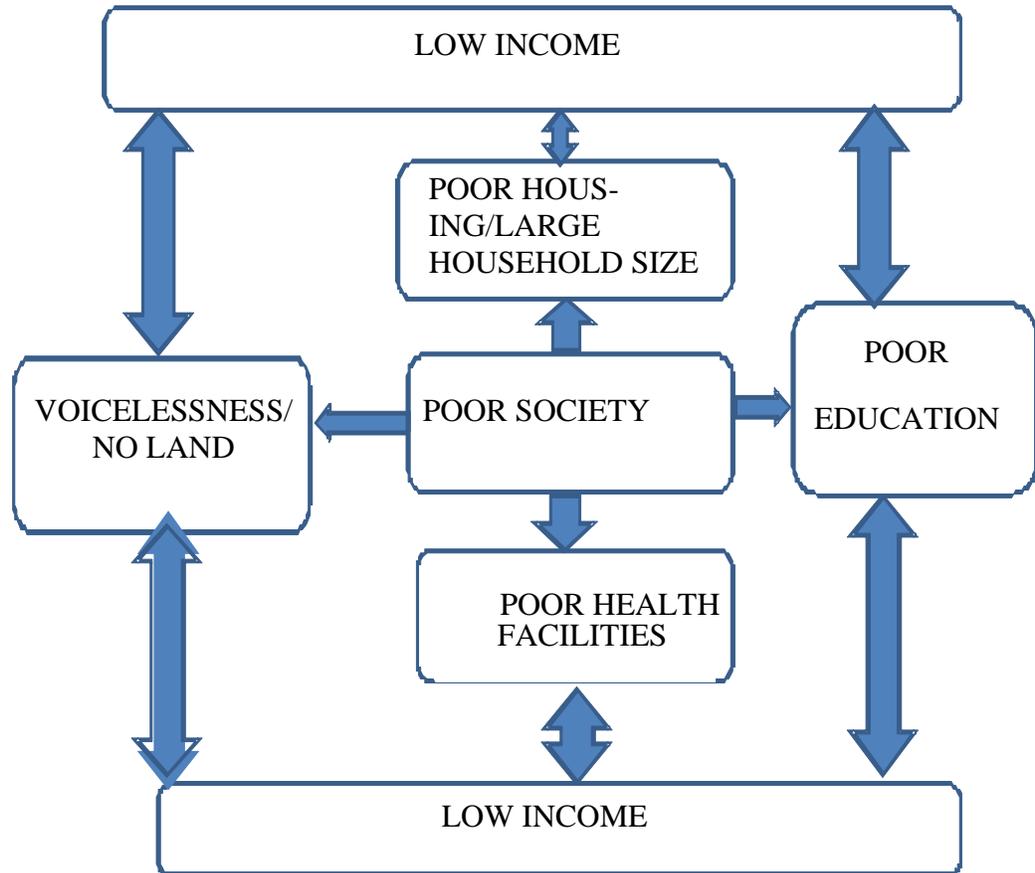
The state of poverty must be reduced if the suffering of mankind is to reduce. This is essential in the reduction of the pain and suffering of the affected. Poverty reduction measures are intended to raise the material level of living. Poverty reduction comes about largely as a result of overall economic growth. Economic growth requires extending property rights to the poor, especially to land and capital. Financial services, notably savings, could be made accessible to the poor through technology. Inefficient institutions, corruption and political instability discourage investment. Aid and government support in health, education and infrastructure helps growth by increasing human and physical capital and thus reduces poverty. Poverty reduction improves the living conditions of people who are already poor. Aid, particularly in medical and scientific areas, is also essential in providing better lives.

A multidimensional approach suggested for the reduction of poverty is represented in Figure 3.

Theoretical framework: Mitigation of Poverty

HIGH INCOME

GOOD EDUCATION/ HOUSING

GOOD ARABLE LAND

LOW POVERTY LEVELS

PROVISION OF SOCIAL AMENITIES

ACCESS TO CREDIT

HIGH INCOME
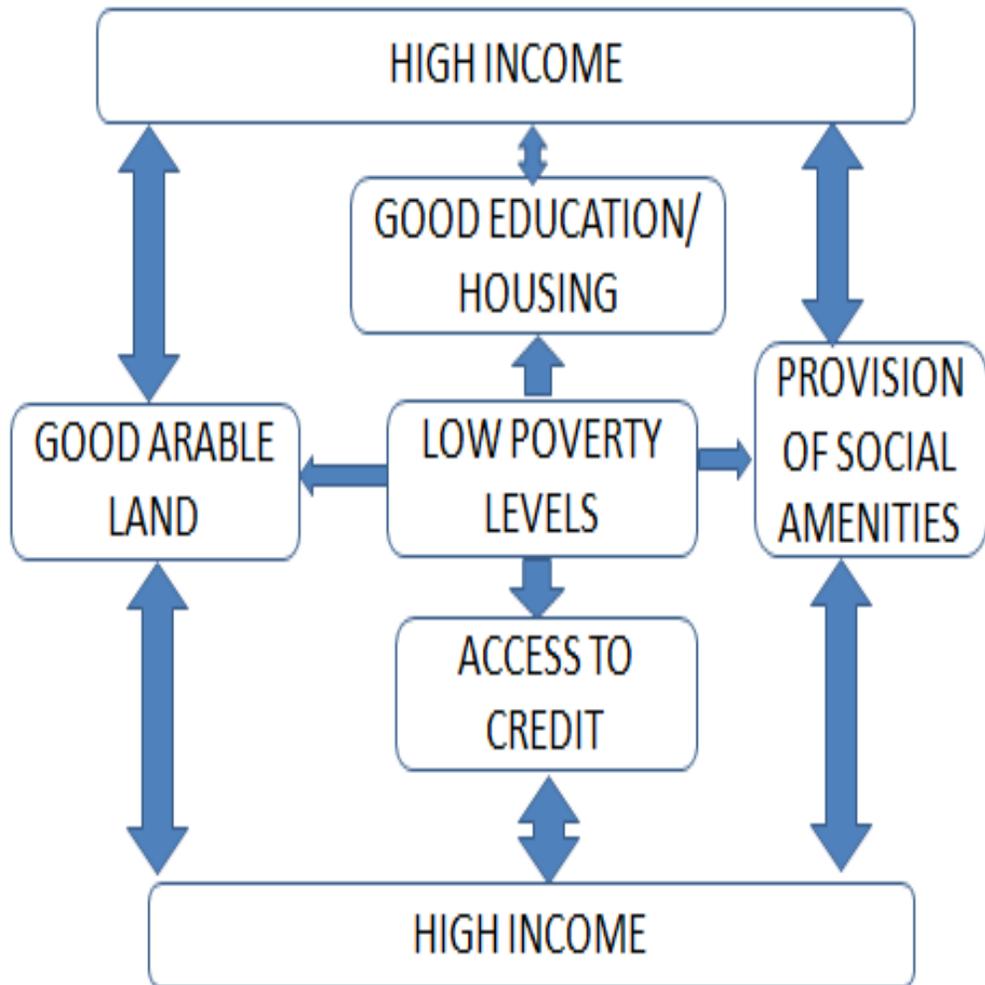
Figure 3. Mitigation of Poverty

Reasons for Measuring Poverty

Primarily, poverty is measured to facilitate the identification of poor households, individuals or groups of individuals who are poor and to determine whether poverty has increased or decreased over the years. It is also measured to determine the influence of economic, social, environmental and individual characteristics on the livelihood of the poor. Further, measuring poverty helps in identifying effective actions that could be taken to fight the menace of poverty. Poverty measurement aids in the determination of vulnerability of societies to poverty and helps to evaluate the effectiveness of the strategies designed to mitigate poverty (Boccanfuso, 2004).

By measuring poverty, the magnitude of poverty that exists in a society could be identified coupled with the groups which are most affected. The most common method of measuring poverty is by a survey in which representative samples of people are asked to answer questions on their incomes and spending. A person is considered poor if either income or spending falls below some minimum level (World Bank, 2000).   Seeking answers to how poor are the poor on the average and which poverty intensity assessment approach is most ideal, Watts (1968), Lipton and Ravallion (1995), Atkinson (1979), Hagenars (1986), Blackwood and Lynch (1994), Gordon and Spicker (1998) all agree that the incidence of poverty is the only one of the aspects of poverty which gives a measure most realistic and simple. These authors therefore consider incidence of poverty as an important index to be measured in any serious poverty study.

Sen (1997) agreed that measurement of poverty requires the identification of the relevant characteristics of the poor. He referred to the identification process as "aggregating the problem". He described the process as – how to pass from identification of poverty to measurement of poverty. Giovanni (2005) also agree that there are many indices available to achieving the measurement of poverty. According to Giovanni, one of the main issues in poverty analysis is the poverty indices to use. He settles on the fact that the best way of selecting a poverty index is to investigate whether it satisfies some of the desirable characteristics.

In poverty measurement, there is a fundamental distinction between ad-hoc measures and axiomatic measures. The first set of measures, widely used before the axiomatic approach was developed by Sen (1997). This lacked a theoretical derivation; whereas the second set of measures were explicitly based on a set of desirable properties of a poverty index. A third set of measures derives directly from stochastic dominance which is based on Lorenze curves (Giovanni, 2005).

Sen (1997) further outlined that the availability of so many indices has made poverty measurement a field that has generally been fraught with disagreements and difficulties. He therefore disagreed with the relevance of the term 'the measurement poverty' and proposed that there are many possible ways of measuring poverty such as Headcount Ratio **HC** and Poverty Gap **PG**. According to him, the headcount ratio is the simplest way of measuring poverty which gives the percentage of population which is not above the poverty line. He formally defined it as:

$$HC = \frac{P}{N}$$

where **P** is the number of poor people (those below the poverty line) and **N** is the total population. The headcount ratio is directly related to the cumulative distribution or the poverty incidence. This gives the percentage of the population below a given income level. The poverty gap for any individual according to Sen is the distance between the poverty line and his own income.

Sen (1997) considers income as central to the definition and measuring of poverty. He agreed that some schools of thought see poverty as not having enough income to meet basic needs for food, shelter, clothing and other necessities but the most important indices of the income are poverty line, absolute and relative poverty, headcount ratio and poverty incidence. He further argues that basic needs are directly related to necessities   rather than to income. It is therefore assumed that income may not adequately reflect basic needs. Thus the concept of basic needs makes it possible to improve the well–being of the poor ahead of their money income. Basic needs may therefore vary with circumstances and change with time according to Sen (1997).

Poverty Measuring Indices

The various measures of poverty seek to define the intensity of poverty among people. Intensity of poverty according to Minujin (2005) is a measure of the extent to which an individual, community or a group of individual is deprived of a necessity. Some of the measures outlined by Minujin include the headcount index. According to Minujin, the Headcount Index measures the proportion of the population that is poor. The Headcount Index is popular because it is easy to understand and measure. The weaknesses of the Headcount Index, according to

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Minujin include the fact that it does not show how poor the poor are, and hence does not change if people below the poverty line become poorer. The easiest way to reduce the headcount index is to target benefits to people just below the poverty line. This is because they are the ones who are cheapest to move across the line. But by most normative standards, people just below the poverty line are the least deserving of the poor. Further, the poverty estimates is calculated for individuals and not households. However, survey data are almost always related to households, so in order to measure poverty at the individual level, a critical assumption that all members of a given household enjoy the same level of well-being must be made (Minujin, 2005).

Another index identified by Minujin (2005) is the Poverty Gap Index. It is the extent to which individuals fall below the poverty line. The sum of these poverty gaps gives the minimum cost of eliminating poverty, if transfers were perfectly targeted. The measure does not reflect changes in inequality among the poor. The poverty gap index is a moderately popular measure of poverty which adds up the extent to which individuals on average fall below the poverty line. It is expresses it as a percentage of the poverty line. This measure allows poverty to be decomposed into three components relating to whether there more poor people, whether the poor are poorer and whether there is higher inequality among the poor. The squared poverty gap or poverty severity index is another poverty measurement index. According to Minujin (2005), the poverty Severity Index averages the squares of the poverty gaps relative to the poverty line. It is one of the Foster-Greer-Thorbecke (FGT) classes of poverty measures.

Other measures of poverty outlined by Minujin (2005) are the 'time taken to exit'. According to him, the Time taken to exit measures the average time it would take for a poor person to get out of poverty. Given an assumption about the economic growth rate; it may be obtained as the Watts Index divided by the growth rate of income (or expenditure) of the poor. Morduch (1998) also comments that 'time taken to exit' is a poverty profile for most countries and it relies on the three basic classes of Foster Greer Thorbecke poverty statistics. But when thinking about poverty reduction strategies, Morduch accepts that, it may be useful to show how long it would take, at different potential economic growth rates for the average poor person to exit poverty. According to Morduch (1998), the statistic is decomposable by population sub-groups and is also sensitive to how expenditure (or income) is distributed among the poor.

Sen-Shorrocks-Thon Index is also a measure of poverty. According to Minujin (2005), the current version of Sen Index has been a modification of other poverty assessment measures. Minujin identified that perhaps the most compelling version of the Sen- Shorrocks-Thon (SST) index, is the product of the headcount index, the poverty gap index (applied to the poor only), and the Gini coefficient of the poverty gap ratios for whole populations. The Gini Coefficient typically is close to 1, indicating great inequality in the incidence of poverty gaps.

Last but not the least is the 'Watts Index'. Minujin (2005) also identified the Watts Index as the first distribution-sensitive poverty measure. The Watts index according to Minujin is attractive because it satisfies all the theoretical properties that are needed in a poverty index, and is increasingly used by researchers

in generating measures such as the poverty incidence curve. However, it is not a particularly intuitive measure; hence it is rarely seen in practical field work.

Poverty line

This is another measure of the intensity of poverty. According to The American Heritage Dictionary (2009), the Poverty line is the minimum income level below which a person is officially considered to lack adequate subsistence and to be living in poverty. Poverty lines are cut-off points separating the poor from the non-poor. They can be monetary (e.g. a certain level of consumption) or non-monetary (e.g. a certain level of literacy). The use of multiple lines can help in distinguishing different levels of poverty. There are two main ways of setting poverty lines: a) relative poverty lines: These are defined in relation to the overall distribution of income or consumption in a country; for example, the poverty line could be set at 50 percent of the country's mean income or consumption. b) absolute poverty lines: These are anchored in some absolute standard of what households should be able to count on in order to meet their basic needs. For monetary measures, these absolute poverty lines are often based on estimates of the cost of basic food needs (i.e., the cost a nutritional basket considered minimal for the healthy survival of a typical family), to which a provision is added for non-food needs. For developing countries, considering the fact that large shares of the population survive with the bare minimum or less, it is often more relevant to rely on an absolute rather than a relative poverty line (American Heritage Dictionary,2009).

Ravallion (1992) identified poverty line as a poverty threshold. He explained it to be the minimum level of income deemed necessary to achieve an adequate standard of living in a given country. According to Ravallion (1992), the common international poverty line has in the past been roughly $1 a day. This is in-turn confirmed by Sachs (2005). However in 2008, the World Bank came out with a revised figure of $1.25 at 2005 purchasing-power parity (Ravallion and Prem , 2009).

In practice, like the definition of poverty, the official or common understanding of the poverty line is that it is significantly higher in developed countries than in developing countries (Hagenaars and van Praag, 1985; Hagenaars and Vos Klass, 1988). National estimates of poverty lines are based on population-weighted subgroup estimates from household surveys. He identified that definitions of the poverty line may vary considerably among nations. For example, rich nations generally employ more generous standards of poverty than poor nations. Thus, the numbers are not comparable among countries (Kenworthy, 1999).

Fixing the poverty line in Ghana.

Ghana Statistical Service (2007) defined absolute poverty line as that monetary value of consumption necessary to satisfy minimum subsistence needs. The service restricted the measurement of poverty line to calorie requirements but encountered the difficulty of which food basket to choose and how to specify the minimum requirements for non food consumption. Given information about quantities of food consumed by households and about the calorie content of these foods, the Ghana Statistical Service outlined a common way by which poverty

lines are determined. According to the Service, this is done by examining the average consumption basket of the bottom *'x'* percent of individuals ranked by the standard of living measure and computing how many calories this basket provides per adult equivalent. The quantities of each item consumed by an individual is then scaled up or down in the appropriate proportion to compute the basket with this composition, which would provide the minimum calorie requirement (2900 kilocalories per equivalent adult based on the scale used in Ghana). This provides an estimate of the food expenditure required to attain 2900 kilocalories based on the consumption basket of the poorest **'x'** percent of the distribution. The choice of **'x'** remains an obvious issue. Taking account of non-food needs is however subjective and more difficult to judge.

The poverty line determination methodology outlined above was used in the computation of poverty profile in the round 3 and 4 reports of GLSS (Ghana Statistical Service, 2000). This methodology suggests in round figures GHS70.00 while allowing for non-food requirements. This suggests an overall poverty line of approximately GHS 90.00 per equivalent adult per year in Accra January 1999 prices. Morduch (1998) further showed that this line represents roughly $1.00 a day. This latter line is what is used as the overall baseline for determination of future poverty lines in Ghana (Ghana Statistical Service, 2000). The lower poverty line of GHS70.00 is used as an extreme poverty line. People who lie below this poverty line would not be able to meet their calorie requirement even if they spent their entire budget on food (Ghana Statistical Service, 2007).

Further to the initial poverty lines drawn by Ghana Statistical Services (2000), two nutritionally based poverty lines which anchored on calorie requirements were determined. Firstly, a lower poverty line of GHS288.47 per adult per year. This focused on what was needed to meet the nutritional requirements of household members. Individuals whose total expenditure fell below this line were considered to be in extreme poverty, since even if they allocated their entire budget to food, they would not be able to meet their minimum nutritional requirements. This poverty line was the equivalence of GHS70.00 line used in 1990/91 before being inflated with the 1999/2000 Consumer Price Index (CPI). This poverty line was 37.8 percent of mean consumption levels in 2005/2006 (Ghana Statistical Service, 2000). Lastly is an upper poverty line of GHS370.89 per adult per year. This incorporated both essential food and non food consumption. Individuals consuming at levels above this could be considered able to purchase enough food to meet their nutritional requirements and be able to meet their basic non-food needs. This poverty line was equivalent to GHS90.00 used in 1990/91 poverty profile (Ghana Statistical Service, 2000), before being inflated with the 1999/ 2000 CPI. This line was 48.6 percent of the mean consumption levels in 2005/2006.

The poverty lines of GHS70.00 and GHS90.00 were used in the GLSS Round 5 but inflated with CPI provided by Ghana Statistical Service to January 2006 prices yielding poverty lines of GHS288.47 and GHS370.89.   These poverty lines take account of price differentials between different localities. In local prices, the higher poverty line can be translated to GHS370.89 Accra, GHS277.32

(Other Urban) GHS314.62 (Rural Coastal), GHS303.48 (Rural Forest) and GHS285.01 (Rural Savanna) (Ghana Statistical Services, 2007). In consequence, poverty lines of GHS 70.00 and GHS 90.00 becomes the benchmark poverty lines for computation of future poverty lines in Ghana.

Incidence, Depth and Severity of Poverty

Ghana Statistical Service (2007) identified the following indices as very important in the measurement of poverty in Ghana. The first index is the 'incidence of poverty'. This is the proportion of a given population of individuals identified as poor. The second is the 'depth of poverty'. This is the extent to which those defined as poor fall below the poverty line or the mean proportion by which the welfare level of the poor falls short of the poverty line. Lastly, is the 'severity of poverty'. This reflects the need to give greater attention to the poorest. It takes account of the distribution of poverty among the poor; giving greater weight to the poorest of the poor. These three indices – incidence, depth and severity are also buttressed by Thorbecke (1984).

According to Ghana Statistical Service (2007), those falling below the poverty line, have an average standard of living 42.3 percent below the selected poverty line. Further, the Ghana Statistical Service (2007) noted that the poverty gap index takes account of the incidence and depth of poverty. It also noted that the poverty line gives an indication of the minimum level of resources which would be required to eliminate poverty, assuming that resources could be perfectly targeted to raise every poor person exactly to the poverty line.

Levels of Poverty

Participatory wealth assessment is a way of determining the levels of poverty in the target communities using knowledge of the respondents rather than using formulae which can be fraught with problems and subject to manipulation.

Njeru and Enos (2002) explained Participatory Poverty Assessment methodologies as those methods that involve active exchange of ideas, role-taking and play; based on equitable and institutional partnerships between researchers and representatives of target groups. According to Njeru and Enos (2002), where the target populations are rural communities, their consultatively selected representatives' work together with the researchers to formulate the training and data gathering process, leaving none of the tasks exclusively in the hands of the experts. Participatory approaches imply equitable incorporation of the target group representatives in the delivery process, without undue dominance on the part of the facilitators. Participatory analysis   promotes collaborative action between communities and other target groups with governments, donors and resource persons. It promotes ownership for interventions adopted, promotes collaboration and cooperation between researchers, practitioners and lay people. Common participatory approaches to poverty assessment discussed by Njeru and Enos (2002) include focus group discussions, timelines, trend analysis, gender analysis, social mapping, seasonal calendar and wealth ranking.

Participatory wealth ranking as a concept of assessing the poverty status of people according to Jefferies (1997) is based on utilizing local knowledge about people's levels of wealth. According to him, it employs local people who live and

work in the same village and who have on daily basis observed others over a long period of time hence may be better judges of the levels of wealth than an outsider. Beyond this, Jeffries admitted that the local people have their own concepts of wealth in their societies; which are not only dependent on cash incomes. In traditional societies, Jeffries further explained that there are socially established indicators of well being and in participatory wealth ranking exercise using key informants from the local communities, the key informants rank their fellow villagers into wealth categories. Further, the informants decide on their own definitions of wealth and wealth categories. According to him, the wealth ranking exercise therefore helps to bring out the complexities and realities of wealth and poverty, rather than using definitions predetermined by the researchers (Jeffries, 1997).

Alayne et al. (1997) validate participatory wealth ranking technique using standard socio-economic indicators from a household survey in rural Bangladesh. In his study, key informants stratified 1637 households into three wealth groups according to a number of broad criteria and a questionnaire was subsequently administered to each household. The study showed that health, demographic and economic variables derived from the questionnaire were found to differ significantly according to wealth groups.

To take advantage of the local knowledge of the people in the target communities, this study adopted the Participatory wealth ranking methodology. The study assumes that the locals know themselves better and could give a better account of their poverty situation than to use predetermine index relationships to compute their poverty levels. As outline earlier, most of these index relationships

are fraught with pitfalls which may not bring out the reality of the situation on ground.

Poverty Profile of Ghana

Ghana Living Standards Surveys have been the most common instruments for monitoring the welfare of Ghanaians. The surveys show that poverty is pervasive in Ghana and this is justified by Ghana Living Standards Survey 4 (Ghana Statistical Service, 2000). It reports that about 40 percent of Ghanaians live under the poverty line, with about 26.8 percent classified as "very poor". These percentages are considered high for a country that has gone through almost two decades of structural adjustment.

The Ghana Statistical Service (GSS), in collaboration with the World Bank, implemented the first round of the Ghana Living Standards Survey (GLSS 1) in 1987/88. Since then, the GSS has conducted a total of four rounds of GLSS – GLSS 1 in 1987-88, GLSS 2 in 1988-89, GLSS3 in 1991-92 and GLSS4 in 1998-99. The GLSS series provides data on a wide range of areas including demographic characteristics of the population; education: health; employment and time use; migration; housing conditions; household agriculture; non-farm businesses; the state and use of facilities and infrastructure in rural communities; and the prices of selected basic commodities.

However, poor survey design and weaknesses in data collection and management has weakened the reliability of the GLSS data for trend analysis of poverty. In addition, there were definitional and methodological problems that also bedeviled time series analysis of poverty in Ghana. For example, there has been a

change in the household consumption aggregates; a change from the use of household consumption per capita to use of adult equivalent scales as the living standard measure; and the switch from the use of poverty lines which were computed as ratios of mean consumption to those that are explicitly based on nutritional requirements.

The first empirical work on poverty using data based on the Ghana Living Standard Survey was carried out in 1987/88 (Boateng, 1992). It employed measures of poverty based on the Foster, Greer, and Thorbecke (1984) methodology, and set poverty lines for the "poor" and "very poor" in Ghana at ¢32,981 and ¢16,491 per head, per year, in the constant prices of September 1987, respectively. These represented 30 and 10 percent of the population, respectively. The latter group is what it referred to as the "hard-core poor". It observed that about 19.2 percent of the "hard-core" poor live in the urban areas while 65.8 percent live in the rural areas. The pattern is generally the same for all the poor – it is basically a rural phenomenon

In the urban areas, most of the hard-core poor came from the informal sector. The data from the first round of the Living Standards Survey (1987/88) indicates that majority of those in the "hard-core" poverty class (about 80 percent) are non-cocoa farmers and non-"white collar" workers.

In 1994, the Ghana Statistical Service in its publication "The Pattern of Poverty in Ghana: 1987-1992", criticized Boateng *et al* methodology as being biased against the "very poor". Using the GLSS-3 data, they proposed an alternate measure which sets the poverty line at 171,205 cedis per year, per equivalent

adult in constant May 1992 Accra prices, and an ultra poverty line of GHS 128,404 in the same units. The report then used the first three rounds of the GLSS to analyze poverty over the period 1987 to 1992. After some adjustments to ensure comparability of data over the years, the report concluded that significant reductions in poverty occurred between 1988 and 1992. Specifically, the proportion of the population living below the poverty line dropped from about 56 percent in 1987/88 to 51 percent in 1991/92, after hitting a high of 61 percent in 1988/89.

Poverty in Ghana, before the reforms, was a rural phenomenon and has continued to be so after the reforms. However, there have been shifts in poverty distribution across localities, which may be attributed to the economic reform programme. In particular, changes in relative prices appeared to have had differential impact on various indices, producing differing structural shifts in poverty. Poverty levels in Accra increased substantially over the first ten years of structural adjustment. The data inadequacies notwithstanding, the proportion of Accra dwellers that are poor rose from 25 percent in 1988 to 40 percent in 1992. This may be due to the fact that most of the adjustment policies had a direct impact on the urban public sector.

Poverty in the other urban areas, as well as rural-coastal and rural-forest localities fell during the first decade of structural adjustment. Because the adjustment polices benefited the tradable sector, it is not surprising to see a fall in poverty in the rural forest areas since they produce most of the country's exports – cocoa, timber, gold, bauxite and so on.

Rural-savannah continued to be the poorest zone in the country with more than half its population classified as poor and more than a third being "very poor" in 1992. This region produces mainly consumables, which are not considered tradable commodities in the strict sense of the word. There is also little significant difference in poverty levels among the different localities.

There were more dramatic shifts in the poverty profile of the different socio-economic groups. The first five years of the programme saw poverty levels rising for all socio-economic groups. By 1991, poverty levels have dropped for all socio-economic groups. Comparing poverty levels in 1987 with those in 1991, it appears all other groups apart from public sector workers gained substantially by way of reduction in poverty. The retrenchment exercises worsened standard of living of public sector workers, while the persistently high inflation rate and the marginal increases in salaries reduced real incomes for fixed wage earners. In spite of the ill effect of the adjustment programmes on poverty status, the proportion of the poor among public sector workers was still below the national average.

Contrary to the general supposition that devaluations have switched terms of trade in favour of the tradable sector and hence should help export farmers, evidence from the first three rounds of the Living Standards Surveys suggests that poverty level among the export crop farmers have not been much different from that of the non-export food farmers.

Gender analysis of poverty profiles in Ghana presents an interesting finding. On the average about thirty per cent of households in Ghana are headed by women; but this proportion seemed to be increasing with the years. This may be a

symptom of the increasing unemployment in the formal sector, which is dominated by men. However, it appears this has been good in terms of poverty reduction. Data from the Living Standards Survey shows that poverty levels in female-headed households have reduced over the years. The proportion of non-poor female-headed households increased from 25.9 per cent in 1988 to 32.1 per cent in 1992.

The fourth round of the Ghana Living Standards Survey (GLSS-4), which was carried out in 1998/99, extends the poverty analysis over the second decade of the adjustment period. Its compendium, "Poverty Trends in Ghana in the 1990s" by the Ghana Statistical Service uses data from GLSS-3 and GLSS-4 to analyse poverty profiles in the second decade of the adjustment programme. The report, used now to represent current national poverty trend set new poverty lines at 700,000 cedis per adult per year for the lower line and 900,000 cedis per adult per year for the upper line, equivalent to 49.6 and 63.7 percent, respectively, of mean consumption levels in 1998/1999.

The report concluded that on the whole poverty levels in Ghana fell during the period of the 1990s. The percentage of Ghanaians who are poor fell from about 52 percent in 1992 to just under 40 percent in 1999. The decline, however, is not evenly distributed geographically. The poverty reduction was concentrated around Accra and the forest (rural and urban) localities. In the Savannah regions, the proportion of the poor actually increased during the period. In the remaining localities, both urban and rural, the fall in poverty was not significant.

Although at the national level the incidence of poverty appeared to have declined over the years, some issues have either not changed significantly or have even become worse. For example, computations of the income-gap ratios using data from the GLSS revealed that the depth of poverty has not changed significantly over the years. Poverty continues to be high among food crop farmers.

In sum, the poverty indices from the Ghana Living Standard Surveys have shown that at the global level incidence of poverty has declined since the institution of the structural adjustment programme in Ghana. This general observation using national data for household consumption functions is buttressed with qualitative data on social conditions obtained through the Core Welfare Indices Questionnaire (CWIQ) and the various Health and Demographic Surveys.

Available data suggests that there is an improvement in the national literacy rate from 57.3 percent in 1992 to 66.4 percent in 1997. Similarly an improvement in quality of health using life expectancy showed an increase from 57 years in 1992 to 60 years in 1997. In 1997, more Ghanaians had access to safe water than in 1992.

Kanbur (2001) provides three reasons why the assertion that poverty has gone down in Ghana should be questioned. First, the use of the income-expenditure based measurement in the Living Standards Survey neglects value of public services. Second relates to the disparities that exist between localities and different socio-economic groups, which are glossed over during national aggregation. Thirdly, while in percentage terms incidence of poverty may be falling, absolute poverty may be rising. Between 1987 and 1991, incidence of poverty in

Ghana fell at the rate of one percentage point per year; however, the population was growing at almost twice that rate, with the result that the absolute number of the poor grew sizably.

The Ghana Statistical Service follows three logically distinct steps in measuring poverty. The first of the steps is the identification of a suitable measure of standard of living. The second step is the choice of poverty line and lastly, the identification of poverty indices. In identifying a suitable measure of standard of living Ghana Statistical Service (2005) indicates that its interest is in those individuals who have the lowest living standards in any given society. The living standard is either measured at the household level or at the level of individual household members. In choosing of poverty line, the Service identified an appropriate value of the standard of living measure which can be used to demarcate the poor from the non-poor. The value arrived at is referred to as the poverty line. The poverty line is the threshold below which an individual is regarded as poor.

Ghana Statistical Service (2005) indicated further that in the estimation of poverty line for a country there is the need for a large amount of information and a large number of assumptions. In the opinion of Ghana Statistical Service (2005), where a well established and widely accepted poverty line is not available, researchers need to adopt either of the following short-cut methods. As a shortcut, the Service suggested identification of a particular percentile point of the distribution of a standard of living index in a base year; estimation of a given fraction of the mean value of the standard of living measure in a base year; specification of the minimum wage applying at a point in time, converted into the same terms as

the standard of living measure in the base year; comparison with generalized poverty lines for low income countries, developed by the World Bank and inflating existing poverty lines based on recently declared Consumer Price Index of specific areas.

These shortcuts are however associated with some degree of arbitrariness such as the percentile to be chosen as representing the poverty line (Kanbur, 2001) and the fraction of the mean to be used (Boateng, 1992). Further, there is the difficulty of how to convert minimum wage levels, which apply to individuals, into the same units as the standard of living measure and which one applies to the household level (World Bank, 1992). Furthermore, it is difficult to convert two separate poverty lines into local currency terms, mainly because of the difficulty of finding an appropriate currency conversion factor. However, inflating existing poverty lines based on CPI of specific areas is only hindered by the regularity of release of the Consumer Price Index and how authentic it is. Baring other disadvantages, this is a more feasible approach in the estimation of poverty lines in communities without current poverty lines (Ghana Statistical Service, 1995).

On the basis of the above advantages, the current study therefore adopts the Ghana Statistical Service approach of estimating poverty lines using declared CPI and inflating it over the previously determined poverty lines for the Central Region in 2009 at a time when poverty lines for the period were yet to be released by the Ghana Statistical Service. After defining a measure of the standard of living and a determining a poverty line, a convenient means of summarizing the principal dimensions of poverty is sought. This process according to Ghana Statis-

tical Service (1995), is embodied in the identification of poverty indices. In this regard, the incidence and depth of poverty are of interest.

The definition of poverty is anchored on level of consumption which is concerned with those whose standard of living falls below an adequate minimum defined by a poverty line. The poverty line is set as that level of standard of living measure at which minimum consumption requirements can be met following common practices in many countries. In Ghana, living standard surveys collect sufficient information to estimate total consumption of households. This covers consumption of both food and non-food items. In using measures of household consumption to compare living standards across Ghana, account is taken of variations in the cost of living across the households as well as differences in their size and composition (Ghana Statistical Service, 1995). Cost of living index allows for variation in price over time between sample years based on Consumer Price Index (CPI). The use of area Specific CPI allows for adjustment in relative prices. In this way, each household's consumption expenditure is expressed in Accra prices in the January of each measuring year (Ghana Statistical Service, 2007).

Ghana ranked 131 in severity of poverty among 177 countries listed in a Human Development Index (Ghana Statistical Service, 2008). This could imply that Ghana experiences widespread poverty characterized by low quality and quantity of employment opportunities than the countries above her in the ranking. With low opportunities for employment and income generation, almost 51 percent of the population was living below the national higher poverty line of GHS370.89 in 1991/92, 40 percent in 1998/99 and 29 percent in 2005/06. With a lower pov-

erty line of GHS288.47, thirty seven percent of the population were considered poor in 1991/92, twenty seven percent in 1998/99 and eighteen percent in 2005/06 (Ghana Statistical Service, 2006).

IFAD (2006) also reports that 51 percent of the poor people in Ghana live in rural areas and the poor rural people have limited access to basic social services including safe water. It also indicated that most poor rural areas lack all year round roads, electricity and telephone services. The IFAD report further indicated that poverty is deepest among food crop farmers, who are mainly traditional small-scale producers, and about six out of ten small-scale farmers are poor and many of them are women. Further, women are deeply affected with poverty than men and more than half of the women who are heads of households in rural areas are among the poorest 20 percent of the population. Beyond this, women bear heavy workloads and they are responsible for 55 to 60 percent of agricultural pro-duction. Also, they are much less likely than men to receive education or health benefits or to have a voice in decisions affecting their lives. It concludes that the poorest people in rural areas include the aged and the disabled, as well as with HIV/AIDS and others who are chronically ill and likely to migrate but seriously affected by poverty.

IFAD (2006) further identified the poorest areas in Ghana as the Northern, Upper East and Western and Central Regions and that the rural people in these areas face chronic food insecurity. Livelihoods, according to the IFAD (2006) re-port, are more vulnerable in those regions of the North and all members of these communities suffer as a result of the food insecurity during part of the year.

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In identifying the causes of poverty and in answering the question on why rural people are poor, the IFAD (2006) report identified that farm productivities are generally low; there are poorly functioning markets for agricultural produce and small–scale farmers rely on rudimentary methods and technology. The report further indicates that skills and inputs such as fertilizer, improved seeds that would increase yields are lacking, erosions are high and fallow periods are also short. Further, rate of lost of soil fertility is high thus posing a long term threat to farmers' livelihoods and incomes and there is increasing population pressure on arable land coupled with continuous cultivation in densely inhabited Upper East region. Worsening the situation is the short fallow period in Upper West Region causing further deterioration to farmlands.

IFAD continued its report that smaller number of farmers has access to ir-rigation, land ownership and land security are regulated by complex systems, farm animals are of insufficiently productive genetic stock and poor farmers are without the good market and rural infrastructure they need for storing, processing and marketing of their produce.

In tracing Ghana's economic transition, Potner (2003) noted that poverty is endemic in Ghana and only dropped from 50 percent to less than 40 percent between 1992 to1998. Potner noted that the decrease in poverty was not uniform across the country. According to him the three regions, Northern, Upper West and Upper East experienced virtually no improvements but rather saw some increases in poverty. His analysis of determinants of poverty in Ghana highlighted the need to diversify exports and step up private sector growth as prerequisites for econom-

ic growth, employment generation and poverty reduction. Potner (2003) further argued that infrastructure and access to financial and physical markets are important for poverty reduction. According to him, investments in social sectors need to be given focused attention so as to develop skilled labour force in addition to raising the social welfare of the poor. Potner (2003) indicated that, poverty is deepest among food crop farmers who are mainly traditional small-scale producers. He noted that about six out of ten small-scale crop farmers are poor, and many of them are women. According to him, despite the efforts to reduce poverty among poor crop farmers in Ghana, they still remain poor and women are among the worst affected. He lamented that more than half of women who are heads of households in rural areas are among the poorest. These women according to Potner (2003), are responsible for 55 to 60 percent of agricultural production. The women work at least twice as many hours as men, spend about three times as many hours transporting water and goods, and transport about four times as much in volume. To the women, poverty means high numbers of infant deaths, under-nourished families, lack of education for children and other deprivations.

The aged and the disabled, according to Potner (2003) as well as people with HIV/AIDS and other chronically sick people, are other faces of the rural poor in Ghana. Potner (2003) identified that, among the causes of rural poverty are low productivity and poorly functioning markets for agricultural outputs. According to him, small-scale farmers rely on rudimentary methods and technology and they lack the skills and inputs such as fertilizer and improved seeds that would increase yields. Compounding the problem is the fact that the poor farmers

are without market and rural infrastructure they desperately need for storing, processing and marketing their products (Potner, 2003).

Boachie and Ahadzi (2001) commented that poverty is pain and it feels like a disease. According to them, it attacks a person not only materially but also morally and it eats away one's dignity and drives one into total despair. They insisted that several efforts have been made to reduce poverty in Ghana over the years through equipping the poor with employable skills. According to them, to the poor, labour in its crudest form, is a key asset and adding value to that asset could offer a route out of poverty. However, the stock of skills required by the poor goes beyond technical and entrepreneurial abilities. Beyond these the poor need skills that could make them confident and capable to explore and try new income-earning opportunities within the labour market (Boachie and Ahadzi 2001). Further, they indicated that among the critical competencies needed to reduce poverty are skills for numeracy, literacy, social, communication, problem-solving and decision-making, negotiation, learning, training to promote social inclusion. Other training needs identified by Boachie and Ahadzi (2001) include understanding of social rights, citizenship, and self organization. They concluded by emphasizing that, the poor need to undergo the type of training that will allow them to understand how to learn in addition to acquiring specific occupational skills (Botchie and Ahadzi, 2001).

World Bank (1995) explained that about 5.8 percent per annum GDP growth was required to restore Ghanaian Living Standards to its 1965 level by the year 2000. On this basis, it would take 10 years for the average poor Ghanaian to

escape poverty and 40 years for the poorest of the poor. Also the proportion of the population defined as poor decreased from 52 percent in 1991/92 to 39.5 percent in 1998/99, based on an expenditure definition of poverty. Further poverty in Ghana is overwhelmingly a rural phenomenon with 80 percent of those persons classified as poor residing in the rural areas. In addition, by ecological zones, the rural savannah tops the list as the poorest zone in Ghana. This comprises Upper East, Upper West and Northern Regions. The Bank also reported that rural forest zone is also a poverty endemic area in Ghana. Further the major areas of concentration of the poor in the forest zone are Central and Eastern Regions. In the rural savannah and rural forest, more than 40 percent of their populations are classified as poor (World Bank, 1995).

World Bank (1995) further emphasized that, the Upper East, Upper West, Northern, and Central Regions experienced increase in extreme poverty in the 1990s. The high incidence of extreme poverty is reflected in malnutrition and about 30 percent of lower than 5 years old were stunted, 26 percent are underweight, with boys slightly more likely than girls. Though, high among the poorest, malnutrition was surprisingly widespread, suggesting that other interventions in health and nutrition have the capacity to impact on the problem independently of higher incomes.

World Bank (1995) also saw poverty in Ghana as a multi-dimensional issue emphasizing on quantitative as well as qualitative dimensions. The poor were described in the World Bank Report as those living in households with per capita expenditure below two-thirds of the national average. The bank referred to hard-

core poverty as households whose per capita expenditure is below one-third of the national average. Based on its household sample survey in 1992, about 31 percent of the estimated total Ghanaian population lived below the poverty line and 15 percent were in hard-core poverty (World Bank, 1995).

In comparing poverty in Ghana with that of Zimbabwe, Asiedu (2002) attributed the causes of poverty to the introduction of market-based Economic and Structural Adjusted Program (ESAP) and the inability of the educational system to respond to skills needed in the job market. He identified other causes of poverty in Zimbabwe as low income levels arising from inadequate access to productive resources like land, credit and technology. He however found the causes of poverty to be similar in both countries.

Asiedu (2002) further identified that poverty as a major problem in Ghana dates as far back as the early 1970's when the economy started to decline. When the economy reached its lowest ebb in 1982, the Economic Restructuring Program (ERP) was initiated. The ERP was known to have rather aggravated the poverty situation, especially of the very poor households.

The early recognition of poverty as a development problem led to the inclusion of poverty alleviation packages in all the national plans of Ghana since the 1970's. On the other hand, poverty was recognized in Zimbabwe as a problem when ESAP was implemented in 1991. Poverty was seen more or less as an offshoot of the economic reform program (Asiedu, 2002).

Asiedu (2002) commented that Ghana Poverty Reduction Strategy (GPRS) was initiative that described poverty as endemic in Ghana especially among rural

farming and fishing communities. According to him this is signified in the living condition of the people inhabiting the areas in which these activities were carried out. It was to alleviate the hardships of the people that various interventions were put in place such as the GPRS. Asiedu (2002) explained that the GPRS initiative was developed in 1995/96 and updated in 2000-2001. It was a home-grown strategic approach to poverty reduction with emphasis on economic growth, integrated rural development, improved access of the poor to basic economic and social services, expanded employment for urban poor, agricultural development and family planning.

IFAD (2009) reports that, the economy of Ghana grew at an average rate of 4.5 percent over two decades. IFAD indicated that that GDP growth was 6.3 percent in 2007. The report explained that agricultural sector which contributed 34 percent of GDP in 2007, remains the country's major engine of economic growth. The benefits of economic progress were considered dramatically evident in the fact that national poverty rates were cut almost in half, from approximately 51.7 percent in 1991-1992 to 28.5 percent in 2005-2006. Further, poverty decreased by 17 percent points in urban areas and 24 percent in rural areas. As a sign of hope, IFAD indicated that Ghana's growth and poverty reduction rates were probably the best that have been achieved in all of sub- Saharan Africa within a period of 15 years.

In answering the question on who are Ghana's rural poor people and where do they live, the IFAD (2006) report indicates that although there has been a substantial overall decline in the incidence of poverty in Ghana, poverty still has

a firm grip on rural areas. This is much evidenced especially in Northern Ghana and parts of the South including Central Region. Further, the report show that there is a wide disparity of income between people in the South, where there are two crop growing seasons and greater economic opportunities, and people living in draught–prone northern plains.

Trend in Poverty by Region in Ghana

The trend in poverty across the regions varies substantially. It is character-ized by the change from 1998/99 to 2005/06. The most significant reduction oc-curred in the Eastern and Central Regions which were considered to be the two regions with the highest poverty incidence in Southern Ghana in 1998/99. Ac-cording to the round 5 report of the GLSS the Eastern and Central Regions occu-py the second and fourth places respectively in terms of incidence of poverty in Ghana (Ghana Statistical Survey, 2007). The report indicates that, the incidence of poverty declined in all regions except Greater Accra and Upper West Region. Whereas the incidence of poverty in Greater Accra was about 26 percent in 1991/92, it declined to 5 percent in 1998/99. It again increased to over 11 percent in 2005/06. The highest poverty incidence occurred in the Upper East Region from 84 percent in 1998/99 to about 88 percent in 2005/06. Further, Eastern Re-gion recorded the second lowest poverty incidence in the country with about 15 percent of the population living below the poverty line. In 1998/99, Eastern region recorded the highest incidence of poverty followed by Central Region. These trends suggest variations in poverty by geographical locations in Ghana.

Trend in Poverty by Economic Activity in Ghana

Ghana Living Standard Survey Reports 1- 5 emphasized that poverty is high among food crop farmers than within other occupational groups. In 2005/06, the contribution of food crop farmers to the National Incidence of Poverty was far in excess of their population. At the national level, approximately 48 percent of those identified as poor are from households that cultivate food crop as the main economic activity for livelihood. The concentration of poverty among food crop farmers is more pronounced when measures such as depth of poverty, extreme poverty and incidence of poverty were used. Food crop farmers also experienced the least reduction in poverty by 8.7 percent point relative to other groups in 1998/99. This situation improved in 2005/06 when the food crop farmers experienced an appreciable reduction of 13.9 percent points (Ghana Statistical Service, 2007).

Farmers, non-farm self employed and public sector employees enjoyed the greatest gains in their standard of living while private sector employees and non-working households had the greatest incidence of poverty. Female headed households appeared to be better off than male headed households and enjoyed increasingly lower poverty (Ghana Statistical Service, 2008).

Effects of Poverty

The effects of poverty can be thought of as manifesting into poor education, hunger, poor health, poor housing and social embarrassment**.**

Poor education.

In his study on the effects of poverty in Africa, Adkins (2008) observed that 62 percent of children in Africa do not complete primary school. He explained that poverty in Africa means more than not being able to pay the bills on time. It means lack of education and jobs, poor or non-existent health care and sanitation, vulnerability to diseases, hunger and often, death. He further identified that poverty is not limited to hunger and disease but that for most people in Africa; it leads to lack of education to the extent that they receive no schooling at all. The relationship between poverty and education may be seen as operating in two directions. Firstly, poor people are often unable to obtain access to an adequate education and secondly, without an adequate education, people are often constrained to life of poverty (Sen, 1992 and Sen, 2001).

In the opinion of Ferreira and Litchfield (1998), a better educated household is less likely to be poor. Further, better educated people have a greater probability of being employed, are economically more productive, and therefore earn higher incomes. Orazem (2007) however believed that the impact of education on earnings and poverty, works largely through the labour market, even though, education can also contribute to productivity in other areas. Psacharopouls and Patrinos (2004) previously thought that education was highest at primary levels. This belief provided a strong case for expanding investments in primary rather than higher levels of education. However, some new evidence shows that investment in education at the secondary or even tertiary levels may bring even higher returns. This could imply that returns to education vary with factors such as level

of development, the supply of educated workers, and a shift in the demand for such workers in the development process (Murphy and Welch, 1994).

Barro (2001), Hanushek and Kimko (2000), Hanushek and Wobman (2007), Hanushek and Zhang (2006) demonstrated how good quality education promotes economic growth. According to them good quality education ensures a high level of impact and sustained levels of economic growth on society and general development. An increase in economic growth rate according to Barro (2001) in developing countries can reduce poverty dramatically with good quality education. Hanushek and Kimko (2000) concluded that better education can translate into sustained growth which can reduce poverty drastically.

Londono (1996) argued that inadequate education has been the most important factor holding back economic growth in developing countries and thereby sustaining high levels of inequality and poverty. Londono expressed optimism on how improved education can bring a large and relatively quick reduction in poverty. An important choice however is the level to which education should expand. Londono (1996) identified that primary education is most important for economic growth in low income developing countries, secondary education for middle income developing countries, and tertiary education for rich countries.

Haveman (1995) outlined the advantages that education provides to include the improvement in the living standards of communities, improvement in the social and economic development of countries, change in peoples' behaviour as a consequence of the knowledge gained. Haveman (1995) concluded that a

long list of such benefits can be identified but not all of these changes in behaviour necessarily have an impact on poverty.

Huston (1991) identified that there is a high risk of educational underachievement for children who are from low-income households. This according to him is a process that begins in primary school for some less fortunate children. As a result, these children are at a higher risk than other children for retention in their grade, special placements during the school's hours and even not completing their high school education (Huston, 1991). According to Hustson (1991), for children with such low resources, the risk factors such as juvenile delinquency rates and higher levels of teenage pregnancy are more prevalent.

Poverty often drastically affects children's success in school. A child's "home activities, preferences, mannerisms" must align with the world and in the cases that they do not, these students are at a disadvantage in the school and most importantly the classroom (Bobbie, 2005). Children who live at or below the poverty level therefore have far less success educationally than children who live above the poverty line. Poor children have a great deal less healthcare and this ultimately results in many absences from the academic year. Additionally, poor children are much more likely to suffer from hunger, fatigue, irritability, headaches, ear infections, flu, and colds (Bobbie, 2005). These illnesses could potentially restrict a child or student's focus and concentration.

Extreme hunger.

Poverty also leads to hunger and deny its victims opportunities to enhance their livelihoods. It debilitates people physically, physiologically and psychologi-

cally. Those weakened by hunger find themselves in a vicious cycle of hunger-poverty-hunger. Once a household falls into the hunger trap, it is difficult to escape even if improved economic environment offers new opportunities. In such a situation, hunger and poverty are assured for future generations in the household (Spurr, 1990).

According to Jazairy and Alamjir (1992), the bulk of the poor consists of landless and near-landless people. The landless and near-landless have to sell their labour to earn a living. The amount of work they can do and how much they produce determine their poverty level and standard of living. Those who do not find any work or have to work for meager wages become hungrier and poorer thus falling into poverty trap of "hungry today, hungry tomorrow and hungry forever"

Simmons (1981) reported that in most of rural Africa where agriculture is the main source of supply of food, seasonal food shortages still remain a direct offspring of poverty. This is a common phenomenon especially in areas with uni-modal rainfall and little or no dry season cultivation of crops. These seasonal food shortages according to Simmons (1981), has severe effect on agricultural production by limiting the quantity and quality of labour input into agriculture. Kumar (1988) found that, during the months of peak agricultural activity in a grain-surplus province in Zambia, the nutritional status of more than half of the adults declined to a level at which work capacity was impaired. Nearly all were from households whose food stocks finished early in the planting season (Kumar, 1988). Further in Zambia, non-availability of food stocks (a situation of food poverty) seriously limited the hiring of labour. This was because food was a common

mode of wage payment. The insufficient labour curtailed both the extent of area planted to crops and the productivity expected from a given area. Thus a 10 percent decrease in food stocks during a peak labour demand resulted in a 3.5 percent decrease in aggregate output (Simmons, 1981).

Food non-availability leads to food poverty. Poverty calls for food aid. Food aid is therefore a key instrument that can help remove poverty traps that hunger causes. Food and Agriculture Organization (FAO) (1996) identified food aid as an effective means of assuring both relief from hunger and movement away from poverty. FAO uses the World Food Program to provide food aid among the rural poor. Food for work is identified to promote self reliance of poor people especially during periods when hunger is most prevalent during the agricultural lean season. Food for work projects thus assures short-term food security to the poor. It helps the poor to obtain literacy and education, encourages the poor to develop special skills and receive training for self reliance (FAO, 1996). Poverty often makes the poor less able to afford even basic items such as food. However, poor people often spend greater portion of their budgets on food than richer people. As a result, poor households and those near the poverty threshold are particularly vulnerable to increased hunger with increased poverty (BBC. (2008).

Food poverty leads to hunger and hunger may be damaging (Laurie 1990). In answering the question of -who is hungry, Laurie (1990) differentiated production shortfalls (food shortage, inadequate food availability within a household (food poverty) from individual malnutrition (food deprivation).According to Laurie (1990), food poverty and food deprivation may be caused by poor harvest

which may undermine livelihood of farmers and thus reduce food availability. Food shortages in households may therefore come about when unemployment or rising prices of other goods reduce the amount of food certain groups can afford to purchase or when food supplies are directed away from civilians towards military needs (Laurie, 1990).

Social embarrassment.

The effects of poverty on the poor, according to Obadan (1997), include social inferiority, isolation, physical weakness, vulnerability, powerlessness and humiliation. Okunmadewa (1997), Olowononi (1997) and Evbuomwan (1997) also identified exposure to risk, limited opportunities to income generation, misery, crime, untimely death, fear, despondency, depression and suicide as other plagues of the poor.

Poor health

Globally, about one third of deaths approximating almost 18 million people a year are due to poverty related issues (World Health Organization, 1999). According to the World Health Organization (1999), one-third of deaths in deprived communities are due to poverty-related causes. Those living in poverty suffer from hunger or even stavation leadind to diseases and lower life expectancy (World Bank, 2007).

World Health Organization (1999) reported that hunger and malnutrition are the largest threats to the world public health. It also identified that malnutrition is by far the biggest contributor to child mortality.

Patrinos (2004) reports a more formal but generally multivariate analysis which attempts to establish that poverty causes poor health. The key finding from the individual/micro-level research is that there is a very clear and very robust relationship between individual income and individual health. That is, poverty leads to lower health status. His additional findings are that: while increases in income are associated with increases in health status across the full income spectrum, the gains are largest for those at the bottom of the income distribution scale; longer-term measures of income have larger health associations; long-duration poverty has larger associations with health than occasional episodes of poverty; while both income level and changes in income level are important, the former is more important; negative .shocks to income have bigger consequences than positive shocks. At the population/macro-level, a flurry of research has tested the hypothesis that societies with more inequality have worse health outcomes. Explanations for this phenomenon are that, the absolute income hypothesis suggests that health status increases with the level of personal income but at a decreasing rate, so that countries with more equally distributed incomes will be observed to have higher average levels of health; the relative position (or psycho-social) hypothesis emphasizes individual position within a social hierarchy, independent of standard of living, as the key to understanding the link between socio-economic inequality and health; the neo-materialist hypothesis argues that high levels of income inequality are simply one manifestation of underlying historical, cultural, political and economic processes that simultaneously generate inequalities. From this per-

spective, inequalities in health derive from inequalities in all of the above aspects of the material environment.

Poor housing.

Poverty increases the risk of homelessness (USA Today, 2007). Slum-dwellers, who make up a third of the world's urban population, live in poverty. This situation is more pronounce among rural people who are the traditional focus of the poverty in the developing world, according to a report by the United Nations (BBC, 2006).

Family Size and Poverty

According to Lipton (2001), large family sizes and high dependency ratios are associated in with under-nutrition, ill-health, and discrimination against girls, low education as well as with poverty itself. Poorer families usually have high ratios of dependent children to adults able to work or save and this makes it harder to escape poverty. Lipton (2001) outlined that assets can empower the rural poor by increasing their income, reserves against shocks, and choices to escape from harsh or exploitative conditions. There are strong complementarities among asset types. The poor (and economic growth) do better with some improvement in health, nutrition and schooling than with a lot in one and none for the others. Human assets do more for a poor person if she also has some farm assets whose productivity is rising. Previous education helps a poor person get better returns from irrigation. Participation in designing and implementing public asset policy – locating wells, running schools - helps both efficiency and poverty reduction. On technology, natural resources and poverty reduction, Lipton (2001) indicated that

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technology is central in reducing rural poverty. Lipton concluded that with regard to markets and rural poverty reduction, markets benefit the rural poor to the extent that they are open, on a fair basis, to rural groups especially prone to poverty or exclusion; and adequate to connect buyers with sellers – of products, consumables at reasonable transport and transaction costs.

Green (2006) concedes that globally, extreme poverty continues to be a rural phenomenon despite increasing urbanization. According to him, of the world's 1.2 billion extremely poor people, 75 percent live in rural areas and for the most part they depend on agriculture, forestry, fisheries and related activities for survival.

Characteristics of Poverty

Poor people spend a greater portion of their budgets on food than richer people. As a result, poor households and those near the poverty threshold can be particularly vulnerable to increases in food prices (United Nations Development Programme, 2010).

The rural poor often dwell in poor infrastructure that hinders development and mobility. Rural poor live in areas that lack sufficient roads that would increase access to agricultural inputs and markets. Without roads, the rural poor are cut off from technological development and emerging markets in urban areas. Poor infrastructure hinders communication, resulting in social isolation among the rural poor. Such isolation hinders integration with urban society and established markets, which could result in greater development and economic security. Moreover, poor or nonexistent irrigation systems threaten agricultural yields because of

uncertainty in the supply of water for crop production (United Nations Development Programme (2010).

Many poor rural areas lack irrigation facilities to store or pump water, resulting in fewer crops, fewer days of employment and less productivity.   In many rural societies, there are few job opportunities outside of agriculture, often resulting in food and income insecurity due to the precarious nature of farming. Rural workers are largely concentrated in jobs such as owner-cultivators, tenant farmers, sharecroppers, informal care workers, agricultural day-labourers, and livestock herders. Without access to other labour markets, rural workers continue to work for extremely low wages in agricultural jobs that tend to have seasonal fluctuations and thus little income security. In addition to labour, the rural poor often lack access to capital markets and financial institutions, hindering their ability to establish savings and obtain credit that could be used to purchase working capital or increase their supply of raw materials. When coupled with scarce job opportunities, poor access to credit and capital perpetuates rural poverty. In many rural societies, the poor lack of access to education and has limited opportunities to increase and improve one's skills. These inhibit social mobility. Low levels of education and few skills result in much of the rural poor working as subsistence farmers or in insecure, informal employment. These situations perpetuate the state of rural poverty. Inadequate education regarding health and nutritional needs often results in under-nutrition or malnutrition among the rural poor. Social isolation due to inadequate roads and poor access to information makes acquiring health care and affording it particularly difficult for the rural poor. These often

results in worse health and higher rates of infant mortality in particular (Haveman, 2002).

A major characteristic of a poor person is not having enough income to buy food and afford adequate housing. The basics of human survival according to Ellwood and Jencks (2001) are water, food, shelter, clothes and warmth. People are considered poor or living in poverty when their income is insufficient to pay for their basic needs to be met or if they need to live in substandard housing conditions or they are homeless.

Fein (2003) believes that poor couples get married just as often as people who have more income. Poorer couples have significantly lower levels of education and lower employment rates than married couples with adequate income. People living in poverty also tend to have a different mental perspective than those who have adequate incomes. A poor person, for example, is more concerned about having enough food to eat as opposed to whether they enjoyed their meal or if it was presented well (Fein, 2003).

A study of 24 African countries found that standards of living in rural areas almost universally lag behind urban areas (World Bank, 2009). In terms of education, school enrolments and the ratio of girl-to-boy enrollments is much lower in rural areas than in urban areas. A similar trend is found in access to neonatal care, as those living in rural areas had far less access to care than their urban counterparts. There are also far more malnourished children in rural areas of Africa than in urban areas. In Zimbabwe, for example, more than twice the share of children is malnourished in rural areas (34 percent rate of malnourishment) than

in urban areas (15 percent rate of malnourishment). Inequality between urban and rural areas, and where rural poverty is most prevalent, is in countries where the adult population has the lowest amount of education. This was found in the Sahelian countries of Burkina Faso, Mali and Niger where regional inequality is 33 percent, 19.4 percent, and 21.3 percent, respectively. In each of these countries, more than 74 percent of the adults have no education. Overall, in much of Africa, those living in rural areas experience more poverty and less access to health care and education (World Bank, 2009)

Raisuddin and Hossain (1990) report that rural women are particularly disadvantaged, both as poor and as women. Women in both rural and urban areas face a higher risk of poverty and more limited economic opportunities than their male counterparts. The number of rural women living in extreme poverty globally rose by about 50 percent over the past twenty years. Women in rural poverty live under the same harsh conditions as their male counterparts, but experience additional cultural and policy biases which undervalue their work in both the informal, and if accessible, formal labour markets. World Bank (2009) however indicates that women play an active role in agriculture and rural livelihoods.

UNICEF (2007) and Hamdok (1999) identified women's contribution to the rural economy is generally underestimated, as women perform a disproportionate amount of care work, work that often goes unrecognized because it is not seen as economically productive. Though in some nations, cultural and societal norms prevent women from working outside the home, in other countries, especially in rural communities in Africa, women work as major food producers, im-

proving household food and income security. Families in extreme poverty are even more dependent on women's work both inside and outside the home, resulting in longer days and more intense work for women (UNICEF, 2007).

In a Participatory Poverty Assessment (PPA) of rural people in Cambodia, Sovatha and Christian (2007) outlined the characteristics of the poorest and the poor. The findings showed that the poorest had 2-3 acres of land. Some were even landless, owned one draft animal but no farming implement, lived in a housing made of thatch in very poor condition, used few household utensils and lived on hand to mouth basis for up to eight months. The poor relied on natural resources to meet subsistence needs and accumulated debts and were unable to repay or borrow additional amounts. They also enjoyed no kinship support but had large young families with 5-12 children. The PPA findings on the poor showed that the poor had land less than 4 acres but in unfavorable locations and usually had a pair of draft animals and at least some farm implements. Further, the houses of the poor were made of thatch sometimes with tile roofs and bamboo walls. Their household utensils were limited in number and they experienced 3-6 months duration of food shortages. Above all, the poor were able to borrow money for their farming activities and paid back (Sovatha and Christian, 2007).

Boateng (1992) identified poverty in Ghana as characterized by low production, low income, low level or lack of education, poor health, poor water quality, high population growth, negative cultural and social practices, environmental degradation, unplanned and uncontrolled human settlements. He further indicate that poverty is caused by factors such as poor parentage, high cost of living, harsh political reforms

and decisions, bad economic policies, lack of education, natural disaster, misuse of resources, poor family background, laziness and lack of employment. In Ghana, according to him, the causes of wealth were almost the opposite factors responsible for poverty.

The findings of a study by Barrett, et al (2006) to understand persistent poverty in Africa revealed that the poorest often live in remote rural areas; are more likely to be ethnic minorities; and have less education, fewer assets, and had less access to markets. Remoteness, exclusion, and lack of education are especially likely to characterize those living on less than 50 cents a day. Further, location, unexpected and unfortunate events, and the dynamics of poverty traps and exclusion all have roles to play in explaining the deprivation.

Akhter, et al (2007) outlined that the poorest are those from socially excluded groups, those living in remote areas with little education and few assets. To better understand the characteristics of the world's poorest and hungry, they summarized their findings from an analysis of household data and from a review of empirical research in 20 countries in developing regions of the world. They found that the poorest are also hungry, although not everyone classified as hungry lives on less than $1 a day.

The selected findings of Akhter et al (2007) are that:

a)   "Despite a global trend of poverty shifting toward urban areas, the incidence of poverty is still higher in rural areas". They explained that as poverty deepens, the income disparities between rural and urban areas tend to increase. On average, poverty rates were computed to be 2.4 times higher for the subjacent

poor and 2.7 times higher for the medial poor in rural areas than for their counterparts in urban areas. The poverty rates for the ultra poor are nearly four times higher in rural areas than in urban areas.

b). "The poorest and most undernourished households are located furthest from roads, markets, schools, and health services". To some extent, an electricity connection indicates the degree to which a household is "connected" in a broader sense to roads, markets, and infrastructure. Akhter et al (2007) found that households living in ultra poverty are on average four times less likely to be connected than households living above the dollar-a-day line.

c)"The proportion of poor people who are educated varies from country to country.'' However, there is one consistent pattern in every part of the developing world where adults in ultra poverty are significantly less likely to be educated, be they male or female. In nearly all the study countries, they found that the proportion of adult males without schooling is almost double or more among the ultra poor than the non-poor. In Vietnam and Nicaragua for example, adult males living in ultra poverty were three times more likely to be unschooled than those living on more than $1 day. In Bangladesh, nearly all women in ultra poor households were unschooled (92 percent), compared to less than half in households living on more than $1 a day (49 percent). The data overwhelmingly show that the poorest are the least educated.

d) "In all study countries, children from poorer families are less likely to go to school". In India, 48 percent of children living in ultra poverty attend school, compared to 81 percent of children living above the dollar-a-day poverty line,

representing a 33 percentage-point gap. In Vietnam, the gap is 30 percentage points, in Ghana it is 28 percentage points, and in Burundi it is 24. Without education, the future of children living in ultra poverty will be a distressing echo of their current experience.

e)"There does not seem to be a uniform pattern of higher landlessness among the poor, though the relationship varies among Sub-Saharan Africa, Latin America, and Asia". Land is a vital productive asset in rural economies. Akhter et al (2007) thus expect the association between poverty and landlessness to be high. In all parts of Asia, those who are landless are the poorest. For example, nearly 80 percent of the ultra poor in rural Bangladesh do not own cultivable land. In Sub-Saharan Africa, however, little difference was found between the incidence of landlessness among the poorest and less poor households, and in some cases the reverse pattern was found. This corresponds to the findings of other studies that in Sub- Saharan Africa the poorest often own some land (usually very small plots), but they lack access to markets and other key resources such as credit and agricultural inputs. In Latin America, although the incidence of landlessness is high, it was actually found to be higher among those who live on more than $1 a day than among those living on less than $1 a day.

f)"Each of the 20 countries studied has minority and other subgroups that have consistently higher prevalence of poverty and hunger, especially in Asia." In Laos and Vietnam, ethnic minorities in upland areas experience a higher probability of being poor. In Sri Lanka, the incidence of poverty was highest among Tamils, and in India, disadvantaged castes and tribes consistently experience deprivation in a

number of dimensions. For example, tribal people in India were 2.5 times more likely to live in ultra poverty than others. In Latin America, indigenous peoples were overrepresented among the poor, and increasingly so further below the dollar-a day poverty line. There is some evidence that female-headed households and women are overrepresented among the ultra poor, but in general, no large differences were found (Akhter et al., 2007).

In 1990, about 56 percent of Africans lived on under $1.25 a day accounting for 15 percent of those in poverty worldwide. Over the subsequent 20 years, the region's poverty rate dropped to 48 percent. However, given the superior pace of poverty reduction elsewhere and Africa's faster population growth, Africa's share of global poverty doubled. These baseline scenarios anticipates a continuation of these trends that sub-Saharan Africa's poverty rate is expected to fall further to 24 percent by 2030, representing 300 million people, but its share of global poverty will balloon to 82 percent (Chandy, 2013).

In answering the question "Who are worst affected by poverty" Chandy (2013) identified that women form a greater percentage of poor people than men. The main reason for this is that women have historically had less access to education and paid jobs. Many women have always performed unpaid work as mothers and housewives. Many women according to him are employed in poorly paid jobs such as domestic and farm labour. Even within poor households, women usually earn less than men and property and possessions are often in the name of a man. According to him, United Nations has found that although women perform nearly

two thirds of the world's work, they receive only one tenth of the world's income and they own only one hundredth of the world's property.

Chandy (2013) further indicates that poverty has a very severe effect on:

a) Children: At the moment some of the poorest households in Africa are those headed by children where parents are either ill or have died from AIDS or other causes. Even in families where parents are still present, children are very badly affected by malnutrition and it has its most severe effect on children between the ages of six months and two years. Malnutrition also means that the children can more easily get diseases and either die young or have poor physical and mental development as a result. He explained that poverty limits the access children have to educational opportunities, especially early childhood development. Many poor children also leave school too early. In South Africa for example, the provinces with the largest numbers of poor children are the Eastern Cape, where more than 70% of children live in poverty. Limpopo has less people, but 74% of children there live in poverty.

b)   Youth: Poverty and lack of education limits employment opportunities for young people. In South Africa, with high unemployment rate, many young people have no hope of finding work in the formal sector. Urban youth are also very vulnerable to getting involved in crime, gangs and drug or alcohol abuse.

c)   Disabled: In developing countries, the responsibility of care and support falls on the family. Poor disabled people live under the double burden of poverty and disability. Without support from the state, it is very difficult for them to access education, special care and jobs, hence poverty.

d)   The elderly*:*   Older people are usually not working anymore and have to be taken care of by the rest of society. In South Africa most poor older people survive on the monthly pensions paid by the state. They also have access to free health care. Because of high unemployment many families share the pensions meant for the elderly and it ends up being insufficient for their needs. Older people also often look after grandchildren and continue to perform unpaid domestic work for their families.

e)   Families living with AIDS: People who carry the heaviest burden as a result of HIV and AIDS are poor. AIDS increases poverty and families living with it are the first to feel the economic effects of HIV and AIDS. Families lose income if an earner is sick. Often another one of the family members stays at home to look after the sick person and further income is lost. Families also have increased costs as they have to spend on caring for the sick or paying for funerals. In most cases orphans are cared for by older female relatives who are already living in poverty - the additional burden they carry will deepen their poverty**.**

Poverty among Fisher-folks

Rabi-ul-Awwa (2006) expressed concern over the plight of fisher communities in Sindh and Balochistan, saying that a large number of them lived in abject poverty. According to him, it is the growing unemployment and the sharp decline in fish species and catch that had made fishermen's life miserable. He attributed this state of fishermen to the use of trawlers and prohibited nets in coastal areas and concluded that this had rendered a large number of fishermen jobless.

Jason (2007) reported that despite the apparent enormity of the opportunities for fishing in Archipelago - Philippines, the local fishermen still endure a hard life. They emphasized that a lifestyle characterized by poverty usually brings about poor education within an environment of poor financial backing. According to them, most native fishermen still live in a state of poverty, dwelling in simple huts by the seashore in homes devoid of modern comforts. These peasants of the seas do not have very much in the way of material wealth. A simple collection of the basic necessities of life (clothing, shelter, food) and maybe a couple of boats stocked with one or two large fishing nets make up their net worth. According to Jason et al, a good number of them also tend fish-farms instead of going out to sea. Unfortunately, many of these farms are technically owned by larger entities such as fishing industry and corporations. The fishermen get only a little percentage of what their hands have toiled. The rest of the bountiful harvest goes to the owners who sit back and wait for the profits to come.

Unlike their Western counterparts; many of the country's fishermen do not have access to quality education. In other parts of the fishing world, modern scientific knowledge have equipped fishermen with the proper knowledge that enables them to make the most out of their marine farm and harvests. Whether it was brought about by extreme poverty or a general lack of educational resources in the rural areas where these fishermen live, the fact remains that many local fishermen do not possess the knowledge that their Western counterparts do. As a result, inefficient and sometimes dangerous fishing methods (such as dynamite fishing) are

carried out. Some fail to pay attention to the possible consequences some of these actions might even bring in the future (Janson, 2007).

Agus (2008) indicates that fish auction facilities, under the commission of local cooperatives in Cilacap, Central Java, have failed to lure fishermen away from unofficial loan providers despite the often unfair conditions placed on them. The fishermen have continued to sell their catches directly to the loan providers, who usually also own the boats. As a result, fish auction facilities, which should have acted as fish trade centers, have become idle. According to Agus, the system has its positive as well as negative sides. The positive side is that fishermen are able to easily obtain much needed loans because of the casual nature of the lending, which relies on trust. However, on the negative side, fishermen never know the real price of their catches. They follow what the boat owners say and accept any amount of earnings. Because of this problem, poverty prevails among fishermen; 90 percent of the approximately 35,000 fishermen in Cilacap live in absolute poverty. Agus concluded that fishermen will never lead decent lives and that those who get rich are boat owners and middlemen; those who toil under the scorching sun will be poor eternally (Agus, 2008).

Macfadyen and Corcoran (2002) in reporting their findings of Food and Agricultural Organization (FAO) on Sustainable Fisheries Livelihoods Programmes (SFLP) identified that, the extent to which the fisheries sector and its various linked activities (e.g. fish processing, marketing and distribution) contribute to poverty alleviation and food security has been subject to limited study. They however indicated that literature abounds with statements, largely unsup-

ported by empirical evidence, that suggest that fishing communities belong to the poor, or poorest strata of society and that there is also limited understanding on the impact on poverty (incidence, depth and other dynamics) of technological change, community and fishers' organizations, and alternative fisheries management governance regimes. On policy, the report found that while government donor-supported fisheries development and management programmes usually seek, at least implicitly, to reduce poverty in fishing communities, these programmes are rarely targeted on the poor. Macfadyen and Corcoran (2002) further indicated that in dealing with Sustainable Livelihood Approach (SLA) to poverty reduction, empirical evidence is very limited because of its newness, but there is an improvement over the conventional sectoral approaches for combating poverty in fishing communities. According to Macfadynen and Corcoran, the main advantage of the SLA lies in its multi-sectoral and integrated nature and its foundation in stakeholder participation. The application of SLA to guide interventions and policy is advocated and must be adaptive and flexible, which however increases time and costs.

Estimating Household Sizes in Ghana

Household size is measured in Ghana as the number of equivalent adults using a calorie-based scale. This scale has commonly been applied in nutritional studies in Ghana. This scale is based on age and gender specific calorie requirements (Ghana Statistical Service, 2007). Table 1 shows the recommended energy intake of various ages and sexes in Ghana. Household sizes in this study were estimated using the equivalent scales identified in Table 1.

Table 1: Recommended Energy Intakes

Category	Age (years)	Average energy allowance per day(kcal)	Equivalence scale
Infant	0-0.5	650	0.22
	0.5-1.0	850	0.29
Children	1-3	1300	0.45
	4-6	1800	0.62
	7-10	2000	0.69
Males	11-14	2500	0-86
	15-18	3000	1.03
	19-25	2900	1.00
	25-50	2900	1.00
	51+	2300	0.79
Females	11-14	2200	0.76
	15-18	2200	0.76
	19-25	2200	0.76
	25-50	2200	0.76
	51+	1900	0.66

Source: Ghana Statistical Service (2007).

Each individual is represented as having the standard of living of the household to which he belongs. The standard of living for each individual is measured as the total consumption expenditure per equivalent adult expressed in constant prices (Ghana Statistical Service, 2007).

The Core Welfare Indicators Questionnaire (CWIQ) of Ghana Statistical Service (1997) focused on two major aspects of household characteristics - age

structure and household composition. Results of the analysis of this instrument indicated that if changes in the household composition and age structure are carefully monitored, it could help determine resource allocation by policy makers and development planners. From 14,514 households surveyed by Ghana Statistical Service (1997), the average household size was 4.1 members. Rural poor households recorded the largest household size of 8.4 members followed by the urban poor of 7.3 members. The household measuring instrument further revealed that the demographic characteristics of household heads in the Central Region are slightly different from those of other Regions. More than one-half of all household heads in the region were female (compared with about 38 percent nationally). Generally, these females also had no formal education. About 73 percent of the female household heads did not attend any school. Further, while the incidence of female headed households surpassed that of males, they tend to have fewer members than their male counterparts. The average number of persons in female-headed households was 3.4 compared with 4.5 for males. The number of households with access to health facilities in the Central Region also varies by geographic location and socio-economic group.

Findings of the CWIQ indicate that the rural poor households and self employed agriculture sector employees had higher home ownership rates than urban households (54 percent for rural poor and 24 percent for urban). Housing units occupied by various households in the Central Region were constructed of inferior quality materials compared with the rest of the country (Ghana Statistical Service, 2005).

Household Income and Expenditure Patterns

According to GLSS 5 of Ghana Statistical Service (2008), actual expenditure on food (actual) is the major component of household expenditure in Ghana. This accounted for 40.4 percent of the estimated total annual expenditure. Other actual expenditure was the second major component of household expenditures. It recorded almost 40 per cent as its share of the total estimated annual expenditure. This was followed by food expenditure (imputed) (10.5 percent), while expenditures on housing (2.5 percent) and other expenditure (imputed) (6.7 percent) recorded less than 10 per cent of the estimated total annual expenditure. Food (actual and imputed) accounted for about half of the total expenditure of households in the highest quintile. It also formed about 60 percent of the expenditure of households in the lowest quintile in the overall expenditure of Ghanaian households. In the localities, households in urban centers spent about 44 percent on food (actual and imputed), while household in the rural areas spent more than 60 percent on food. In the regions, the highest percentage of total expenditure on food (actual and imputed) was in the Volta Region which spent more than 70 percent of its household expenditure on food. This was followed by the Northern Region which spent 65.2 percent on food. On the other hand, Greater Accra spent about 40 percent of its total expenditure on food (GLSS of Ghana Statistical Service, 2005).

The proportion of the total expenditure on housing in Ghana according to GLSS 5 averaged 2.4 percent. Households in the lower quintile spent much higher (3.4 percent) than the national average. Also notable was the high expenditure on housing in Greater Accra Region which constituted about 4.2 percent of the total

expenditure of households. Eastern, Brong Ahafo and Northern Regions spent less than 2 per cent of their total expenditure on housing.

GLSS 5 calculated the average annual household expenditure in Ghana was about GH¢1,918.00. By household expenditure quintiles, the highest quintile spent about three and half times more than the lowest quintile. It also spent about one and half times more than the national average as well as the fourth quintile. In addition, the lowest quintile with an average household of 6 persons account for less than 10 per cent of the total annual expenditure. The highest quintile with an average household size of 3 persons accounts for 46 percent of total annual expenditure (Ghana Statistical Service, 2008).

The average annual household cash expenditure, per capita show food expenditure as the highest expenditure category (43.2 percent) followed by expenditure on housing, water, electricity and gas (9.5 percent) and education (8.9 percent). The lowest expenditure groups were on recreation and culture (1.5 percent), alcoholic beverage and tobacco (1.8 percent), and communication. In the food sub group of items, the main expenditure items were bread and cereals (9.8 percent) and fish and sea food (9.5 percent) while sugar, jam, honey, chocolate constitutes less than 0.9 percent of households' expenditure.

The major source of household income in Ghana according to GLSS 5 of Ghana Statistical Service (2008) was from agricultural activities. This accounts for a third of the estimated total annual income. Wages from employment was the second major source of income (28.6 percent), followed by income from self employment (24.5 percent). Income from rent, remittances and others contribute less

than 15 percent to households' income. The source of household incomes however varies across the country.

Households in the lowest to the fourth quintiles have their major source of livelihood from agricultural activities, followed by income from self employment. In the highest quintile, wage income from employment forms the main source of income 39.5 percent. Non-farm self employment also contributes significantly to the income of households in the highest quintile, (25.9 percent). Across quintiles, income from rent, remittances and others form only a small fraction. In the localities, households residing in urban centers earn their livelihood mostly from wages and salaries (43 percent), followed by income from non- agricultural activities (31 percent). The major source of income of households residing in the rural areas where poverty is more prevalent was from agricultural activities (57.7 percent). In both urban and rural localities, income from rent, remittances and others contribute less than 15 percent to their total income. In the regions, apart from Greater Accra which derives about 57 percent of its income from wages, many of the regions have their main source of income from agricultural activities. Infact, households in Brong Ahafo, Northern, Upper East and Upper West derive more than 50 percent of their income from agricultural activities. The major source of income for the Ashanti Region was drawn from non-agricultural activities or self employment. In addition wage income (26.5 percent) and remittances (16.1 percent) also contribute significantly to household income in Ashanti region (Ghana Statistical Service, 2008).

A high proportion of remittances from household to non-household

members go to male children in rural areas (41 percent). The second highest bene-ficiaries of transfers from households to non-households are parents, especially the female parents in urban localities (42 percent). On the other hand, spouses and non-relatives are less likely to benefit from these remittances. In all localities a high proportion of remittances received by households go to children especially female children (39 percent) compared to male children (33 percent). Children in the rural areas are the main beneficiaries from transfer payments. In both rural and urban areas female children benefit more from transfer payments than their rural and urban male counterparts. The second highest beneficiaries of transfer pay-ments are brothers and sisters (21 percent). About a third of the remittances were received on monthly basis. Almost all (99 percent) the beneficiaries in all the lo-calities indicate that the transfer of funds will not be repaid. Over 50 percent of these remittances are received directly from the senders whilst about 40 percent of the transfers are received through someone. Less than five percent is received through the banking system (Ghana Statistical Service, 2008).

The estimated total annual amount of all remittances paid out by house-holds was GHS231, 344 million. Households which actually remitted incurred an annual expenditure of about GHS106.00. In terms of place of residence, house-holds in the urban localities paid out an annual estimated total amount of GHS126, 250.00 million. Urban households who actually remitted paid an annual expenditure on remittances of GHS136.00, whilst overall, household annual ex-penditure on remittances is GHS54. Households in the rural areas incurred an an-nual estimated expenditure of GHS105, 094 million which was less than half of

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the national annual total expenditure. Households in the rural areas who actually remitted also paid out an annual amount of about GH¢85 whilst all households paid GHS37 (Ghana Statistical Service, 2008). Households also received some income from individuals who were not members of their households. Like remittances, such in-flows were usually not to be repaid. The annual estimated total value of remittances received in Ghana is GHS547, 571.00 million. Annual receipt of remittances by households which actually received them amounted to GHS277.00.

According to GLSS 5 of Ghana Statistical Service (2008), household income comprised of income from employment, agricultural and non-farm activities, rent, remittances, and other sources. The average annual household income in Ghana was about GHS1, 217 whilst the average per capita income was almost GHS400. Using the prevailing average exchange rate of June 2006, GHS9,176.48 to the US dollar, average annual household income and average per capita income amounts to US$1,327 and US$433 respectively. The highest quintile has an average annual income of GHS1, 544 and for the lowest quintile the corresponding income is about GHS728. This meant that a household in the highest quintile has an income that was about twice as much as that of a household in the lowest quintile. The annual per capita income in Ghana was about GH¢397 implying that a Ghanaian lived on an average income of less than GHS1.10 per day. The highest quintile had an average per capita income of about GHS688 which was 1.7 times higher than the national average and almost six times more than that of the lowest quintile

Among the rural localities, rural Savannah had the highest average annual income of GHS1, 115 while rural forest had the lowest of GHS1, 038. On average, the annual per capita income of urban localities was about GHS517 implying an overall average income of GHS1.44 per person per day while residents in rural localities have annual per capita income of GHS305 and live on less than GHS0.85 per day. In the rural localities, rural coastal had the highest average per capita income of almost GHS368 indicating an overall average income of about GHS1.05 per person per day while rural savannah had the lowest average per capita income of GHS232 annually and an average income of less than GHS0.64 per person per day (Ghana Statistical Service, 2008).

Miscellaneous incomes according to GLSS5 include social security payments, state pensions, or other sources from the central government. Other sources of miscellaneous income were cash or in kind receipts from retirement benefits, dowries or inheritances, or from other non-government sources such as churches and institutions, dividends and interest. The most important source of income for households from government sources was social security, accounting for a third of all household income from that source and 10 percent of all miscellaneous income for households.

Miscellaneous expenditures included taxes on TV licenses and fixed property contributions to self-help projects; weddings, dowries, funerals; gifts and present. Out of the estimated total miscellaneous expenditure of about GHS670, 959 million spent by households, 63 percent was spent on weddings, dowry, funerals and other ceremonies. Urban households on the average spent about 66 percent

while rural households spend 55 percent miscellaneous items. The second largest spending by all households was on gifts and presents. This expenditure item constitutes about 26 percent of the estimated total miscellaneous expenditure in Ghana with rural households spending about 33 percent on this expenditure compared to 23 percent by urban households.

In his study on Household Income and Expenditure in Arid Zones (Eastern and Southern Africa), Solomon (2009) explained that in any society, the most important factor that influences patterns of household income and expenditure was the wealth status of the household. Solomon (2009) showed that the consumption of the poor and the rich households was markedly different. In designing the data collection formats to collect household income and expenditure items, Solomon (2009) considered background information on the nature of the items that form the income and consumption basket of households to be studied as important. This however varied from culture to culture. He further indicated that a comprehensive list of all the items should be established from the researcher's personal knowledge or from informal surveys. In addition to standardizing the format for enumeration, Solomon (2009) considered it as a good device to facilitate recall by respondents.

In his study of poor communities in Kenya, Solomon (2009) identified income items among poor farmers to include sale of livestock and livestock products (milk, hides, skin, and manure), agro-forestry products (crops, wood, charcoal, and honey), cottage industry products (handicrafts, medical herbs), other forms of employment such as trade and other cash inflows (remittances, borrow-

ing). Cash expenditure items identified also include food, health and hygiene, clothing and transport, livestock, livestock inputs, durable household goods and cash outflows such as loans given to others. Solomon however identified that extracting information on household budgets, especially expenditure, is extremely difficult because one has to rely on the memory of respondents to recall such data. Expenditures, especially on food items, occur so frequently in irregular amounts that recall becomes difficult. He therefore recommended that, in collecting household income and expenditure data, the shorter the time span the respondent is requested to recall, the more accurate is the information obtained.

Saluja and Yadav, (2006) explained that the distribution of incomes across households is determined by the diversity in their sources of income and by the composition of their spending. They identified that; in a developing country food accounts for a larger share of expenditure by rural households than by urban households, and poorer households spend proportionately more on food than do wealthier households in both rural and urban areas. Also as expected, the composition of food expenditures varies across income. According to them, poor households consume more whole grains and other unprocessed agricultural products than do high-income households. At higher incomes, households consume more dairy, poultry, and other processed foods, as opposed to primary agricultural products.Maleka and Greyling (2007) determined the income and expenditure patterns of the employed, unemployed and non-economically active populations of selected rural villages in the Nwanedi (Limpopo) River Basin of South Africa. The paper analyzed the poverty gap of every household. Fifty households had a higher

expenditure per month than their income. Some respondents refused to divulge their income and in other cases the income was too low to afford the expenditure per month. The selected villages form part of the poorest area in South Africa. A sample consisting of 132 households was surveyed during the period of the study. The study showed that the dependency ratio was 85.3 percent in the sample area. Calculating the income according to employment status showed that many households were dependent on pensions and child grants. The data showed that one household had six pensioners and six young children for whom each received a child grant. Although all 13 members of this household were economically inactive, 12 received an income. The services provided were very basic in this rural area. The 132 households surveyed had 740 members with an average of 5.6 members per household. The recurring theme of the research was that the target population was very poor. The study saw poverty as a significant theme for sustainable development and this issue is crucial in South Africa.

Recent studies have emphasized that the poorest farmers are often net buyers of key commodities and therefore harmed by rising prices. Using LSMS data from Tanzania, Vietnam and Guatemala to test the degree of net purchases or sales by income levels, Rios and Shively (2008), found that poorer farmers may be net buyers of individual crops, but only the poorest are net buyers of all crops. More generally, net sales among poor farmers were low. They concluded that agricultural price changes have a diverse but limited influence on poor farmers' welfare, because their farm sales tend to be offset by food purchases.

A study was carried out by Ajayi (2008) to assess poverty levels among the rural farming households in Bosso Local Government Area of Niger State,

Nigeria. The specific objectives were to examine the socio-economic profile of the farmers, evaluate access of the farmers to certain social infrastructures and determine the expenditure pattern of the people. Descriptive statistics and multiple regression analysis were used to analyze data. Findings were that personal income of household head and household size were the major determinants of household expenditure. Information was elicited from 100 farmers with the aid of structured questionnaire. 79.6 percent of the total variation in household expenditure was explained by the regression model, while the remaining 20.4% of the variation was accounted for by the exogenous factors. The World Bank reference lines: $1.08 and $2.15 in 1993 PPP (purchasing power parity) per capital consumption per day was used as the bench mark for poverty line. Major problems faced by the rural household include inadequate capital, lack of good road network, marketing of farm produce and insufficient/excessive rainfall. Recommendations from this study were that formulation and implementation of appropriate pricing policy of farm produce should be encouraged. Social infrastructures should be provided and farmers should be given concession in disbursement of loans from financial institutions.

Mayoux and Chambers (2005) identified that the relationship between household consumption expenditure and income is an intensively investigated topic in theoretical as well as applied economics. According to them, it has almost universally been found that consumption expenditure responds positively to increase in income although the former increases lesser in proportion to the latter. They also found that the structure of consumption expenditure undergoes a

marked change when income rises beyond a certain critical minimum. The house-holds with lower income spend a larger part of it on the necessities of life, the needs closely related to the biological requirements. As income increases, and biologically pressing but easily satiable wants are already met, the socially determined and psychologically spurred wants take over. It is interesting to note that the range of biologically determined wants are bound by the physique of a human being, but socially and psychologically spurred wants have much larger range and multidimensionality due to their non-physical origin. It has empirically been found that the structure of consumption expenditure undergoes a marked change when income rises beyond a certain critical minimum Mayoux and Chambers (2005).

Mayoux and Chambers (2005) further explained that income and expenditure measures are commonly used to establish poverty lines representing, respectively, the availability of cash resources and the standard of living approaches to measuring the extent and composition of poverty. Using data to compare these two measures and show how they might be combined, the overall poverty rates were found similar whichever measure was used and the relativities for different types of household differed considerably. There was little overlap between income and expenditure poverty and very few households were both income- and expenditure-poor. Assuming all income was spent, these thresholds defined a poverty line below which expenditure was severely constrained. The extent to which social assistance rates limit or prevented household expenditure was also estimated. The method and the estimates illustrate the value of exploring the links

between income and expenditure in the measurement of poverty, drawing attention to the limitations of the data, and identifying future research needs.

Poverty Reduction Strategies

Poverty reduction measures are those that rise, or are intended to raise the material level of living. Lipton (2001) assessed poverty as mainly a rural issue and basically agricultural. For the agriculture and the rural sector, according to him, the means for public action to reduce poverty is higher productivity and growth.

Robin (2009) emphasized that poverty reduction has been largely as a result of overall economic growth. He emphasized that economic liberalization requires extending property rights to the poor, especially to land. He further indicated that financial services, notably savings, can be made accessible to the poor through technology, such as mobile banking.

Robin (2009) identified that inefficient institutions, corruption and political instability can also discourage investment and perpetuate poverty whereas aid and government support in health, education and infrastructure helps growth by reducing poverty and increasing human and physical capital.

Poverty alleviation also involves improving the living conditions of people who are already poor. According to Ian Vasquez (2006), extending property rights of land to the poor is one of the most important poverty reduction strategies as the largest asset for most societies is land which is vital to their economic freedom. The World Bank (2000) concludes that increasing land rights is the key to

reducing poverty citing that land rights greatly increase poor people's wealth, in some cases doubling it.

Economic growth per person is achieved through increases in both human capital (physical, and technology). Improving human capital, in the form of health, is also needed for economic growth. Nations do not necessarily need wealth to gain health. Even promoting hand washing could be one of the most cost effective health interventions and could cut deaths from the major childhood diseases of diarrhea and pneumonia by half (United Nations, 2006).

BBC. (2010 a) identified cell phone telephony as a technology that could bring market to poor rural dwellers. According to them, cash transfers could be made between phones and issued back in cash with a small commission, making remittances safer. With this technology and necessary information, remote farmers could produce specific crops to sell to the buyers that bring the best prices.

Dugger (2011) described raising farm incomes as the core of the antipoverty effort since three quarters of the poor today are farmers. He insist that growth in agricultural productivity of small farmers is, on average, at least twice as effective in benefiting the poorest half of a country's population.

BBC. (2010 b) underscores the fact that universal public education plays a major role in preparing youth for basic academic skills and perhaps many trade skills, as well. According to the agency, apprenticeship clearly builds needed trade skills hence if modest amounts of cash and land could made available to farm apprentice combined with agricultural skills, subsistence could give way to modest societal wealth and poverty reduction.

One of the most popular of the new technical tools for economic develop-ment and poverty reduction are microloans. The idea is to loan small amounts of money to farmers or villages so that these people could obtain the things they need to increase their economic rewards. The empowerment of women through microloans has relatively become a significant area of poverty reduction and de-velopment. Because women and men experience poverty differently, they hold dissimilar poverty reduction priorities and are affected differently by development interventions and poverty reduction strategies (Klein, 2008).

In response to the socialized phenomenon known as the feminization of poverty, policies aimed to reduce poverty have begun to address poor women separately from poor men. In addition to engendering poverty and poverty inter-ventions, a correlation between greater gender equality and greater poverty reduc-tion and economic growth has been illustrated by research through the World Bank, suggesting that promoting gender equality through empowerment of wom-en is a qualitatively significant poverty reduction strategy. Addressing gender equality and empowering women are necessary steps in overcoming poverty and furthering development as supported by the human development and capabilities approach and the Millennium Development Goals. Disparities in the areas of edu-cation, mortality rates, health and other social and economic indicators impose large costs on well-being and health of the poor, which diminishes productivity and the potential to reduce poverty (World Bank, 2001). World Bank (2001) futher summarized that the limited opportunities of women in most societies re-strict their aptitude to improve economic conditions and access services to en-

hance their well-being. The Bank identified that encouraging more economic and political participation by women increases financial independence from and social investment both of which are critical to pulling society out of poverty. Beyond, women's economic empowerment, or ensuring that women and men have equal opportunities to generate and manage income, is an important step to enhancing their development within the household and in society. Additionally, women play an important economic role in addressing poverty experienced by children. By increasing female participation in the labour force, women could be able to contribute more effectively to economic growth and income distribution since having a source of income elevates their financial and social status (World Bank, 2001).

Participatory Approach to Wealth Ranking

Traditionally participatory methods of analyzing wealth were favoured by development practitioners. This is particularly true in poverty studies that focus on understanding of rural livelihoods in developing countries. For example wealth ranking was used to divide a population into non-poor, poor and ultra-poor for the purpose of constructing a poverty index that used both qualitative and quantitative information in Iran (Hayati et al., 2006).

Participatory method was used to understand the dynamics of poverty in Uganda in to contribute to the debate of whether poverty has increased or decreased (McGee, 2004). Wealth rankings were also used to understand destitution and poverty in Ethiopia (Devereux and Sharp, 2006; Sharp et al., 2003), to examine villagers' perception of poverty in Zimbabwe (Owens, 2004), to develop an asset status tracking method in India (Bond and Neela, 2002),

to assess child poverty in rural Vietnam (Harpman et al., 2005) and analyse poverty among tribal India (Shah and Sah, 2004).

In addition to poverty analysis, wealth ranking has also been used in very different research and assessment exercises usually in combination with other research methods. It has been used to study biodiversity and recent changes in *enset* (false banana) production in Ethiopia (Tsegaye and Struick, 2002); to identify different approaches used by research and service providers in technology dissemination for different wealth groups in Uganda (Agwaru et al., 2004); to choose appropriate response by public health sector to reduce acute malnutrition among children in Cambodia (Bart and Robers, 2004); to understand the direct use-value of bio-resources in rural households in South Africa (Twine et al., 2003); to analyze the diversity in livelihoods and farmers strategies in eastern Ethiopia (Tesfaye et al., 2004); for the economic analysis of animal genetic resources (Adam, 1997); for mapping and understanding indigenous farmers agricultural knowledge and information system and implication to extension services (Bagnall-Oakeley et al., 2004); to analyze the sustainability of participatory watershed development in India to indentify smallholders soil fertility management in Ethiopia (Haileslassie et al., 2006); to assess the effect of abolishment of user fees in health services in Uganda (Yates et al., 2006); to ascertain whether microfinance reaches the poor in South Africa (Simanowitz, 2000); to examine if the quality of science is affected by participatory research (Gladwin et al., 2002); to monitory the impacts of community forestry on livelihoods in Nepal (Parfitt, 2003); to trace the effect of community heterogeneity on community based forest

projects in Nepal (Mayoux and Chambers, 2005); to examine the inequity in the distribution of responsibilities in Forest User Groups in Nepal (Richards et al., 2003). In most cases, wealth ranking is used as part of a broader participatory method and complemented with other quantitative-oriented research methods. Apart from the use of participatory research methods in many contexts, a lively debate on the methodological validity of participatory methods including wealth ranking has developed (Chambers, 1988, Laderchi et al., 2003, Mayoux and Robert Chambers, 2005., Adams., 1997; Parfitt and Trevor, 2003).

Conceptual Framework

The concepts underlining this study are Sustainable Livelihood Approach (SLA) and Multidimensionality of Poverty (MP). These concepts are identical in relation to poverty among rural dwellers.

Sustainable livelihood approach.

Sustainable Livelihood (SL) is an attempt to go beyond the conventional definitions and approaches to poverty eradication. The conventional definitions and approaches to poverty eradication have been found to be too narrow because they focused only on certain aspects or manifestations of poverty such as low income. Besides, the conventional definitions do not consider other vital aspects of poverty such as vulnerability and social exclusion (Krantz, 2001). The SL concept offers a more coherent and integrated approach to poverty.

Chambers (1992) defined sustainable rural livelihood at the household level as a livelihood that comprises the capabilities, assets and activities required for a means of living. They explained that for livelihood to be sustainable, it should be

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able to cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, provide opportunities for the next generation; contribute net benefits to other livelihoods at the local and global levels in the short and long term. According to him, components of a sustainable livelihood should include both tangible assets and resources, intangible assets such as claims and access. Chambers (1992) further argued that any definition of sustainability livelihood has to include the ability to avoid, or more usually to withstand and recover from stresses and shocks. According to Chaudhri (1997), SLA draws on the main factors that affect people's livelihoods and the typical relationships between these factors. A framework that helps in understanding the complexities of poverty and a set of principles to guide action to address and overcome poverty constitutes the two components of SLA. The SLA framework places particularly rural poor people at the centre of a web of inter-related influences that affect how these people create a livelihood for themselves and their households. Closest to the people at the centre of the framework are the resources and livelihood assets that they have access to and use. These can include natural resources, technologies, their skills, knowledge and capacity, their health, access to education, sources of credit, or their networks of social support. These are their livelihood strategies. People are the main concern, rather than the resources they use. SLA is used to identify the main constraints and opportunities faced by poor people, as expressed by them. The framework is neither a model that aims to incorporate all the key elements of people's livelihoods, nor a universal solution. Rather, it is a means of stimulating thought and analysis, and it needs to be adapted and elaborated depending on the

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situation. SLA has seven guiding principles. They do not prescribe solutions or dictate methods. Instead, they are flexible and adaptable to diverse local conditions. The guiding principles of SLA are people-centeredness, holistic approach, and dynamism. Others are building on strengths, promoting micro-macro links, encouraging broad partnerships and aiming at sustainability.

SLA begins by analyzing people's livelihoods and how they change over time. The people themselves actively participate throughout the project cycle. It acknowledges that people adopt many strategies to secure their livelihoods, and that many actors are involved. SLA seeks to understand the dynamic nature of livelihoods and what influences them. It also builds on people's perceived strengths and opportunities rather than focusing on their problems and needs. SLA examines the influence of policies and institutions on livelihood options and highlights the need for policies to be informed by insights from the local level and by the priorities of the poor. SLA counts on broad partnerships drawing on both the public and private sectors. Sustainability is important if poverty reduction is to be lasting Chaudhri (1997). Livelihood approaches are conceptual frameworks that promote people-centered development. They are responsive and participatory, and they favour multidisciplinary and multilevel development interactions. Livelihood approaches generate a deeper understanding of the wide range of livelihood strategies pursued by people that poverty reduction measures address.

Adkins (2008) outlined that SL approaches acknowledge the connections and interactions of the micro-cosmos of the livelihood of individuals, household and/or communities with the larger socio-economic, cultural and political context

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at the meso and macro levels. In other words, they give access to the complexity of poverty and livelihood while acknowledging the need to reduce complexity in a responsible way for drafting policies and designing programmes and projects. According to them the core principles underlying SL approaches are that poverty-focused development activities should be people-centered and that sustainable poverty reduction will be achieved only if external support focuses on what matters to people, understands the differences between groups of people and works with them in a way that is congruent with their current livelihood strategies, social environment and ability to adapt. Further SLA should be responsive and participatory: poor people themselves must be key actors in identifying and addressing livelihood priorities. Development agents need processes that enable them to listen and respond to the poor. Beyond these, he admitted that poverty reduction could be an enormous challenge that will only be overcome by working at multiple levels, ensuring that micro-level activity informs the development of policy and an effective enabling environment, and that macro-level structures and processes support people to build upon their own strengths. SL should be conducted in partnership with both the public and the private sector. He explained that there are four key dimensions to sustainability - economic, institutional, social and environmental sustainability. All are important - a balance must be found between them. He also claim there is the need for dynamic external support which must recognize the dynamic nature of livelihood strategies, respond flexibly to changes in people's situation, and develop longer-term commitments.

Multidimensional poverty

SLA works in concert with the concept on multidimensional nature of poverty. The multidimensional nature of poverty believes that people living in poverty are affected by more than just a lack of income. Poor people themselves define their poverty much more broadly, to include lack of education, health, housing, empowerment, humiliation, employment, personal security and more. No one indicator, such as income, is uniquely able to capture the multiple aspects that contribute to poverty. This idea of defining and measuring poverty beyond income is also referred to as Multidimensional Poverty Index (MPI) (Alkire, 2009).

Multidimensional Poverty Index (MPI) complements income poverty measures by reflecting the deprivations that each poor person faces all at once with respect to education, health and other aspects of living standards. It assesses poverty at the individual level, with poor persons being those who are multiply deprived, and the extent of their poverty being measured by the range of their deprivations. The MPI is a high resolution lens on poverty thus knowing not just who is poor but how they are poor. The index can also be used to show shifts in the composition of poverty over time so that progress, or the lack of it, can be monitored (Alkire, 2009).

CHAPTER THREE

METHODOLOGY

Introduction

This chapter describes the procedure used in data collection. It also presents how data was collected and analyzed. The main sections of this chapter include identification of the target communities, research design and description of the population. Others include sampling technique used, sample size determination, instrumentation, validity and reliability of research instrument. Finally, the chapter presents analytical framework of the study.

Identification of Target Communities

Proximity to University of Cape Coast, perceived poverty situation in the KEEA district and some anecdotal observations greatly influenced the choice of the KEEA district for this study. The prevalence of crop-based farming and fishing activities in the communities also influenced the choice of the communities for this study. It is hoped that findings of this study may be applicable to similar poor communities in typical rural environments.

The specific crop-based communities selected for the study were Eguafo, Besease, Kissi, and Ntranoa. The selected fishing communities were Abrobiano,

Brenu, Kafodzidzi and Ankwando. Interaction and focused group discussions were held with some members of the target communities.

Research Design

The design for this study is twofold. Firstly documentary analysis was used to determine the intensity of poverty among fisher-folk and crop-based farmer households in the target communities. This activity was achieved through computation of poverty lines; computation of incidence of poverty and determination of poverty levels. Secondly, a cross sectional survey was carried out with the aid of trained assistants to administer a structured interview schedule to collate the characteristics of the poor and very poor and other related variables required by the research instrument. During the cross sectional survey, information was collected from a sample drawn from a predetermined population.

Determination of Intensity of Poverty

The intensity of poverty was determined by computing poverty lines, identifying poverty levels and computing incidence of poverty.

Computation of poverty lines.

The most current poverty lines available at the time of this study were lower poverty line for year 2006 and higher poverty line for year 2006. National and area specific poverty lines are periodically released by the Ghana Statistical Service. For the purpose of this study, poverty lines for November 2009 must be computed. Available information at the time of this study was Consumer Price Index (CPI) for Central Region – October 2009 (Ghana Statistical Service, 2010). The CPI measures the average percentage change of the general price levels in a country as experienced by consumers of a locality. In Ghana, the average price change

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is with reference to the price levels in 2000 (Ghana Statistical Services, 2010).

Following Ghana Statistical Services procedures,

$$\frac{CPI\ (2009)}{CPI\ (2006)} - 1 = Price\ change\ from\ 2006\ to\ 2009$$

According to Ghana Statistical Service (2006),

i)   Price change from 2006 to 2009 = X

ii)   Lower poverty line (2009) = lower poverty line (2006) x (1+ X)

iii)   Higher poverty line (2009) = higher poverty line (2006) x (1+X)

(Assumption: Future poverty lines are always inflated on previous poverty lines
 based on the most current CPI).

Determination of levels of poverty.

The levels of poverty were determined by participatory wealth ranking approach. The process of wealth ranking commenced with series of informal meetings. Plate 1 and Plate 2 depicts evidence of informal meetings with cross sections of the target communities.

Source: Meeting with some members of a fishing community (2009)

Plate 1: An informal meeting in a fishing community.

Source: Meeting with some members in a crop-based farming community (2009)

Plate 2: An informal meeting in a crop-based community

Members of each of the target communities were first met to explain the purpose of the study and propose the selection of group key informants in each community. The meetings were to familiarize with all the target communities, seek their concern and support, assure them of the necessary confidentiality, plan and agree on convenient dates and times for subsequent meetings.

At a subsequent meeting, five informants (referred to as group key informants) were nominated by each target community based on their depth of knowledge of households in the target community. The key informants were tasked to identify all households in their communities and represent each household with a labeled card. The identification involved a participatory process where members of each target community prepared a list of households. As indicated earlier, all absentee crop- based farmers and fisher folks were excluded and households with heads on government pay rolls were also excluded.

At other meetings, members of the target communities agreed on the criteria to be used as a guide to rank households in the communities into different wealth categories. The criteria agreed upon are represented in Table 2.

Table 2: Well-being Assessment Criteria

Characteristics	Very rich	Rich	Moderately rich	Poor	Very poor
Land ownership	Above 12 acres	Between (10- 12) acres	Between (7-9) acres	Between (4- 6) acres	Little(2-3 acres) or no land
Ownership of farm implements	More than 3 cutlasses and hoes	At least 3 cutlasses and 3 hoes	At least 2 hoes and 2 cutlasses	One old cutlass and a hoe	No new farm implement
Nature of house	House made of asbestos, plastered, concrete walls	House made of corrugated sheets, cement walls, not plaster	House made of poor tile roof and mud walls	House made of thatch with mud walls	House made of thatch in very poor condition and bamboo walls
Utensils	Unlimited cooking utensils	11- 15 cooking utensils	7-10 cooking utensils	3-6 cooking utensil	1-2 cooking utensils
Food shortages	No food crisis ever	Food shortages during crisis	Food shortages of about 3-4 months	Food shortages of about 3-6 mths	Live on hand to mouth (food shortages for up to 8 mths.

Source: Field meetings (2009)

This schedule was agreed upon so as to reduce any subjectivity of the wealth ranking exercise. It was also to increase the comparability of the wealth rankings within each target village. Further, it ensured that the key informants used locally valid perceptions of poverty and well being to rank each other. The concept of household was also explained to the community members at these meetings. A household was understood by the key informants as a domestic unit consisting of members of a family who live together along with nonrelatives such as servants.

After these series of meetings, the key informants ranked the households into well-being categories according to the agreed well-being criteria. The criteria aided the key informants in classifying households according to categories of well-being in other to isolate the poor and very fisher folks and poor and very poor crop-based farmers in the respective target communities.

Group key informants were used to eliminate possible biases in the wealth ranking process. The use of group key informants was to avoid dominance by one or more individuals (Bergeron, 1998) and (Ravallion, 1992). Indeed most studies similar to the present study used the group key informant rankings (Sconers, 1995; Adams, 1997; Bergeron, 1998). During the process, each group informant was made to construct a table listing all crop-based farmer or fisher-folk house-holds as the case may be in a sample frame in the first column and a number of columns. Each informant assigned a score to each household on the basis of his ranking. The score assigned by each informant equals the value assigned to the household, divided by 5. Five is the total number of wealth classes identified (i.e.

very rich, rich, moderately rich, poor and very poor). The very poor class was assigned a value of 1 and the very rich class assigned a value of 5. Thus if an informant ranks a household as very poor, the household gets a score of 1; a poor household gets a score of 2; moderately rich gets a score of 3; rich households get a score of 4 and very rich households scores 5. Each household's score is then calculated as the sum of scores that each informant gives the household and divided by the total number of informants who did the rankings. The underlying rationale was to allow a broader range of knowledge that can be tapped combined with overlapping knowledge between informants and successive corrections and approximations through discussions.

However, as noted in Bergeron (1998), it is often the case in group settings that one or more individuals dominate the discussions. The possibility of dominant individuals to impose their views can even lead to more bias. To minimize this, the current study allowed the informants to rank the households individually and the results pulled together. To further minimize biases, more wealth categories than the usual number of three were used. This is to ensure sufficient variation within the wealth rankings. The poor with scores of 0.2 and the very poor with scores of 0.4 were assumed to correspond to the lower and higher poverty lines computed for the study area. The wealth ranking exercise enabled the identification of the total number poor and very poor fisher-folk household and poor and very poor crop-based farmer households on the other hand. The respondents to the questionnaire were then drawn from the list of poor and very poor fisher-folk and crop based farmer households respectively.

Having identified the various wealth groups of the crop-based farmers and fisher-folks through a participatory wealth ranking process and selecting the required sample, an exploratory cross sectional survey instrument was used to compile the responses on other variables of the study. The instrument was a self administered questionnaire (Appendix 1). Exploratory cross sectional survey are useful tools for gathering data in socio economic studies on interventions and issues of challenge facing farming communities and rural environments in general (Dvorak, 1998). The self administration of the interview schedule was to accelerate recovery rate and facilitate the data gathering process.

Household sizes of the poor and very poor in each occupational group in a target community were computed using the equivalent scales. This computation was based on the number of persons in each household according to age groups and gender determined by the interview schedule. The interview schedule (Appendix 1) used in the cross-sectional survey consists of open and close ended items pre-coded and pilot tested on 28th November, 2010. The schedule was administered by trained assistants. These assistants were selected from the target communities after an initial interaction with a cross section of members of these communities. The training took the form of thorough discussions of how to administer a scheduled research interview schedule and an understanding of tolerance and good human relationship within a rural setting. As suggested by Turney and Robb (1997), to administer an interview schedule effectively, assistants should be trained to:

  i.   ask only one question at a time;

ii.   repeat a question if necessary;

iii.   try to make sure that a respondent understand the question;

iv.   listen carefully to a respondents answer;

v.   observe the respondents facial expressions, gestures and tone of voice;

vi.   allow the respondent sufficient time to answer the question;

vii.   avoid suggesting answers to questions;

viii.   avoid showing signs of surprise, shock, anger or other emotions if unex-
        pected answers are given;

ix.   maintain a neutral attitude with respect to controversial issues during the
        interactions.

a) Incidence of poverty.

The total number of very rich, rich, moderately rich, poor and very poor fisher-folk households identified during the wealth ranking exercise was represented as Y_1. The total number of very rich, rich, moderately rich, poor and very poor crop-based farmer households also identified during the wealth ranking exercise was also represented as Y_2. Also the sum of very rich, rich and moderately rich fisher-folk households was represented as X_1 and the sum of the very rich, rich and moderately rich crop-based farmer households were also represented as X_2. The number of poor and very poor fisher-folk households represented as Z_1 was deduced as $Y_1 - X_1$ and the number of poor and very poor crop-based farmer households represented as Z_2 was also deduced as $Y_2 - X_2$

Therefore:

incidence of poverty I_1 among fisher folks households $\qquad = \dfrac{Y_1 - X_1}{Y_1} \times 100$

Incidence of poverty I_2 among crop-based farmer households = $\underline{Y_2 - X_2}$ x 100
$$Y_2$$

Population of the Study

The target population for this study was 260 households. This was made up of 109(42%) and 151(58%) fisher-folks and crop-based farmer households respectively. The population for the study was drawn from Elmina, Komenda, Agona and Eguafo traditional areas. The population is made up of inhabitants in the target communities actually engaged in crop-based farming and fishing activities but not engaged in government employment. This population served as a frame from which the actual samples for the study were obtained.

Sampling Technique

After a purposive identification of the target communities, a simple random sampling technique was used to select the respondents. The respondents were from a population of poor and the very poor fisher-folk and crop-base farmer households in the target communities. According to Fraenkel and Wallen (2006), simple random sampling could be used where a sample frame is available during a sampling process. Simple random technique allows every member of an accessible population to have an equal and independent chance of being selected into a sample.

Having identified the target population of 260 households from the fisher-folks and crop-based farming communities, a table for determining sample size from a given population was used to read the minimum sample size of 155 required for the study. This figure was rounded -up upwards to 200 and shared equally as sub samples of 100 each between the fisher folk and crop-based farmer

households. The sub samples were then equally shared between the number of poor wealth groups identified in the occupations during a wealth ranking exercise.

To complete the sampling process, a lottery method was used to draw the sub samples from each of the wealth groups within the fisher-folks and crop-based farmer households.

For the purpose of this study, a household is defined as a group of individuals headed by a person of child bearing age and resident in a community; living together in and sharing the same apartment and catered for as one unit (Ghana Statistical Service, 2000). In the current study, such a person should be living in the KEEA district and engaged in cropping or fishing activities. The Ghana Statistical Services however notes that, members of a household are not necessarily related by blood or marriage.

Sample Size

The total sample size arrived at after sampling is 200. This was made up of 100 crop-based farmer households and 100 fisher-folk households. The 100 crop-based farmer households were also made up of 50 poor and 50 very poor crop-based farmer households. The same was applied to the fisher-folk households. Essentially, all information gathered was at the household level.

Instrumentation

Data for the study was gathered through:

i. Documentary analysis: This involved the use of Consumer Price Index to compute poverty lines for the study area.

ii.   Participatory wealth ranking: Local knowledge of the target communities was used to compute poverty levels. Poverty levels were required in the computation of incidence of poverty.

iii.   Cross sectional survey using structured interview schedule: This led to the compilation of characteristics of the poor and very poor, and also identify the effects of poverty. Items of household expenditure and income and demographic characteristics of the fisher folks and crop based farmers households were also gathered using the structured interview schedule.

Ensuring Validity and Reliability of Interview Schedule

A pilot study was carried out on fisher-folk households at Twim- a fishing village on 27th August 2010 and at Atietu; a crop-based community also on 28th August, 2010. These communities are near Winneba in the Central Region, Ghana. Twim is near the Ghana Police Training Depot and has similar environmental and geographical setting as the fishing villages in the target communities. Atietu is also a crop- based farming community located near University of Education, Winneba; also with similar geographical setting as the crop-based farming community in the study area.

The entire instrument was based on the variables of the study categorized according to how they relate to the objectives and research questions of the study. The individual items on the interview schedule were validated by senior members of University of Cape Coast, Senior Members of University of Education, Winneba, colleagues and the supervisors of the study. The final copy was approved by the main and co-supervisors of the study.

In order to ensure the validity and reliability of the instrument and their designed items, the following approaches were adopted:

a. The pilot study was conducted on 10 respondents each from Twim- and Atietu. This offered the opportunity to test the reliability of the interview schedule items and streamline the designed items before the final presentation to the target communities.

b. Random selection of respondents using a simple random approach in the target communities. This allowed all fishermen and crop-based farmers as appropriate to have equal chances of participation. This minimized location bias.

c. The structured interview schedule consists of both pre-coded close and open ended items. These were administered by trained research assistants. The use of open ended items is to seek the extended opinions of the respondents.

d. Research assistants were trained to administer the interview schedule. This minimized enumerator biases.

e. Expert opinions were used to check the content validity of the interview schedule.

f. Cronbach Alpha coefficient was also used to determine the reliability of the items after the pilot study.

The reliability test carried out during the pilot study produced Cronbach Alpha values for all the domains to be > 0.70; therefore the research instrument used was

considered reliable. According to Pallant (2007), Cronbach Alpha values of > 0.7 imply that the instrument is reliable.

The final interview schedule is shown as Appendix 1.

Data Collection Procedure

Trained enumerators were used to administer the structured interview schedule. The enumerators were briefed on the aim of the study prior to data collection. Familiarization visits were made to all the target groups in the various communities with all the enumerators during which the purpose of the study was explained. Data on fisher-folks was collected on non-fishing days to ensure that adequate numbers of fisher-folks were met at home. Similarly, crop based farmers were served at their free times to minimize interference with farming activities. This was also aimed at obtaining fair and accurate responses which was often not associated with information gathered during busy times of respondents. Each administration was at the household level and it was face to face spanning a period of about one hour each. The entire data collection process spanned a period of 53 days (1st November, 2010 to 22nd December, 2010).

Analytical Framework

The study used both quantitative and qualitative approaches in analyzing and interpreting data. The responses to the interview schedule items were analyzed quantitatively according to the objectives of the study accompanied by qualitative interpretations. The analytical framework is summarized in the schedule below.

Objective 1:   Determine the intensity of poverty among fisher-folks and crop-

based farmer households in the KEEA district in terms of poverty line, incidence of poverty and levels of poverty.

Analytical Statistics: Measures of central tendency and percentages.

Objective 2: Describe the socio-economic characteristics of the fisher-folk and crop-based farmer households;

Analytical statistics: Cross tabulations, Chi squared and Significant levels

Objective 3: Describe the relationship between the socio-economic characteristics of the poor and their poverty lines.

Analytical statistic: Multiple regression.

Objective 4. Analyze the pattern of income and expenditure among the poor households in the study area.

Analytical statistics: Cross-tabulation, simple linear regression, percentages and frequencies distribution. Simple linear regression.

Objective 5. Discuss the effects of poverty on the socio-economic livelihood of the fisher-folk and crop - based farmer households in the target communities.

Analytical statistics: Measures of central tendency.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter presents the outcome of the study. The first section is on intensity of poverty with focus on determination of poverty levels using participatory wealth ranking approach. The section covers estimation of poverty lines and determination of incidence of poverty among fisher–folks and crop-based farmer households in the study area. The second section is on the characteristics of the poor fisher–folk and poor crop-based farmer households in the target communities. The third section is on the pattern of income and pattern of expenditure among the fisher-folk and crop-based farmer households. The final section covers the effects of poverty on the socio-economic livelihood of fisher-folks and crop-based farmer households.

In this Chapter, pc refers to poor crop-based farmers, vpc refers to very poor crop based famers, pf refers to poor fisher-folks and vpf refers to very poor fisher-folks.

Determination of Poverty Levels

A detailed result of the participatory wealth ranking among the fisher-folk households in the target communities is shown in Table 3.

Table 3: Participatory Wealth Ranking (Fisher-folk Households)

Target communities	Number of very rich households	Number of rich households	Number of moderately rich households	Number of poor households	Number of very poor households	TOTAL
Abrobiano	2	3	4	14	16	39
Brenu	3	1	3	19	14	40
Kafodzidzi	4	2	6	14	9	35
Ankwando	4	4	1	10	13	32
TOTAL	13(9%)	10(7%)	14(9%)	57(39%)	52(36%)	146(100%)

Source: Survey data (2009)

A total of 57 and 52 fisher-folk households were identified as poor and very poor respectively from a total of 146 fisher-folk households. Other wealth groups identified are the very rich, rich and moderately rich. Wealth ranking of crop-based farmer households also produced results shown in Table 4.

Table 4: Participatory Wealth Ranking (Crop-based Farmer Households)

	No. of very rich house-holds	No. of rich house-holds	No. mod-erately rich house-holds	No. poor house-holds	No. very poor house-holds	TOTAL
Eguafo	3	4	7	24	22	60
Besease	1	8	15	26	27	77
Kisi	2	9	12	10	10	43
Ntranoa	4	10	13	22	10	59
TOTAL	10(4%)	31(13%)	47(20%)	82(34%)	69(29%)	239(100%)

Source: Survey data (2009).

A total of 239 crop-based farmer households were identified in the crop-based communities. The poor and very poor crop-based famers numbered 82 and 69 respectively. Using local knowledge in the target communities, the study iden-tified various wealth groups in the target communities. According to Jeffries (1997) and Njeru and Enos (2002), participatory wealth ranking serves a better purpose in determining realistic poverty levels since it depends on active ex-change of ideas among Key informants in target communities.

Following the outcome of the wealth ranking exercise in Tables 3 and 4, poverty levels of the various wealth groups were computed and reported as per-centages of total number of fisher-folk and total number of crop-based farmer households in the target communities.

Five wealth groups (very rich, rich, moderately rich, poor and very poor) among the crop-based farmer households in the target communities (three in the rich category and 2 in the poor category) were reported. The poor level recorded the largest percentage followed by the very poor, moderately rich, rich and very rich in a descending order. Thirty four percent and 29 percent of poor and very poor crop-based farmer households respectively were identified among the crop-based farming communities. Similarly, five wealth groups were also reported (very poor, poor, very rich, moderately rich and rich) among fisher-folk households in the target communities. Thirty- nine percent and 36 percent of the poor and very poor fisher-folk households respectively were also identified among the fisher- folks in the target communities.

The variation in levels of poverty among the fisher-folk and crop-based farmer households in the study areas are reported in Tables 3 and 4. The percentages of poor households are greater among the fishing communities than the crop-based farming communities. The percentages of the very poor are also greater among the fishing communities than among the crop-based farming communities. This confirms a similar variation in the number of the poor found among fisher-folk households and crop-based farmer households studied in Sierra Leone as reported by Jefferies (1997). The process of determining the poverty levels of people is seen by Jefferies (1997) as satisfactory as it depends on utilizing local knowledge about people's levels of wealth.

Estimation of Poverty Lines for the Target Communities

Inflating the 2005/2006 poverty lines using the October 2009 Consumer Price Index (CPI) of Central Region released by the Ghana Statistical Service in November 2009. The poverty lines as at November, 2009 were estimated as:

Average CPI (2006) Central Region = GHS 197.53

Average CPI (2009) Central Region (October) = GHS 314.06 (Ghana Statistical Service, 2010).

But:

$$\frac{CPI(2009)}{CPI(2006)} - 1 = X \quad \text{.........(a)}$$

where **X** is the price change from 2006 to 2009, and **CPI** is the Consumer Price Index (Ghana Statistical Services, 2006).

Also:

Lower Poverty line (2009) = Lower Poverty line (2006) x (1+ X) and

Higher Poverty line (2009) = Higher Poverty line (2006) x (1+X)

(Ghana Statistical Service, 2006).

Substituting into (a)

$$X = \frac{314.06}{197.53} - 1$$

$$= 1.58 - 1$$

$$X = 0.58$$

But:

Lower Poverty line (2009) = Lower Poverty line (2006) x (1+ X)……..(b)

Higher Poverty line (2009) = Higher Poverty line (2006) x (1+X)……(c)

(Ghana Statistical Service, 2006).

If:

Lower poverty line 2006(Central Region) = GHS 288.47 and

Higher poverty line 2006(Central Region) = GHS 370.89

 (Ghana Statistical Service, 2006)

Substituting into (b):

Lower poverty line (2009) Central Region = GHS 288.47 x (1+ 0.58)

                                            = GHS 456.00

Substituting into (c) :

Higher poverty line (2009) Central Region =   GHS 370.89 x (1+ 0.58)

                                            = GHS 586.00

Thus the higher poverty line for the poor in the target communities as at October 2009 was GHS 456.00 and the lower poverty line was GHS586.00 during the same period. The poor crop-based farmer and poor fisher-folk households lived on a poverty line of GHS456.00 and the very poor crop-based farmer and very poor fisher-folk households also lived on a poverty line of GHS 586.00 as at October, 2009.

The poverty line of GHS456.00 per adult per year determined by this study showed an increase of 58.0 percent over the 2006 poverty line of GHS288.47 for the Central Region. The poverty line of GHS456.00 is the equivalence of GHS70.0 poverty line of 1999 Poverty Profile of Ghana before its inflation by the 2006 Consumer Price Index (Ghana Statistical Service, 2000). The poverty line per adult per year for Central Region in October 2009 was GHS 586.00. This line also showed an increase of 23 percent over the poverty line of

GHS 370.89 in 2006 for the Central Region. This poverty line is the equivalence of GHS 90.00 poverty line of the 1999 Poverty Profile of Ghana (Ghana Statistical Service, 2000), before being inflated with the 2006 Consumer Price Index.

Lower poverty line often focuses on what was needed to meet the nutritional requirements of household members. Individuals whose total expenditure fell below this line were considered to be in extreme poverty. Even if they allocate their entire budgets to food, they may not be able to meet their minimum nutritional requirements. Higher poverty lines also incorporate both non-food and essential food items. Individuals consuming at levels above this could be considered able to purchase enough food to meet their nutritional requirements, and be able to meet their basic non-food needs (Ghana Statistical Service, 2000). Compared with the definitions of poverty line by the American Heritage Dictionary (2009) and Britannica (2010), GHS 456.00 and GHS 586.00 are the minimum income levels below which inhabitants of the KEEA could be said to living in higher and lower poverty levels respectively. According to Ghana Statistical Service (2007), people who lie below these income thresholds may not be able to meet their calorie requirements even if they spend their entire budget on food. The Ghana Statistical Service (2000) therefore suggest that; to move out of poverty, the crop-based farmer households and the fisher-folks would have to work to earn incomes beyond these income thresholds.

Incidence of Poverty among Fisher-Folk Households

From Table 3;

Number of very rich fisher-folk households   =   13

Number of rich fisher-folk households   =   10

Number of moderately rich fisher-folk households   =   14

Number of very poor fisher-folk households   =   57

Number of poor fisher-folk households   =   52

Total number of fisher-folk households (Y_1) in study area   =   146

Incidence of the poor fisher-folk households $= \frac{52}{146} \; x \; 100$

$=\;$ 35.62 percent

Incidence of very poor fisher-folk households $= \frac{57}{146} \; x100$

$=$ 39.04 percent

Incidence of Poverty among Crop-Based Famer Households

From Table 4;

Number of very rich crop-based farmer households   =   10

Number of rich crop-based farmer households   =   31

Number of moderately rich crop-based farmer households   =   47

Number of poor crop-based farmer households   =   82

Number of very poor crop-based farmer households   =   69

Total number of crop-based farmer households (Y_2)   =   239

Incidence of the poor crop-based farmer households $= \frac{82}{239} \; x \; 100$

$=$ 34.31 percent

Incidence of the very poor crop-based farmers $\quad = \quad \dfrac{69}{239} \, x \, 100$

$$= \quad 28.87 \text{ percent}$$

Based on the wealth ranking exercise carried out in the target communities, the incidence of the poor fisher-folk households was higher than the incidence of the very poor fisher-folk households. Similarly, the incidence of the poor crop-based farmer households was higher than the incidence of the very poor crop-based farmer households. The percentage of fisher-folk households whose incomes fell below the lower poverty line of GHS 456.00 was 35.62 percent (about 36 out of every 100 households). Also, the percentage of crop based-farmer households whose incomes fell below the poverty line of GHS 456.00 was 28.87 percent (about 29 out of every 100 households. The percentage of fisher-folk households whose income fell below the poverty line of GHS 586.00 was 39.04 percent. Also, the percentage of crop-based farmer households whose incomes fell below the poverty line of GHS 586.00 was 34.31 percent. Thus according to Ghana Statistical Service (2007), these percentages were the proportions of people identified as poor in the respective occupations in the target communities.

Characteristics of Poor Fisher-folk and Poor Crop-based Farmer Households

Among the household characteristics outlined in this section include sex of household heads, number of males in households, number of females in households and total number of people in households. Others are access of members of households to formal education, access of household heads to formal education, marital status of household heads and age of household heads. These characteris-

tics could facilitate the identification of the poor and very poor crop-based farmer and fisher-folk households in the target communities. Identification of the poor may assist in enhancing the effectiveness of poverty alleviation interventions.

Sex of household heads.

Table 5 shows the number of crop-based farmer and fisher-folk household heads according to gender within the poverty levels.

Table 5: Sex of Household Heads.

Sex	% of Crop-based farmer households		% of Fisher-folk households	
	Poor	Very Poor	Poor	Very Poor
Male	92	84	84	90
Female	8	16	16	10
TOTAL%	100	100	100	100

N= 200

Source: Survey data, (2011).

In Table 5, the household heads among the crop-based farmer and fisher-folk households were mostly men. This could suggest that males dominate as household heads in the target communities. However, this is at variance with Ghana Statistical Service (2008) report that more than half of all household heads in the Central Region were females. At the national level however, 42 percent of household heads were also reported by Ghana Statistical Service (2008) as females. According to Ghana Statistical Service (2008), while males headed majority of households in Ghana, poorer households in rural and urban areas were mostly

headed by females. In urban areas of the Central Region however, Ghana Statistical Service (2008) reports that female headed households accounted for about one–half of all household heads. Ghana Statistical Service (2005) also identified that female headed households accounted for less than a third of all households in Ghana.

The relationship between female headed households and poverty status as shown by GLSS revealed two different patterns for different survey periods - 1987/88 and 1991/92. While data for 1987/88 indicates that as expenditure rises, the proportion of female headed household falls, there was no definite pattern in 1991/92. For 1991/92, as expenditure went up, the proportion of female headed households' first increased and decreased later. GLSS 1 and 2 report however suggests that poor and very poor households are more likely to be headed by females than by males.

Fasoranti (2008) also, suggests that women suffer poverty on a wider scale than men. Fasoranti (2008) further identified factors that could be responsible for poverty among women to include the concentration of women in low-paid job, limited education, and discrimination by many employers of labour and poor state of health.

At 95 percent confidence level, Chi-squared = 2.331, df = 3, N=200 and p = 0.507. No statistical association was detected between sex of household heads and their poverty levels within the fisher folks and crop-based farmer households.

Number of males in households.

Table 6 shows the highest number of males in poor crop-based farmer households was 3. This constitutes 30% of the poor crop-based farmer households. The highest number of males in the very poor crop-based farmer households was 2. This also constitutes 30% of the very poor crop-based farmer households. Four males were found as the highest number among the poor fisher-folk households constituting 32% of poor fisher-folk households. The highest numbers of males among the very poor fisher-folk households was 3. This represents 30% of the number of very poor fisher-folks.

Table 6: Number of Males in Households

Number of males in household	% of Poor crop farmer household	% of Very poor Crop based farmer household	% of Poor fisher-folk household	% of Very poor fisher-folk household
0 males	0	0	2	0
1 male	10	6	12	12
2 males	18	30	8	24
3 males	20	22	28	30
4 males	34	14	32	12
5 males	8	26	18	22
6 males	10	2	0	0
Total	100	100	100	100

N= 200

Source: Survey data (2010).

At 95 percent confidence level, Chi square = 37.114, df =18, N=200 and p= 0.005. Statistical association exits between the number of males in households and their poverty levels in the study area.

Number of females in households.

Table 7 shows that 3 females in a household was the highest number of females among poor crop-based farmer households. Also 3 females was found to be the highest number among the very poor crop-based farmer households. The highest number of females recorded among the poor and very poor fisher-folk household were also between 3 and 4 females respectively.

Table 7: Number of Females in Households

No. per household	Count per household	Wealth ranking				Total
		pc	pf	vpc	vpf	
0 females	Count	2	4	1	5	12
	% wealth rank	4%	8.0%	2.0%	10.0%	6.0%
1 female	Count	9	12	3	15	39
	% wealth rank	18%	24.0%	6.0%	30.0%	19.5%
2 females	Count	15	19	15	13	62
	% wealth rank	30%	38.0%	30.0%	26.0%	31.0%
3 females	Count	11	14	13	8	46
	% wealth rank	22%	28.0%	26.0%	16.0%	23.0%
4 females	Count	13	1	17	9	40
	% wealth rank	26%	2.0%	34.0%	18.0%	20.0%
Other	Count	0	0	1	0	1
	% wealth rank	.0%	.0%	2.0%	.0%	.5%
Total	Count	50	50	50	50	200
	% wealth rank	100%	100%	100%	100%	100%

pc = poor crop-based farmers, pf = poor fisher folks, vpc = very poor crop-based farmers, vpf = very poor fisher-folks. N=200

Source: Survey data (2010).

Generally however, the result of study seems to suggest a predominance of females in the households. This is similar to that in GLSS Round One report by the Ghana Statistical Service (2008) of which suggests that out of a sample of 764 and 813 in the KEEA district, 48 percent and 51.6 percent respectively were males and females respectively. Ghana Statistical Service (2007) reports that, female headed households are on the average less poor than male headed households.

According to this study, within the KEEA district, the poor and very-poor fisher-folk and poor and very poor crop-based farmer households were dominated by a maximum of 3 to 4 females. On the other hand, the poor and very poor fisher-folk and poor and very poor crop-based farmer households were dominated by 2 and 3 males. Females were thus found to be more in households than males.

At 95 percent confidence level however, Chi-square = 31.462, df =15, N=200 and p = 0.008. No significant statistical association was therefore found to exist between number of females in the households and poverty levels.

Age distribution in households

Age and sex distribution according to Ghana Statistical Service (2006), are some of the main factors that determine the consumption levels as well as levels of productivity. The more productive a households is, the lower the poverty level. According to Table 8, age group 45-55 years was the most prominent among the target households.

Table 8: Age Group Distribution in Households

Age group		Wealth ranking pc	Pf	vpc	Vpf	Total
15-24 years	Count	3	1	1	3	8
	% within Wealth rank	6.0%	2.0%	2.0%	6.0%	4.0%
25-34 years	Count	4	8	2	4	18
	% within Wealth rank	8.0%	16.0%	4.0%	8.0%	9.0%
35-44 years	Count	10	30	14	14	68
	% within Wealth rank	20.0%	60.0%	28.0%	28.0%	34.0%
45-54 years	Count	17	9	20	22	68
	% within Wealth rank	34.0%	18.0%	40.0%	44.0%	34.0%
55-64 years	Count	13	2	5	7	27
	% within Wealth rank	26.0%	4.0%	10.0%	14.0%	13.5%
above 64 years	Count	3	0	8	0	11
	% within Wealth rank	6.0%	.0%	16.0%	.0%	5.5%
Total	Count	50	50	50	50	200
	% within Wealth ranking	100.0%	100.0%	100.0%	100.0%	100.0%

pc = poor crop-based farmers, pf = poor fisher folks, vpc = very poor crop-based farmers, vpf = very poor fisher-folks. N=200

Source: Survey data (2010).

The highest number was among the poor fisher-folks. The least number was among the poor crop-based farmer households. Age group 35-44 years was

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more common among the poor fisher-folk households. However, age groups 15-24 and >65 years were generally uncommon (Table 8).

At 95 percent confidence level, Chi-square = 51.007, df =15, N=200 and p=.000.   A significant statistical association was detected between age group distribution and poverty levels.

Total number of people in households

Table 9 shows the total number of people in households across the two occupations within the wealth groups. Number of people in households ranged between 2 to above 7. Whereas each of the poor wealth groups had 4, 5, 6, 7, and >7 people in households, fewer households had 2 and 3 people. The very poor crop-based farmers had households larger than 4 to larger than 7. No poor crop-based farmer household had small household of the magnitude of 2 members. The poor fisher-folks reported the highest number of 6 people in a household.

Table 9: Total Number of People in Households

		Wealth ranking				
		Pc	Pf	Vpc	Vpf	Total
2 people	Count	0	2	0	4	6
	% within Wealth rank	.0%	4.0%	.0%	8.0%	3.0%
3 people	Count	6	1	0	7	14
	% within Wealth rank	12.0%	2.0%	.0%	14.0%	7.0%
4 people	Count	6	6	5	5	22
	% within Wealth rank	12.0%	12.0%	10.0%	10.0%	11.0%
5 people	Count	3	8	15	11	37
	% within Wealth rank	6.0%	16.0%	30.0%	22.0%	18.5%
6 people	Count	12	16	9	12	49
	% within Wealth rank	24.0%	32.0%	18.0%	24.0%	24.5%
7 people	Count	13	12	8	7	40
	% within Wealth rank	26.0%	24.0%	16.0%	14.0%	20.0%
> 7 people	Count	10	5	13	4	32
	% within Wealth rank	20.0%	10.0%	26.0%	8.0%	16.0%
Total	Count	50	50	50	50	200
	% within Wealth rank	100.0%	100.0%	100.0%	100.0%	100.0%

pc = poor crop-based farmers, pf = poor fisher folks, vpc = very poor crop-based farmers, vpf = very poor fisher-folks.

Source: Survey data (2010)

At 95 percent confidence level, Chi-square = 37.754, df =18, N=200 and p= 0.004. A significant statistical association was detected between the total number of people in households and poverty levels within the target communities.

Availability of health facilities to households in locality.

Health facilities investigated in this study include CHIP compounds, health posts, clinics and hospitals. Presence of these facilities in the communities implies their availability. In the target communities, the study identified that these health facilities were either available or not available to the various wealth groups. Figure 4 shows that whereas 70 percent of poor crop-based farmers had at least one of these health facilities in their localities, 30 percent of poor crop-based farmer households were denied of at least one health facility. About 56 percent of very poor crop based farmers had health facilities as opposed to about 44 percent who were denied of health facilities. Similarly, about 56 percent poor fisher-folks have health facilities in their localities as against 44 percent that had no health facility in their localities.   On the other hand, only 26 percent of very poor-fisher had health facilities as against over 74 percent of poor fisher –folks who had no health facilities in their localities.

Ghana Statistical Service (2008) confirms the findings of this study that the number of households with access to health facilities in the Central region varies by geographic location and socio-economic group. Ghana Statistical Service (2000) reported that less than one-half of the people in the Central Region have access to health facilities and about only one–third of households in the rural are-

as have access. This supports the current study where a portion of the poor fisher-folks reports of no health facility in their locality.
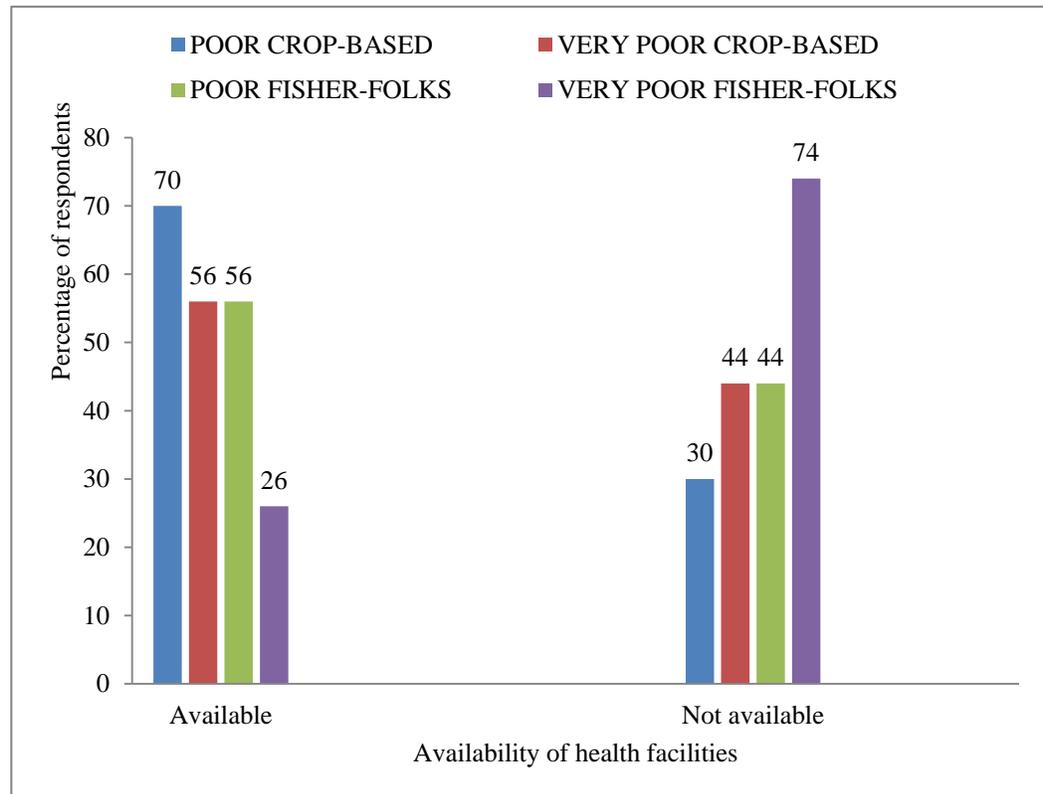
Figure 4: **Access to Health Facilities**

Source: Survey data (2011)

Health is an essential ingredient in the life of all. The non availability of health facility is a factor that can draw an individual into poverty. Poor health can reduce productivity, decline output hence lower incomes. Ghana Statistical Service (2007) reports that the proportion of rural people who visited health facilities and consulted doctors increase systematically with increasing standard of living. The lower the poverty levels therefore, higher the propensity to approach a health facility for medical attention in times of ill health.

The result of this study shows a general absence of health facilities to the fisher-folk and crop based farmer households in the communities. This could be one of the driving forces to the persistence of various levels of poverty among them. Crop-based farmers and fisher- folks may have to travel long distances to access health facilities even if they can afford it. This could be a major reason for

At 95 percent confidence level however, Chi-square = 24.817, df =6, N=200 and p = 0.000. A significant statistical association was detected between the availability of health facilities and poverty levels among fisher folks and crop-based farmers in the study area.

Formal education of households heads.

Table 10 reports on the number of household heads who received formal education. The study found that very high numbers of poor and very poor crop-based farmer household heads had formal education. Similarly, a very high number of poor fisher-folk household heads and very poor fisher-folk household heads had formal education albeit lower than those of the levels corresponding to the crop-based farmer household heads. The number of poor fisher- folk household heads and very poor fisher-folk household heads without formal was also low even though higher than those of the poor crop-based and fisher folk household heads.

Table 10.   Formal Education of Household Members

Access	to formal education	Wealth ranking				
		pc	pf	vpc	vpf	Total
Yes	Count	40	19	41	34	134
	% within Wealth ranking	80.0%	38.0%	82.0%	68.0%	67.0%
No	Count	10	31	9	16	66
	% within Wealth ranking	20.0%	62.0%	18.0%	32.0%	33.0%
Total	Count	50	50	50	50	200
	% within Wealth ranking	100.0%	100.0%	100.0%	100.0%	100.0%

pc = poor crop-based farmers, pf = poor fisher folks, vpc = very poor crop-

based farmers, vpf = very poor fisher-folks.N=200

Source: Survey data (2011)

At 95 percent confidence level, Chi-square = 27.951, df =3, N=200 and p= 0.000). A significant statistical association exists between access to formal education and poverty levels of the fisher folks and crop- based farmers in the study area.

Table 11 also describes the number of household members that had formal education. Poor crop-based farmer households and very poor crop-based farmer households with all members having formal education were 40 and 41 respectively. On the other hand, 19 and 34 poor fisher-folk and very poor fisher-folk households respectively had members who received formal education. The study therefore reveled that more crop-based farmer household members had formal education than fisher-folks household members.

Table 11:   **Formal Education among Heads of Household**

Access to formal education		pc	pf	vpc	vpf	Total
				Wealth ranking		
Yes	Count	40	19	41	34	134
	% within wealth ranking	80.0%	38.0%	82.0%	68.0%	67.0%
No	Count	10	31	9	16	66
	% within wealth ranking	20.0%	62.0%	18.0%	32.0%	33.0%
Total	Count	50	50	50	50	200
	% within wealth ranking	100.0%	100.0%	100.0%	100.0%	100.0%

pc = poor crop-based farmers, pf = poor fisher folks, vpc = very poor crop-based farmers, vpf = very poor fisher-folks. N=200.

Source: Survey data (2011).

Education is a basic need that influences socio-economic livelihood. It influences health status of children, employment, reproductive behaviour and infant and child mortality. Further; education is essential in providing people with the basic knowledge and necessary skills to improve their quality of life. Policies and programs that help to expand access to and the proper utilization of educational opportunities assist in reducing poverty across very poor wealth groups (Ghana Statistical Service, 2001). It is therefore imperative for the level of formal educa-

tion to be enhanced among the poor and very poor if poverty status are to be improved beyond the current levels

At 95 percent confidence level, Chi-squared = 51.007, df =15, N=200 and p = 0.005. A significant association exists between access to formal education and poverty levels among the fisher-folks and crop-based farmer household members in the study area.

Marital status of household heads.

The number of household heads with only one spouse was more common among the poor crop-based farmer households. This was followed by very poor crop-based farmer households, poor fisher-folk households and very poor fisher-folk households in a descending order as shown in Table 12.

Table 12: Marital Status of Household Heads

Marital status		Pc	Pf	Vpc	vpf	Total
				Wealth ranking		
Married- one	Count	43	36	39	35	153
spouse	% within wealth rank	86.0%	72.0%	78.0%	70.0%	76.5%
Never married	Count	0	3	1	1	5
	% within wealth rank	.0%	6.0%	2.0%	2.0%	2.5%
Divorced	Count	2	6	3	7	18
	% within wealth rank	4.0%	12.0%	6.0%	14.0%	9.0%
Widowed	Count	2	5	6	3	16
	% within wealth rank	4.0%	10.0%	12.0%	6.0%	8.0%
Married-	Count	3	0	1	4	8
polygamous	% within wealth rank	6.0%	.0%	2.0%	8.0%	4.0%
Total	Count	50	50	50	50	200
	% within wealth ranking	100%	100%	100%	100%	100%

pc = poor crop-based farmers, pf = poor fisher folks, vpc = very poor crop-

based. farmers, vpf = very poor fisher-folks. N=200

Source: Survey data (2011).

This study believes that marriage could be a source of additional labour to households. Marriage could bring in more labour leading to increase in workforce and high production. High production may lead to higher incomes and high income may alleviate poverty. Further, marriage can also be a source of comfort to reduce stress. Reduction of stress could lead to reduction in poverty.

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At 95 percent confidence level, Chi-squared = 16.091, df= 12, N=200 and p = 0.187. No significant association was found between poverty levels and the marital status of the fisher-folks and crop-based farmers in the study area.

Household sizes by equivalence scale

Table 13 describes the mean household sizes across the various wealth groups based on the equivalence scale outlined in Table 1.

Table 13: Average Household Sizes within Wealth Groups and Occupations

Poor crop-based farmer	Very poor crop-based farmers	poor fisher-folks	Very poor fisher-folks
5.30	4.46	5.37	4.30

N=200

Source: Survey data (2011).

The average household size was greater among poor fisher-folk households than among the poor crop-based farmer households. It was smaller among very poor fisher-folk households than among the very poor crop-based farmer households. GLSS 5 report recorded a mean household size of 3.6 for Rural Coastal areas, but national average household size in Ghana was 4.0 (Ghana Statistical Service, 2008).

Whereas the national average household size among rural coastal areas in Ghana was 4.0, this study reports of a mean household size of 5.30 for poor crop-based farmers, 4.40 for very poor crop-based farmers, 5.38 for poor fisher-folks and 4.30 for very poor fisher-folks. According to Ghana Statistical Services (2008), higher household sizes may induce high poverty within occupations.

At 95 percent confidence level, Chi-square = 7.82, df= 3, N=200 and p = 0.000. A statistically significant association was detected between poverty levels and household sizes among the fisher-folks and the crop-based farmer households.

Occupations within households

Whereas all poor crop-based farmer households engaged solely in crop farming as indicated in Table 14, three very poor crop-based farmer households engaged in other the activities alongside crop-based farming. Forty nine fisher-folk households engage solely in fishing activities and 14 of the very poor fisher-folk households also engaged in other activities besides marine fishing as shown in Table 14. The distribution in Table 14 shows that apart from the poor crop-based farmer household members, others engage in other occupations probably as a safe guard of income inflows during off seasons.

Table 14: Occupations within households

Poverty levels	Number of households			
	Mainly crop based farming	Mainly marine fishing	Engages in other activities	Total
Poor crop-based farmers	50	N/A	0	50
Very poor crop-based farmers	47	N/A	3	50
Poor fisher-folks	N/A	49	1	50
Very poor fisher-folks	N/A	36	14	50

Source: Survey data (2011). N/A= Not Applicable.

Type of crops grown.

 The main crops grown by the poor and very poor crop-base farmer households in the target communities include cassava, maize, vegetables and sugar cane as shown in Table 15. Whereas all poor crop-based farmer households cultivated maize, 49, 47 and 10 poor crop-based farmer households cultivated cassava, vegetables and sugar cane respectively. Similarly, 35, 33, 21and 21 of the very poor crop-based farmer households cultivated cassava, maize, vegetables and sugarcane respectively in the target communities. Sugarcane was least cultivated by the crop-based farmer households.

Table 15: Type of Crops Grown by Households

Type crops grown	Number of Crop-based farmer households involved	
	Poor	Very poor
Cassava	49	35
Maize	50	33
Vegetables	17	21
Sugarcane	10	21

Source: Survey data (2011).

 At 95 percent confidence level, Chi-square =7.827,   df=3, N = 100 and p = 0.000. A significant statistical association was detected between poverty levels and the type of crops grown by the poor and very poor crop-based farmer households in the study area.

Land ownership status of households.

Ownership of land varied from personally buying, ownership through the community, renting, inheritance and to those owned as a gift. Land ownership by households was therefore not from any single source. The main source of ownership among the poor crop-based farmer and poor fisher-folk households was ownership through inheritance (Table 16). The main source to the very poor crop-based farmer and very poor fisher-folk households was ownership through personal purchases and community land. Land owned through inheritance; cannot be used as collateral to raise capital for farm and other development purposes because of fear of future family litigation. This could also limit farm sizes and reduce output and profitability (Akinsanmi, 1988).

Table 16: Sources of Land Ownership among Households

Sources of land ownership	Number of crop-based farmer households		Number of fisher-folk households	
Land ownership status of household	Poor	Very poor	Poor	Very poor
Personally bought	18	32	19	6
Community land	6	17	16	24
Rental	11	8	9	13
Inherited	36	18	22	19
Gifted	10	10	3	10

N=200
(Cell frequencies do not add up to sample size due to multiple responses).

Source: Survey data (2011).

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At 95 percent confidence level, Chi-square = 21.016, N=200 and df=12, p = 0.000. A significant statistical association was detected between the sources of land ownership and poverty levels.

Sources of labour

Table 17 shows the sources of labour to households for crop-based farming and fishing activities. Children appear to be the major source of labour for the households in both occupations and poverty levels. More fisher-folk households used their children as a source of labour than the crop-based farmers.

Table 17: Sources of Labour to Households

Source of labour	Number of Crop-based farmer households		Number of fisher-folk households	
	Poor	Very poor	Poor	Very poor
Children	47	42	50	44
Paid labour	30	42	36	42
Communal	20	22	16	34
Spouse	37	32	29	15

Source: Survey data (2011). *(The cell frequencies may not add to the sample sizes because of multiple responses).*

At 95 percent confidence level, Chi-square = 17.035, df = 9, N=200 p = 0.000. A statistical association was found between poverty levels and sources of labour to fisher-folk and crop-based farmer households.

Summary of chi square tests between characteristics and poverty levels.

Apart from number of females in households, marital status of household heads, statistical associations exists between all the characteristics of the poor studied and their poverty levels. The null hypothesis of no relationship between poverty levels and the characteristics of the poor was therefore rejected. According to this study therefore, poverty levels identified are related to the characteristics of the poor crop-based farmer and poor fisher-folk households.

Relationship between poverty line and characteristics of poor households.

The theoretical framework of the study outlines some household characteristics that define poverty. These household characteristics include education, health, land ownership, income, number of people in household and type of occupation (Akinde, 1985; Sen, 1997; Ravallion, 1992 and Ghana Statistical Service, 2000). However, Minujin (2005) identified poverty line as a measure of the intensity of poverty among people. He explained poverty line as the minimum income level below which a person is officially considered to lack adequate subsistence and to be living in poverty. The study seeks to find a relationship between poverty line and characteristics of the poor.

According to Vijayakumar (2010), by far the most widespread technique used to identify the contributions of different variables to poverty is regression analysis. Pallant (2007) also identified that regression analysis is commonly undertaken to identify the effects of each independent characteristic on the dependent characteristic. However World Bank (2001) reports that regression techniques

are good at identifying the immediate causes of poverty, but are less successful at finding the "deep" causes. World Bank (2001) further explained   regression techniques can only show that a lack of education for example; can cause poverty, but cannot so easily explain why some people lack education. The Bank concludes that a regression estimate can only show how closely each independent variable is related to the dependent variable holding all other influences constant.

To determine the relationship between poverty line and characteristics of the poor therefore, multiple linear regressions were run between the characteristics of the poor and the poverty line computed for the study area. Multiple linear regression is an approach that attempts to model a relationship between the dependent variable and the explanatory variables.

Results of Regression Analysis

In order to determine the relationship between poverty line and the characteristics of the poor, a linear equation was devised as follows:

$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6$

where:

Y = poverty line;

b_0 = constant;

X_1 = education;

X_2 = health;

X_3 = land ownership;

X_4 = income;

X_5 = number of people in household and

X_6 = number in various occupations.

Regression analysis in Table 18 shows that land ownership (X_3) and number of people in household (X_5) were not significant ($p > .05$) in predicting poverty line of farmers in this study.

Table 18: Initial Regression Values

Factors	Un-standardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	449.352	28.482		15.777	.000	393.177	505.527
Education	-5.710	1.798	-.169	-3.176	.002	-9.255	-2.164
Health	-25.823	5.991	-.240	-4.310	.000	-37.639	-14.007
Land Owner-ship	-7.664	8.610	-.048	-.890	.375	-24.645	9.318
Income	-30.831	4.284	.397	-7.196	.000	-22.381	39.281
No. in Household	-3.379	2.191	-.083	-1.542	.125	-7.700	.942
Number in various Occupations	32.195	6.969	.257	4.620	.000	18.450	45.940

a. Dependent Variable: Poverty Line . N=200

Source: Survey data (2013).

A non-significant value reduces the strength of the regression model's ability to predict the outcome variable (Pallant, 2007). A revised regression model was therefore computed eliminating the non-significant variables from the original equation.

Revised Regression Model and Test of Significance of Combined Factors

Table 19 shows the Beta Values for the revised regression model. In this case, all four variables (education, health income and occupation) were significant in predicting poverty line in the study ($p<.05$).

Table 19: Revised Regression Values

Factors	Un-standardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	425.682	24.69		17.244	.000	376.99	474.36
Education	-5.918	1.796	-.176	-3.295	.001	-9.46	-2.376
Health	-28.331	5.831	-.263	-4.859	.000	-39.83	-16.831
Income	-30.695	4.283	-.396	-7.166	.000	-22.25	-39.142
No in various ccupations	31.374	6.829	.251	4.595	.000	17.91	44.841

Dependent Variable: Poverty line.

N=200

Source: Survey data 2011.

After eliminating the two non-significant predictors (land ownership and number of people in household), the revised equation model states:

Y= 425.68 + X₁(-.176) + X₂(-.263) + X₃(-.396) + X₄(.251);

Y = poverty line;

b_0 = constant

X_1 = education;

X_2 = health;

X_3 = income;

X_4 = number in various occupations.

The regression equation shows that poverty line decreases with improved education levels. The improvement in equation at the household level would lead to a reduction in poverty line. Hanushek and Kimbo (2000) in their study on 'Schooling, Labour Force Quality and Poverty', argued that better education can translate into sustained growth which can reduce poverty drastically.

The regression equation further shows that poverty line would decrease if there is improvement in health delivery. Figure 4 of the study shows that about 74 % of the very poor fisher-folk and 44 % of the poor fisher folk households claim there were no immediate health facilities in their communities. Further, 44 % and 30% of the very poor and poor crop based farmers respectively claim there were no health facilities in their immediate communities (Figure 4). Provision of health facilities in the communities therefore would improve health delivery among the target communities. The regression equation also indicates an increase in poverty line with a reduction in income level. Figure 10 of this study identified the major products from which the poor obtain their major income to be crop produce and fish.

To increase income therefore, the poor could step up the production of their crops and intensify the capture of fish. The sale of more of these products could lead to additional income to improve their well-being.

The regression equation further suggests a reduction in the level of occupation with increasing poverty line. In this study, all the poor crop based farmers households are into crop production as a main occupation and almost all the very poor crop based farmer households also engage in the cultivation of crops. Further, almost all the poor fisher-folk and very poor fisher-folk households also engage in fishing as a main occupation. Based on the prediction of the regression equation, it is imperative to reduce the number of fisher-folk and crop based farmer households engaged in fishing and crop farming. This may be achieved by introducing gainful alternative livelihoods in the communities in consultation with those affected. Those who may find the chosen livelihoods rewarding may eventually quit crop based farming and fishing to take to the alternative livelihoods with the aim of improving their well-being as suggested by the conceptual framework of the study.

Generally, the regression equation shows that; education, health and income exhibit negative relationships with poverty line while number engaged in various occupations show a positive relationship with poverty line. Education and health are known as two major factors that can reduce poverty among deprived communities (WHO, 1999).

Analysis of Variance (ANOVA) test of statistical significance of the regression model (Table 20) exhibits that the regression test between poverty line as

dependent variable and education, income, health and occupational levels as inde-
pendent variables was statistically significant (F = 42.85, $p<.000$). Hence, the
null hypothesis (H_o: $\underline{R} = 0$) of no relationship between the dependent and the in-
dependent variables was rejected. This implies that the linear combination of the
four predictors (income, education, health and occupation) significantly influ-
enced poverty line. Therefore, the F value of 42.85 also implies that the sample
for the study truly emerged from the population.

Table 20: ANOVA

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	396592.547	4	99148.137	42.851	.000
	Residual	451185.104	195	2313.770		
	Total	847777.652	199			

Predictors: (Constant), Occupation, Education, Health, Income

Source: Survey data (2013).

The regression model summary (Table 21) indicates the coefficient of de-
termination (R^2 =.468). This shows the extent to which the predictor variables
(income, education, health and number in various occupations) collectively ex-
plain the outcome variable (poverty line). In this study therefore, income, educa-
tion, health and number in various occupations accounts for about 46.80 percent
of the variances in the poverty line.

Table 21: Summary of Regression Model

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate
1	.684	.468	.457	48.101

Dependent Variable: Poverty Line

Source: Survey data (2013).

This suggests that there may be other factors in addition to those identified by this study which could account for the poverty line in this study area. A further study may therefore be needed to identify the other factors that could add up to those identified by this study to account for poverty line among the fisherfolks and crop based farmers in the target communities.

Pattern of Income and Expenditure among the Households

Major items of household expenditure among the target groups were various food items, repair work on housing, payment of monthly rent on housing, servicing of pipe-borne water and electricity bills. Other items of household expenditure include bills on education of household dependants, development levies, funeral donations, church levies and tithe and settling of hospital and medical bills.

Major food items bought for household consumption.

The major food items on which households made expenditure include yam, cooking oil, onions, salt, fish, meat, garden eggs, pepper, tomato, cocoyam, plantain, maize and cassava.
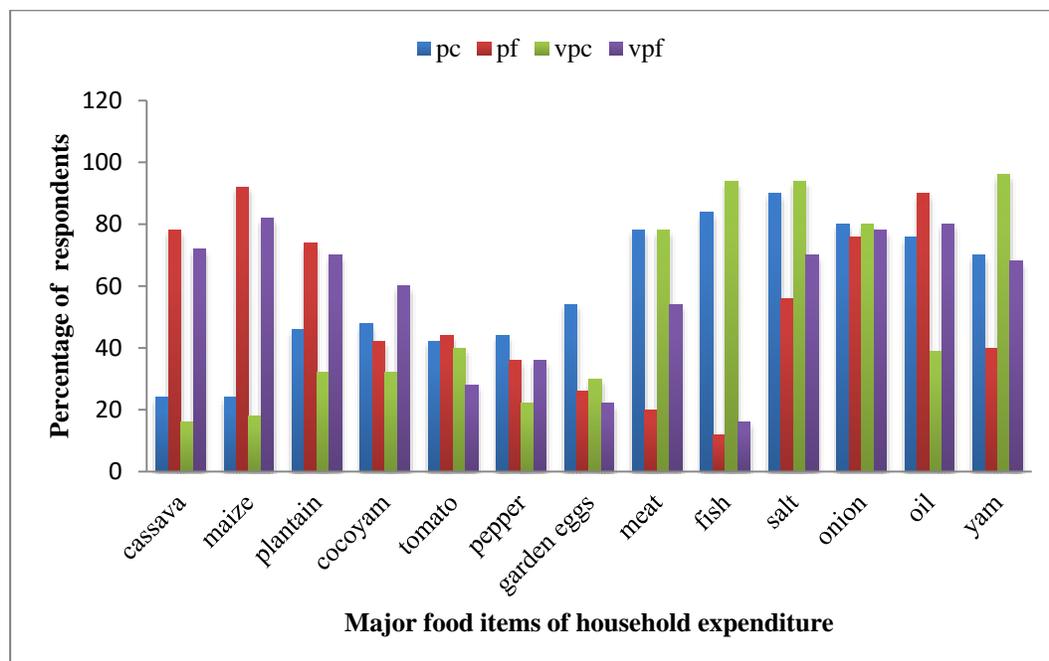
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pc= poor crop farmers, pf = poor fisher folks, vpc = very poor fisher-folks

vpf = very poor fisher folks

Figure 5:   Major food Items of Household Expenditure

Source: Survey data (2011).

Figure 5 shows some of the food items on which the poor households spend their incomes. These items include cassava, maize, plantain, cocoyam, tomato, pepper, garden eggs, meat, fish, salt, onions, oil and yam. These food items are some of the items the poor also produce on their farms. To buy these same items again for household consumption could imply the poor and very poor are unable to produce insufficient amounts even for home consumption.

Repair works carried out on houses

The main repair works on which households made expenditure in the target communities include painting of houses, cementing of floors, changing of faulty door locks, rewiring of houses, reroofing and complete renovation. Expenditure

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on painting was highest but rewiring and complete renovation was the least. The magnitude of the expenditure activities could be attributed to the coastal nature of the marine communities which influence erosion, corrosion and rusting of building materials. Figure 6 shows the percentage of the poor and very poor households against the various type renovation works they carried out on their houses. The highest number of the poor who painted their houses was the very poor crop-based farmer households followed by poor crop-based farmer households, poor fisher-folk households and very poor fisher-folk households in a declining order. This further supports the view that poverty is deepest among the fisher-folks than among crop-based farmers; hence the inability of the former to carry out repair works on their housings.
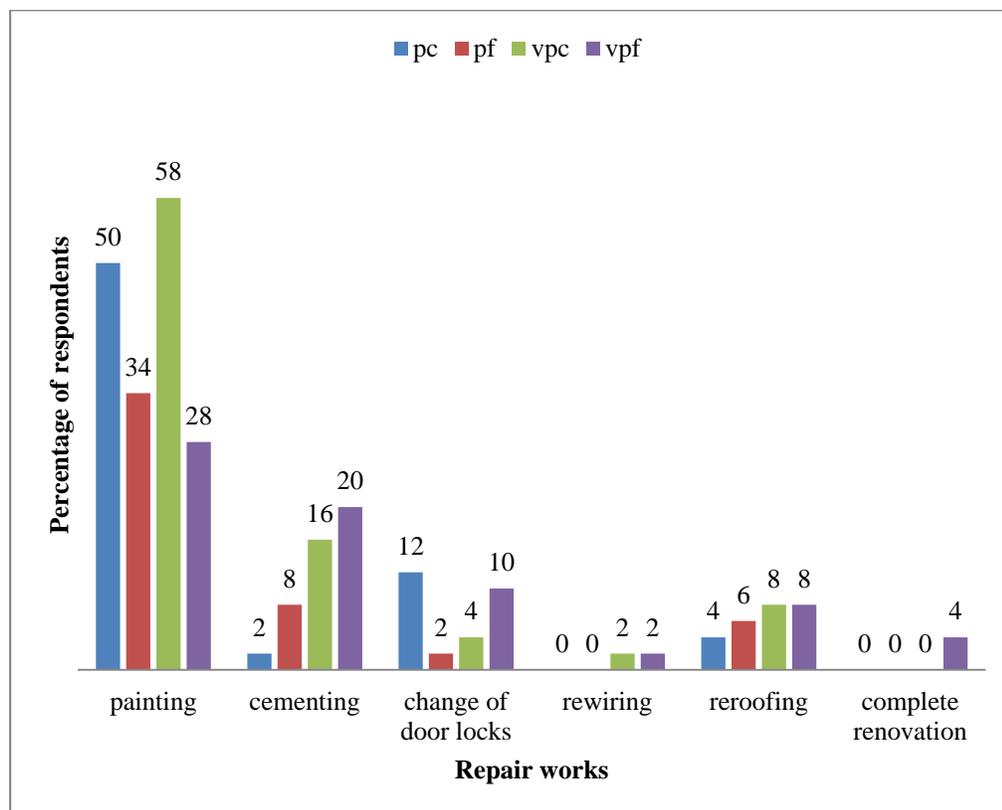
pc= poor crop farmers, pf = poor fisher folks, vpc = very poor fisher-folks
vpf = very poor fisher folks

Figure 6: Repair Works carried out on Houses

Source: Survey data (2011).

The poor wealth groups who own houses carried out various intensities of renovation to their structures. These include cementing; changing faulty door locks, painting and others. Painting appears to be the major renovation work carried out across the households. Rewiring and complete renovation was least done across the households.

Expenditure on rent.

Some of the poor and very poor households paid rent on the houses they occupied. Fifty percent of the poor fisher-folk households paid rent and 16 percent

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of the poor crop-based farmer households also paid rent. Also 40 percent of the very poor fisher-folk households paid rent and 8 percent of the very poor crop-based farmer households also pay rent as shown in Figure 7.
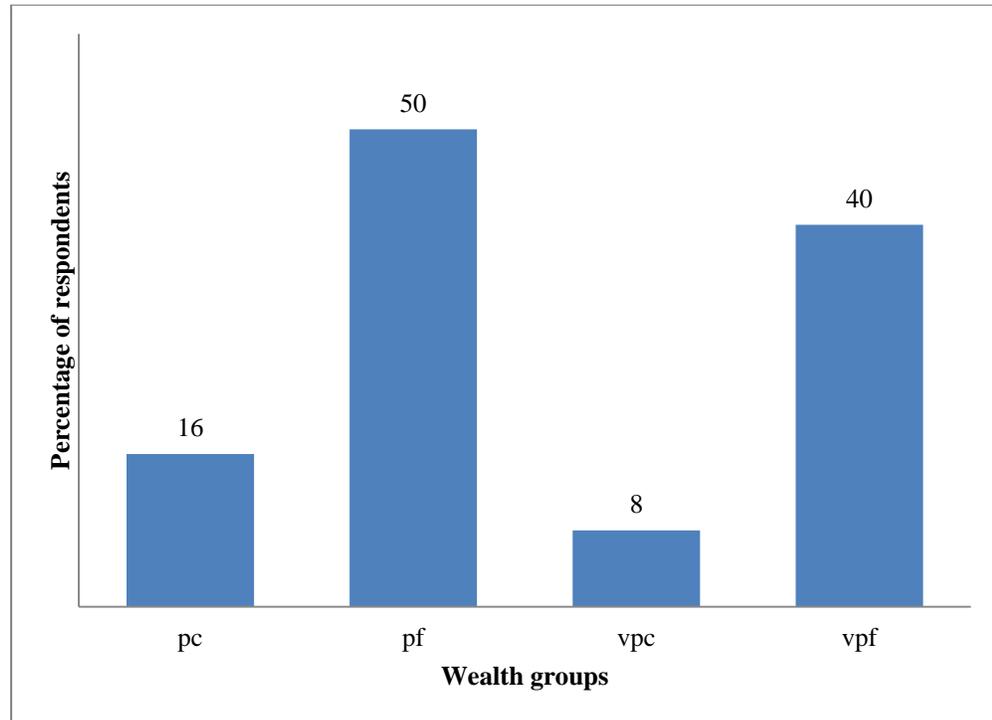
pc= poor crop farmers, pf = poor fisher folks, vpc = very poor fisher-folks

vpf = very poor fisher folks

Figure 7: Expenditure on Rent

Source: Survey data (2011).

Expenditure on household utilities

The two main household utilities on which the poor households made expenditure were pipe borne water and electricity. In a descending order, 49 percent of the poor fisher-folk households made expenditure on electricity followed by 48 percent of poor crop based farmers, 47 percent of very poor fisher folk households and 45 percent of very poor crop-based farmer households. Also, 48 percent of

poor fisher-folks, 48 percent of very poor fisher-folks, 26 percent of very poor crop-based farmers, and 20 percent of poor crop-based farmer households made expenditure on pipe borne water (Figure 8).
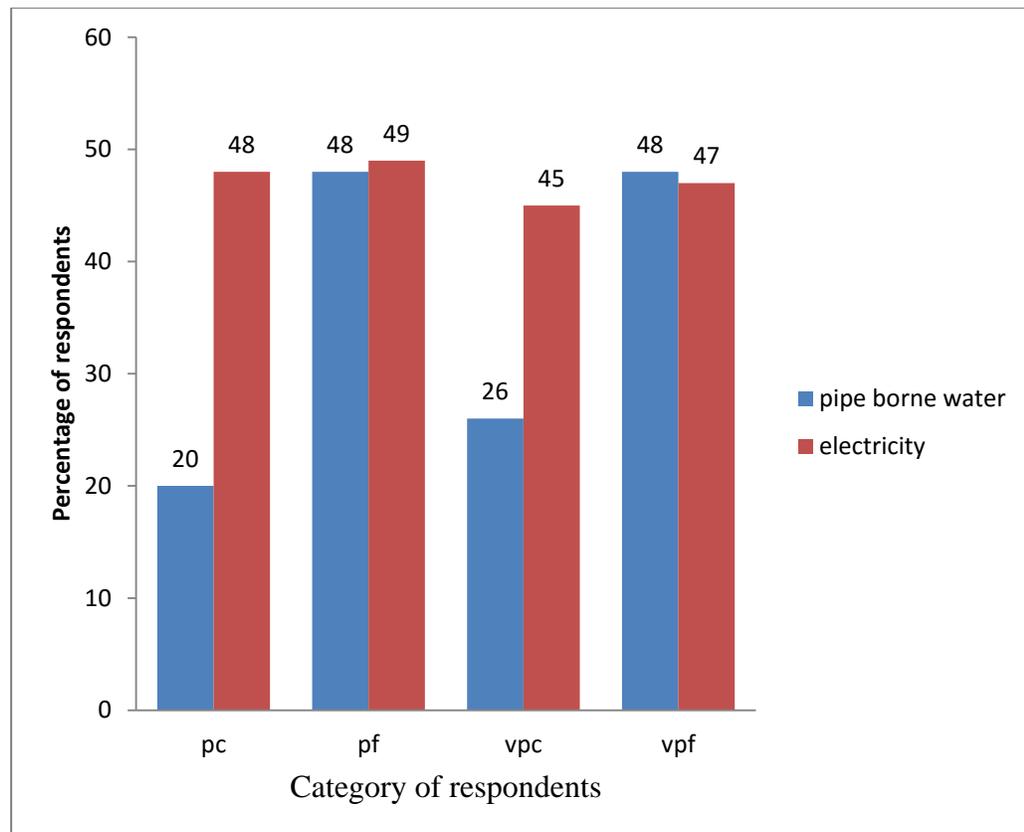
pc= poor crop farmers, pf = poor fisher folks, vpc = very poor fisher-folks

vpf = very poor fisher folks.

Figure 8: Expenditure on Household Utilities

Source: Survey data (2011).

Other items of household expenditure.

Figure 9 shows that almost all households in each of the poor wealth groups made expenditure on education. This emphasized the importance of education to members of the communities despite their levels of poverty. Expenditure on edu-

cation was closely followed by expenditure on development levy. About 94 percent each of households from each wealth group paid development levy. Also, about 92 percent of households from all the wealth groups made funeral donations. A very low percentage of about 5 percent of poor fisher folk households made church contributions as against 86 percent each of very poor fisher-folk and very poor crop-based farmer households. A little above 86 percent of poor crop-based farmer households also made church contributions. About 86 percent each of very poor crop-base farmer and very poor fisher-folk households spent much income on hospital bills. Also, about 80 percent and 60 percent poor crop-based farmer and poor fisher-folk households respectively made expenses on hospital bills.
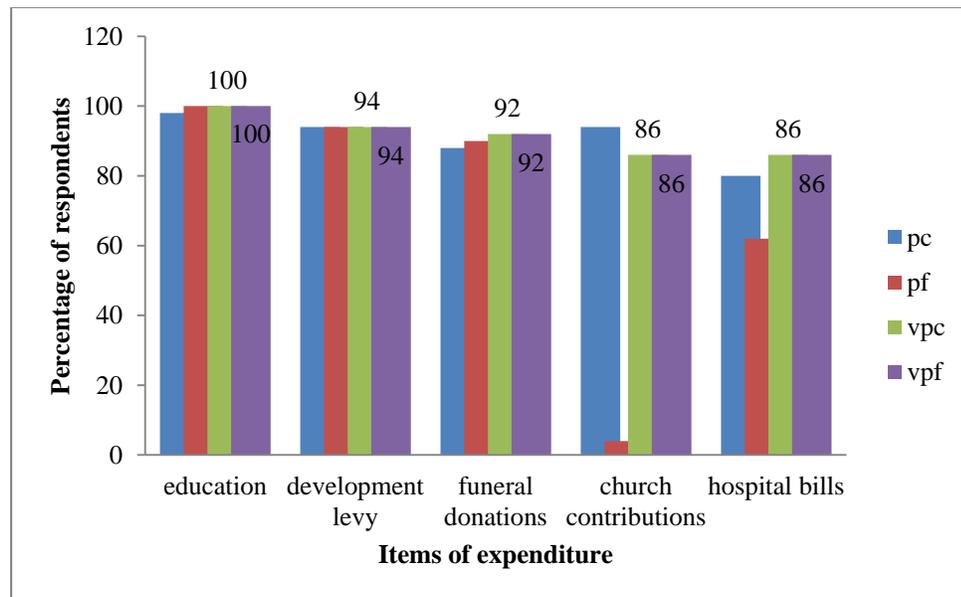
pc= poor crop farmers, pf = poor fisher folks, vpc = very poor fisher-folks

vpf = very poor fisher folks

Figure 9: Other items of Household Expenditure

Source: Survey data (2011)

Major sources of household income.

Figure 10 shows the major sources of household income. The sources are sale of farm produce and sale of marine fish. Whereas about 84 percent of the poor crop-based farmer households derived their major household income from sale of farm produce, about 80 percent of the very poor crop-based farmer households derived their major household incomes from the same source. About 90 percent and 68 percent respectively of poor fisher-folk and very poor fisher-folk households derived their household incomes from sale of fish.
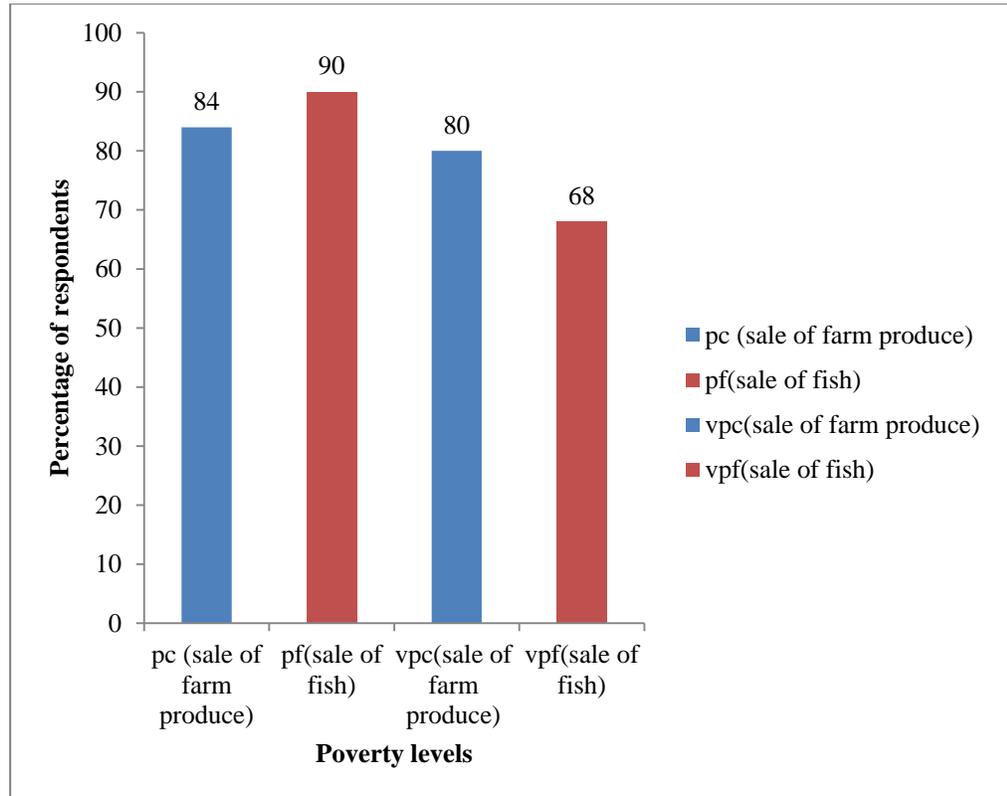
pc= poor crop farmers, pf = poor fisher folks, vpc = very poor fisher-folks

vpf = very poor fisher folks

Figure 10: Major Sources of Household Income

Source: Survey data (2010)

Other sources of household income.

Three other sources of household income identified by the poor and very poor households were gifts from friends, loans from financial institutions, and burrowing from friends. All the poor and very poor wealth groups benefited from each of these sources of household income but at varying degrees as shown in Figure 11.
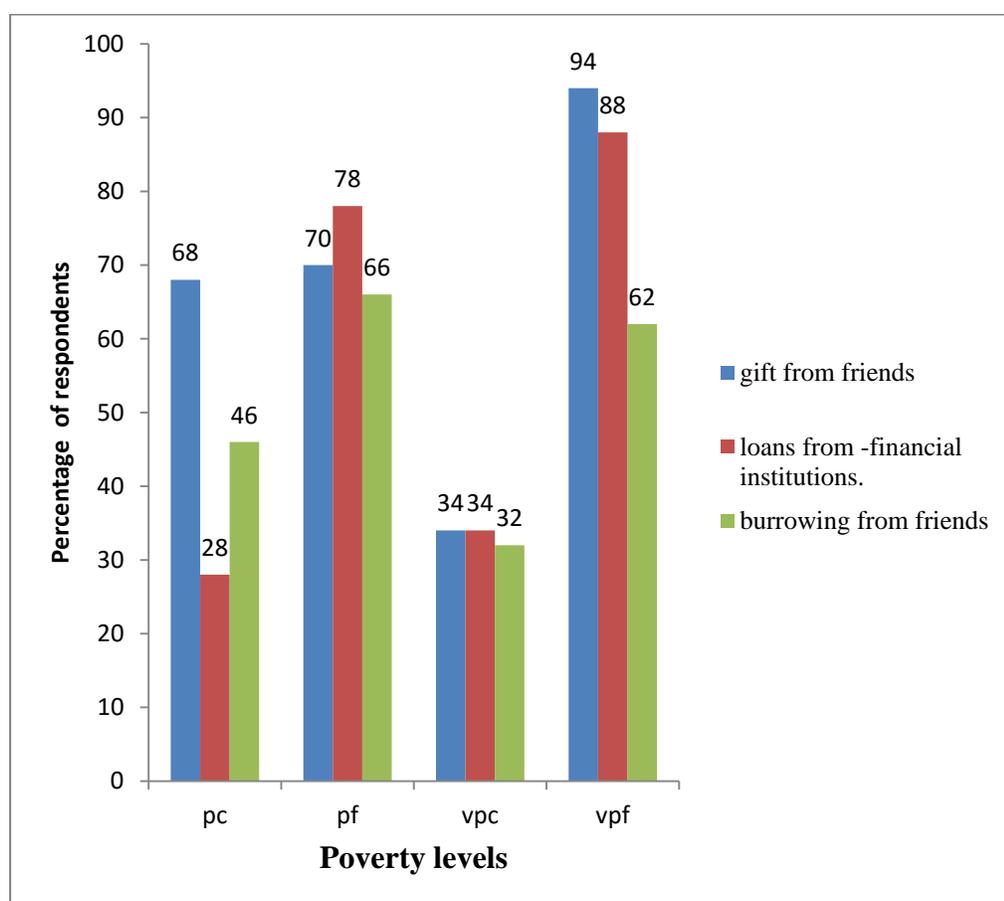
pc=poor crop farmers, pf = poor fisherfolks, vpc = very poor fisher-folks vpf = very poor fisher folks (Multiple responses, percentages may not add up to 100)

Figure 11: Other Sources of Household Income

Source: Survey data (2011).

Thirty four percent of very poor crop-based farmer households benefited from gifts from friends. The same percentage benefited from loans from financial institutions and 32 percent burrowed from friends. The proportion of poor crop-based farmer households who derived household income as gift, loan from financial institutions and burrowing from friends were 68 percent, 28 percent and 46 respectively. Between 70 percent of poor fisher-folk households received gifts from fiends, 78 percent received loans from financial institutions, and 68 percent burrowed money from friends. About 30 percent of very poor crop-based farmers also received gifts from friends, took loans from financial institutions and burrowed from fiends. Further, 94 percent of very poor fisher-folks received gifts from friends, 88 percent took loans from financial institutions and 62 percent burrowed from friends (Figure 11). Members of the target groups therefore in both occupations earned income from various sources beside that from their main occupations. This could be attributed to the inadequacy of incomes generated from their main occupations.

General characteristics of income and expenditure.

The range of expenditure of the poor was between GHS 450 – 580 (Appendix 2). Also, the range of income of the very poor fisher-folk households was between GHS 458- 586 (Appendix 3). The higher poverty line for the Central Region (2009) computed in this study based on October 2009 CPI was GHS 586.00. This value falls within the income and expenditure range of the poor.

On the other hand, the range of expenditure of the very poor crop-based farmer and very poor fisher-folk households was between GHS 203 – 440 (Ap-

pendix 2). Also, the range of income of the very poor crop-based farmer and very poor fisher-folk households was between GHS 246.00 –GHS 444.00 (Appendix 3). The lower poverty line for the Central Region computed by this study using October 2009 CPI was GHS 456.00. This value also falls within the income and expenditure range for the very poor.

The differences between total household incomes were found to be highest among the crop-based farmer households and least among the fisher folk households (Table 22).

Table 22. Difference between total Household Income and expenditure

Wealth groups	Total expenditure during the year (GHS)	Total income during the year(G HS)	Difference in income over expenditure (GHS)	Average household expenditure	Average household income
Poor crop-based farmer households	24,119.00	26,422.00	2,303.00	482.30	528.44
Poor fisher-folk households	24,921.00	26,342.00	1,421.00	498.42	526.84
Very Poor fisher-folk households	16,743.00	17,112.00	369.00	334.86	342.24

Source: Survey data (2011). N=200

The poor in both occupations had higher incomes over expenditure. Table 21 further identifies fisher-folk households as poorer than the crop-based farmer households in the study area.

According to GLSS 5 of Ghana Statistical Services (2008), the average annual household expenditure in Ghana was about GHS191.80. The difference between this value and the values computed by this study may be due to the impact of inflation over the years. Also, the average annual household income of the poor and non-poor in Ghana according to GLSS 5 was about GHS121.70. The difference between this value and the value computed by this study may also be due to increase in general incomes over the years.

There is a positive relationship between income and expenditure as shown by the trend graph in Figure 12.
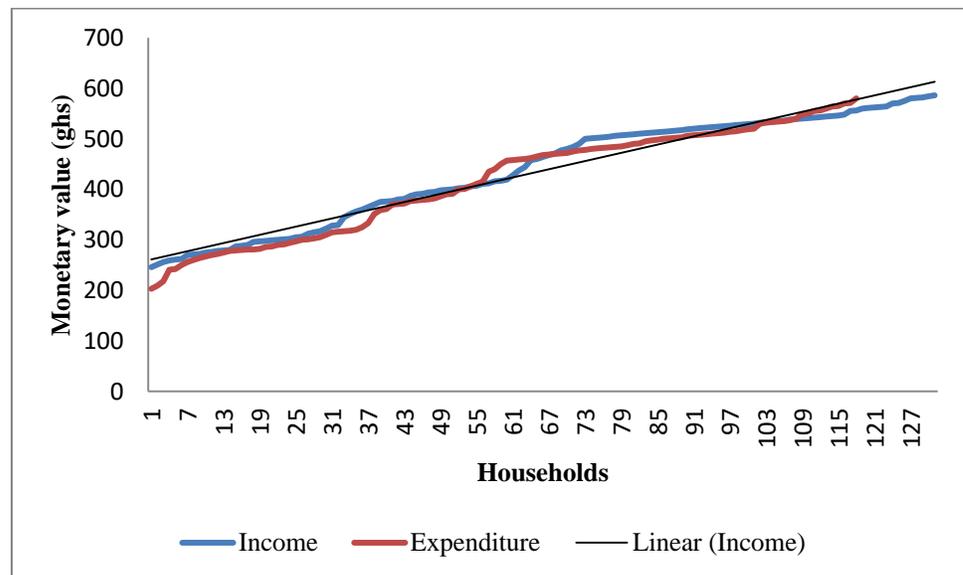
Figure 12: Trend Graph in Income and Expenditure of Households

Source: Survey data (2011).

Overall, there was a positive relationship between income and expenditure. Increase in income of the poor and very poor fisher folks was positively related with increase in their expenditure. Thus as income rises, expenditure also rises. Using income as a trend line; it is evident that income of households could be higher with respondents; a situation that calls for more effort on the part of the fisher folks and crop-based farmers.

Effects of Poverty on Fisher-folk and Crop-based Farmer Households

The effects of poverty in the target communities are discussed under inability to receive formal education and food shortages among households.

Formal education.

The poor and very poor fisher-folk and crop- based farmer households could not receive formal education for various reasons. Table 27 shows that more poor fisher-folk household heads could not receive formal education as compared with the crop based farmer household heads. Specifically, 31 and 16 poor fisher-folk and very poor fisher-folk household heads respectively did not receive any formal education. Also, 10 poor crop-based farmer household heads and 9 very poor crop based farmer household heads respectively also did not receive formal education as shown in Table 23.

Table 23: Access to Formal Education by Household Heads

Poverty levels	Number of educated household heads	Number of non-educated household heads	Total
Poor crop-based farmer	40	10	50
Poor fisher-folks	19	31	50
Very poor crop-based farmers	41	9	50
Very poor fisher-folks	34	16	50
Total	134	66	200

Source: Survey data (2010) N=200

Table 23 further suggests that poverty may be more rooted among the fisher-folk households than among the crop based farmer households. Servaas (2008) therefore suggested that, education can reduce poverty as it makes it more likely for them to get jobs, become more productive, earn more income and above all brings social benefits that improve health care.

Three main reasons advanced by the target groups for their inability to receive formal education are:

a. financial difficulties;

b. lack of interested and

c. absence of schools in localities during their days of schooling.

Financial difficulty was the main reason advanced by the poor crop-based farmer household heads. The poor fisher-folk household heads also claim schools were far from their localities; hence their inability to receive formal education.

The very poor crop-based farmer and very poor fisher-folk household heads indicate financial difficulties coupled with lack of interest as their parents as reasons for their inability to receive formal education.

Food shortages.

Table 24 shows how frequently households run short of food they produced by themselves during the year. Whereas some households never experienced food shortages during the year, others experienced it to various extents. Food shortage durations ranged from a maximum of one day in every week, maximum of day week every two weeks, a maximum of one week in every month to a maximum of one month in every year.

Table 24: Frequency of Food Shortages

| Poverty levels | Number of households with food shortages | | | | | Total |
	Never	One day/ wk	One day/ 2 wks	One week / mth	One mth/ yr	
Poor crop based farmers	15	0	1	13	21	50
Poor fisher-folk s	11	1	2	4	32	50
Very poor crop-based farmers	5	0	33	8	4	50
Very poor fisher-folk	5	2	6	8	29	50

N=200

Source: Survey data (2011)

Whereas 21 poor crop-based farmer households experience food shortage one month in every one year, 15 of the poor crop-based farmer households claim they never experience food shortages during the year. Thirty-two fisher-folk households also reported that they experienced food shortage one month in every year as against 11 households who never experienced food shortages during the year. Among the very poor crop based-farmer households, 33 households experienced food shortages one week in every two weeks and 5 households never experienced any food shortages during the year. Twenty nine very poor fisher-folk households experienced food shortages one month in every year and 5 households never experience any food shortage during the year. It is acknowledged that poverty affects the availability of food supply to households. It does so by influencing the volume of production, productivity and total output. These are influenced by the health status of households, land availability, technology adopted, soil fertility, weather among others causes (World Bank, 2010)

Food shortages in the households may influence some members to resort to begging for food, engaging in food for work and worse of all; engage in praedial larceny. According to Spurr (1990), those who are weakened by hunger find themselves trapped in a vicious cycle of hunger-poverty-hunger and once a household falls into the hunger trap, escape is difficult. Laurie (1990) suggests that households with hungry members face limitations that affect both current daily activities and long-term welfare. She noted further that, hungry mothers are less able to nourish and care for their children, maintain household functioning, and provide additional household resources to improve nutrition. Beyond these, she

identified that hungry households are usually sick more often and this reduces productivity leading to increased poverty in the short and over the long term. The lesser the number of people experiencing food shortage in a community, the lower the poverty level and the less likely the manifestation of poverty as outlined by Laurie (1990).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the major findings made in this study. The findings were based on the specific objectives set and the research questions raised in the earlier chapter. Also included in this chapter are the conclusions and the recommendations made based on the major findings of the study.

Summary of the Study

The specific objectives of the study on poverty among fisher folks and crop-based farmers in the KEEA District of the Central Region, Ghana were to:

a. determine the intensity of poverty among fisher-folk and crop-based farmer households in the KEEA district in terms of poverty line, incidence and levels of poverty;

b. compare the relationship between the levels of poverty and the socio-characteristics of the poor fisher-folk and poor crop-based farmer household;

c. describe the relationship between the socio-characteristics of the poor and the poverty lines computed for the study area;

d. analyze the pattern of the income and expenditure among the poor fisher-folk and poor crop-based farmer households in the study area;

e. discuss the effects of poverty on the socio-economic livelihood of the fisher-folk and crop -based farmer households in the target communities.

Poverty Line

The lower poverty line in the target communities as at October 2009 was GHS 456.00. This lower poverty line corresponds with extreme poverty. The lower poverty line of GHS 456.00 per year determined by this study shows an increase of 58.0 percent over the 2006 poverty line of GHS 288.47 determined by the Ghana Statistical Services for the Central Region using Consumer Price Index.

The higher poverty line for the communities in October 2009 was GHS 586.00. This line also shows an increase of 23 percent over the poverty line of GHS 370.89 in 2006 for the Central Region.

Incidence of Poverty

The incidence of poverty among the poor fisher-folk households was 36.0 percent whereas the incidence of poverty among the very poor fisher-folk households was 39.04 percent. Also the incidence of poverty among poor crop-based farmers was 34.31 percent whereas the incidence of poverty among very poor crop-based farmers was 28.90 percent. Based on this, the study identified that the incidence of poverty was higher among the very poor fisher- folks in the target communities than among the poor fisher-folk households. Similarly, the incidence of poverty was higher among the poor crop-based farmer households than among the very poor crop-based farmer households in the study area. On the basis of this, poverty could be said to be more intense among the fisher-folks than among the crop-based farmers.

Poverty Levels

Using a participatory wealth ranking approach among fisher-folks and crop-based farmers in the target communities, two categories of household poverty levels (poor and very poor) were identified among five wealth groups (very rich, moderately rich, rich, poor and very poor) in the study area. Fifty seven and 52 fisher-folks were identified as "poor" and "very poor" constituting 39 percent and 36 percent respectively from a population of 146 households.

From a total of 239 crop-based farmer households in the target crop-based communities, the wealth ranking identified 82 and 69 poor and very poor crop-based famer households respectively. This averaged up to 34 percent poor and 29 percent very poor crop-based farmer households in the target communities. This further shows that poverty was more intense among the fisher-folk households than among the crop-based farmer households.

Characteristics of the Poor

Among the characteristics of households investigated by the study were sex of household heads, number of males in households, number of females in households, main age group constituting workforce in households, total number of people in households, availability of health facilities to households in locality. Others were formal education of members of households, formal education of household heads, marital status of household heads and age of household heads. The rest include average household sizes, type of occupation, type of crops grown, land ownership status of households and source of labour.

Sex of household heads.

There were more male household heads than female household heads among the poor and very poor fisher-folk and crop-based farmers.

Number of males in households.

The highest number of males in poor crop-based farmer households was three as against two in the very poor crop-based farmer households. Three males were also found as the highest number among the poor fisher-folk households. Three males in households were also identified as the highest among the very poor fisher-folk households.

Number of females in households.

The highest number of females among the poor crop-based farmer households was three and the highest number among the very poor crop-based farmer households was also three. On the other hand, the highest number of females recorded among the poor and very poor fisher-folk households was three and four respectively

Age group distribution among households.

The lowest age group distribution among households was between 15-24 years and the highest was greater than 65 years. Greater than 65 years age group was however absent among the very poor fisher-folk households.

The total number of people in households.

The total number of people in households was greater than 7 people. This was more predominant among the very poor crop-based farmer households.

Availability of health facilities in locality.

Health facilities were more available to very poor crop-based famer households than among the very poor fisher-folk households.

Formal education of members of households.

The highest level of formal education was among the poor crop-based farmer households and the least was among the very poor fisher-folks.

Formal education among household heads.

Formal education among household heads was highest among very poor crop-based farmer household heads and least among the poor fisher-folk household heads**.**

Marital status of household heads.

The marital status of household heads was mainly single spouse. This was highest among poor crop-based farmer household heads and least among very poor fisher-folk household heads. Polygamy was least among poor crop-based farmer household-heads and highest among very poor fisher-folks-household heads. Based on the equivalence scale, a high average household size of 5.37 was recorded among the poor fisher-folk households.

Type of crops grown.

Whereas all poor crop-based farmer households engaged solely in crop-based farming, the very poor crop-based farmer households, poor fisher-folk households and the very poor fisher-folk-households engage in other occupations. The main crop grown by the poor and very poor crop-based farmer households was maize. Other crops grown include cassava, vegetables and sugar cane. Inher-

itance was the most common source of land ownership among the target communities. This was more prevalent among the poor crop-based farmer households.

Sources of labour.

The very poor and poor crop based farmer and fisher-folk households used their children as source of labour. The highest level of use of own child was among poor fisher-folk households and the least was among the poor crop-based farmer households. Other sources of were paid labour, communal labour and labour from spouses.

Significant association exists between poverty levels and the socio-economic characteristics of poor fisher-folks and poor crop based farmer households in this study.

Relationship between Poverty Line and Characteristics of the Poor

The regression model indicates the coefficient of determination (R^2) =.468); showing the extent to which the predictor variables (income, education, health and occupation) collectively explain the outcome variable (poverty line). In this study therefore, income, education, health and occupation accounts for about 46.80 percent of the variances in the poverty line. However, 53.20 percent of factors accounting for farmers' poverty lines were not subject of study in this research.

Analysis of Variance (ANOVA) test of statistical significance of the regression model shows the regression test between poverty line and education, income, health and occupational levels as statistically significant, the null hypothesis of no relationship between the dependent and the independent variables was

rejected. The linear combination of the four predictors (income, education, health and occupation) therefore significantly influenced poverty line.

Generally, the regression equation exhibits that; education and health have negative relationships with the poverty line while income and occupation have positive relationships with poverty line.

Pattern of Income and Expenditure among Households

The major items of household expenditure were food items, repair works carried out on houses, rent, household utilities such as electricity bills and bills on pipe-borne water, education and development levies. Major sources of household income were from sale of farm produce and fish. Other sources of income include gifts, loans from financial institutions and burrowing from friends. Incomes exceeded expenditures among crop-based farmers and fisher-folks. The difference between income and expenditure was however greater among the crop-based farmer households than among the fisher-folk households. Fisher-folk households were found to be poorer than the crop-based farmers. A strong, positive relationship between income and expenditure was observed. Increase in income was positively related with increase in expenditure. As income went up, expenditure also did same. A line of best fit indicated that that no expenditure was made where no income was generated within the households.

The expenditure of the poor fisher-folk households for the period was between GHS 450 – 580. Also, the income of the very poor fisher-folk households for the same period was between GHS 458- 586. The higher poverty line for the Central Region (2009) computed in this study based on October 2009 CPI was

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GHS 586.00; a value that is the upper limit of the income of the very poor fisher folks.

On the other hand, the expenditure of the very poor crop-based farmer and very poor fisher-folk households was between GHS 203 – 440. Also, the income of the very poor crop-based farmer and very poor fisher-folk households was between GHS 246.00–GHS 444.00. The lower poverty line for the Central Region computed by this study using October 2009 CPI was GHS 456.00. This value also falls within the income and expenditure range for the very poor. The difference between total household incomes and expenditures were found to be highest among the crop-based farmer households and least among the fisher folk households.

Effects of Poverty on Socio-economic Livelihood

    i) Acquisition of formal education.

Some members of the poor and very poor fisher-folks and crop-based farmer households lack formal education. Also a sizable proportion of the fisher-folks household heads and crop-based farmer household heads did not receive any formal education. There are more non-educated fisher-folks than crop based farmers in the study area. Non-education by some of the household heads could be a source of poverty in their households.

Some poor fisher-folks and poor crop-based farmer household heads were unable to receive formal education for three main reasons

 a. inability of parents to afford formal education due to financial reasons

 b. household heads not personally interested in formal education

c. absence of formal education in localities during their days of schooling.

d. members were made to help in household chores and

ii)   Acquisition of household facilities.

Some households have not been able to acquire facilities such as pipe borne water, electricity, KVIP, water closet toilet, line telephone, television, wireless set, bicycle, knapsack and DVD player. These facilities were considered by respondents as basic necessities that each household may need for sustenance. The result indicates that every household lacks at least one of the basic household facilities identified.

iii)   Food availability.

Whereas some households of both poor and very poor crop based farmers and fisher folks never experienced food shortages during the year, others experienced it at various times ranging from daily once every two weeks, once every month to once every year. These levels of food shortages have reduced some of the poor and very fisher-folks and crop based farmers to begging for favours, engaging in food for work activities, engaging in work for food activities, taking food on loan from their neighbours and to a small extent; pilfering from other peoples' farms.

iv)   Contributions to development in neighborhood.

Despite the poverty status of the poor and very poor crop-based farmers and fisher-folks, they still contribute to the development of their neighborhoods. These contributions include payment of annual tithe to their various religious groups, payment of development levies, attendance at community gatherings and involvement in community activities, making of funeral donations and involve-

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ment in communal labour. Payment of annual tithe to their various religious groups however remains topmost priority to them.

Items of Household Income and Expenditure

Among the poor and very poor crop-based farmer and fisher-folk households, food items, repair work on housing, payment of monthly rent on housing, servicing of pipe-borne water and electricity bills remain the main items of household expenditure. Others are bills on education of household dependants, payment of development levies, funeral donations, payment of church levies and tithe and settling of hospital and medical bills. The major food items on which households made expenditure include yam, oil for cooking, onions, tomato, cocoyam, plantain, maize and cassava. Whereas poorer and very poor fisher-folks made expenditure on cassava, maize, plantain, tomato, oil and cocoyam, more of the poor crop-based farmer households also made expenditure on pepper, garden eggs and meat, fish, salt, and yam.

i)   **Repair works carried out on houses.**

Painting of houses, cementing of floors, changing of faulty door locks, rewiring of houses, and reroofing constitute the repair works carried out on houses. Whereas painting was more prominent among the poor and very poor fisher-folks and crop-based farmers, rewiring and complete renovation were the least.

ii)   **Expenditure on rent.**

Even-though the respondents are poor, some are able to pay rent and leave in houses that belong to others. Also some poor and very poor are able to build their own houses and leave in them. Poverty may therefore not be a complete barrier to

the acquisition of houses and payment of rent among the poor and very fisher-folks and crop-based farmers in the target communities.

iii) **Expenditure on household utilities.**

Pipe borne water and electricity were the major household utilities on which the poor and very poor made major expenditure in households. Other items of expenditure include education, payment of development levies, funeral donations, expenditure on religious activities and payment of hospital bills.

Sources of Household Income

The major sources of household income to the poor and very poor crop-based farmers and fisher-folks were sale of farm produce and sale of fish respectively. Other sources of household income were gifts from friends, loans from financial institutions, and burrowing from friends.

Conclusions

Generally, significant statistical associations were found between poverty levels and the socio-economic characteristics of poor fisher-folks and poor crop based farmer households in this study. To design a programme to alleviate poverty therefore, it is imperative to pay attention to the socio economic characteristics of the poor in a target community.

The linear combination of income, education, health and occupation significantly influenced poverty line. Generally, the regression equation exhibits that; education and health have negative relationships with the poverty line while income and occupation have positive relationships with poverty line.

The difference between total household incomes and total household expenditure were highest among the crop-based farmer households and least among the fisher folk households; an evidence of poverty higher among fisher-folks than crop-based farmer households.

Two main levels of poverty were encountered in this study - very poor and poor. Poverty is found to be more intense among fisher-folks than crop based farmers using indicators such as incidence of poverty, participatory wealth ranking to determine poverty levels and poverty line computed from Consumer Price Index. Two poverty lines were computes for the study area during the time of the study GHS 456.00 and GHS586.00. No apparent relationship was found between these poverty lines and the factors isolated as influencing poverty by this study (age, total number of people in households, number of males in households and number of females in households). The existence of other factors that influence poverty was therefore suspected on the basis of the magnitude of the error term in the regression analysis.

The socio economic characteristics of poor fisher-folks and poor crop-based farmer households include the fact that:

a. there are more male household heads than females household heads among the poor and very poor fisher-folks and crop based farmers.

b. the predominant age group among the poor and very poor crop- based farmer households was 44 – 54 years.

c. the age group of the active workforce among the poor and very poor in both occupations was found to be 21-25 years with largest distribution found among the poor fisher–folks.

d. health facilities were found to be more available to the poor and very crop-based farmer households than the poor and very fisher-folk households.

e. a large number of household members and household heads had formal education. However, more crop-based household heads had formal education than fisher-folk household heads.

f. there are more non educated poor and very poor fisher-folks than non educated poor and very poor crop based farmers in the study area.

g. the level of education is higher among poor and very poor crop-based farmers than poor and very poor fisher-folks.

h. majority of household heads across the poor and very-poor wealth groups are married to one spouse only even-though there are few instances of some household heads never being married.

i. the size of households was greater among poor fisher-folk households than the poor crop-based farmer households and smaller among very poor fisher-folks than very poor crop based farmers. The average household sizes ranged between 4.30–5.37.

j. poor crop based farmers engage solely in crop farming, but poor fisher-folks engaged in other activities besides fishing.

k. poor crop-based farmers cultivated maize as the main crop, vegetables and sugarcane as subsidiary crops.

l. most poor crop based-farmers inherited land for their farming activities. Community owned land was used sparsely by few poor crop-based farmers. Land was also largely inherited among the poor fisher-folk households but most of the very poor fisher-folk households personally bought land they used.

m. child labour was used by all households of the poor and very poor crop based farmer households and fisher folks. Besides, paid labour, communal labour and spouse labour were also common among the poor and very poor crop-based farmers and fisher folks.

n. cutlass and hoes were the main tools used among the poor and very poor crop-based farmer and fisher-folk households. Knapsack, mist-blower, spade, mattock were also sparsely used.

o. the services of Extension Officers were not much used. Very little premium was also placed on the ploughing arable crop fields. There is also a great de-pendence on natural rainfall in crop production by the crop-based farmer and fisher-folk households,

p. poverty has significantly affected the educational attainment of the fisher-folks and crop-based farmers in the target communities

q. most of the households lacked amenities such as pipe-born water, electricity and communication facilities

r. some households run short of food supply during most part of the year hence may require assistance

s. despite the levels of poverty, the people continue to assist in developing their communities.

Income, occupation, health and education predicted 46.80 percent of variances in poverty lines. However, 53.20 percent of factors accounting for farmers' poverty line were not subject of study in this research.

On the whole, the characteristics of the poor were found to be related to their poverty levels. According to this study therefore, the poverty levels identified for the poor defines their characteristics.

A positive relationship was also found to exist between the income and expenditure values of the poor and very poor fisher folks and crop based farmers. An increase in income increased the expenditure of the poor. Further, the incomes exceeded expenditure of the poor and very poor in the target communities.

Recommendations

The findings of this study have triggered the following recommendations:

The incidence of poverty is greater among fisher-folk households than among crop- base farmer households. Through participatory wealth ranking, poverty was also found to be higher among the fisher-folks than crop based farmers. These imply that poverty is greater among the fisher-folks than crop based farmers. Policy decisions and interventions to alleviate poverty should therefore be more inclined to the fisher-folk households than the crop based farmer households eventhough members of both occupations fall within the poverty web. This is not to say that the crop based farmer households should not be given much attention but

the intensity of attention should be more in favour of fisher-folk households than crop-based farmer households.

To identify the poor and very poor households in the target communities for appropriate interventions, it is recommended that much consideration could be given to the following characteristics:

i)   **Sex**

Crop-based farmer households and fisher-folk households with males as household heads are most likely to be poorer than those with females as household heads.

ii)   **Age**

The most predominant age group within the crop-based farmer households according to this study was 44 – 54 years; but 34 – 44 years was more common among the fisher-folk households. The range of age group among the crop-based farmers and fisher folk households in the target communities was 34 – 54 years. To address poverty among the households in the target communities, persons within the range of 34-54 years are those to pay much attention to.

iii)   **Workforce, number of people in household.**

The most active workforce among the poor and very poor in both occupations was between 21-25 years with the largest distribution among the poor fisher–folks. Whereas greater than 7 people in a house were more common among crop based farmers, 6 people in a household was also common among crop-based farmers than fisher-folks. To intensify poverty alleviation, age group 21-25 years

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in households of people greater than 6 and 7 should be another group of major concern.

iv)   Availability of health facilities to households.

Even-though health facilities were found to be generally available in the target communities, their concentration is too sparse among the poor and very poor fisher-folk and crop-based farmer households. Some of the poor and very poor have to travel long distances to access health facilities. Generally, health facilities were found to be more available to the poor and very crop-based farmers than the poor and very fisher-folks.   Creation of health post and other health facilities should therefore be more directed to fishing communities than the crop-based communities.

v)   Formal education of household members and household heads.

A large number of household members and household heads had formal education among poor and very poor in both occupations. However, more crop-based household heads had formal education than fisher-folk household heads. More facilities for non formal education should therefore be created among the fisher-folks than among the crop-based communities.

vi)   The household size.

The study identified that size of household was greater among poor fisher-folks than the poor crop-based farmers and smaller among very poor fisher-folks than very poor crop based farmers. The average household sizes ranged between 4.30–5.37. To enable the poor and very poor fisher-folks and crop-based farmers meet

their family obligations, more poverty reduction strategies should be directed towards the poor fisher-folk households.

vii)   Main type of occupation.

All poor crop-based farmers engage solely in crop farming,   but some very poor crop based farmers, some poor fisher-folks and some very poor-fisher folks were engaged in other activities besides their main occupations. More extension activities on modern and improved ways of increasing output should be directed at crop based farmer households. This may help increase production, raise household income and hence reduce poverty.

viii)   Type crops grown.

All the poor crop-based farmer households cultivate maize as the main crop. The poor crop-based farmer households also cultivated cassava and vegetables as additional crops but sugar cane is sparsely cultivated. The very poor cultivate cassava as the main crop. Even though, the very poor cultivated vegetables, and sugarcane, these are not on large scale. In particular, modern ways of increasing maize production should be intensified in the target communities. Further, Agricultural Extension Services could direct their efforts to train the farmers in improves ways cassava, sugar cane and vegetable production to complement what they obtain from maize production. These could improve productivity in the long run, raise incomes and reduce poverty.

ix)   Land ownership status of household.

Most poor crop based-farmer households inherited land for their farming activities. Community owned land is used sparsely by few poor crop-based farm-

ers. It is impossible to use inherited land as collateral to develop production activities so as to reduce poverty. Most of the very poor use personally bought land but rent some in addition. Land is largely inherited among the poor fisher-folks but most of the very poor fisher-folks personally bought the land they use. Land acquired as gift is not very common among poor fisher-folks. Personal ownership of land could be encouraged if disputes and litigations over land are to be reduced among the future generation.

x) Sources of labour.

The poor and very poor crop-based farmer households used labour from varied sources ranging from the child labour, paid labour, and communal labour to spouse labour. The extensive use of child labour could be discouraged to pave the way for child education. Child education could give way to poverty reduction in the long run. In the absence of use of child labour, paid and communal labour could be encouraged.

xi) Common farm tools used.

There is high dependence on the use of cutlass and hoes among the poor and very poor crop-based farmer and fisher-folk households. However the use of Knapsack, mist-blower, spade, mattock are also picking up. These later tools could make farm work easier and more enjoyable by the farmers. Ease of farm work could increase farm sizes, increase output, raise household income hence reduce poverty.

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xii)   Type of farming activity practiced.

The poor and very poor crop-based farmer households make little use of the services of Extension Officers and very little premium is placed on the ploughing arable crop fields. There is also a great dependence on natural rainfall in crop production.

The poor and very poor households need to be encouraged to place much premium on the use of the services of Extension Officers if they are to increase farm output. The use of Extension Services is considered as a precursor to increase farm output to reduce poverty in the long run.

Effects of Poverty

i)   Education

To mitigate poverty, more informal and non formal educational activities should be directed to the target communities to help the aged household heads. Further, more preschool and basic schools could be established in the target communities to educate the people. Beyond these, more FCUBE and School Feeding Programmes and activities could be directed to the target communities. Thus education could be used as a tool to reduce the observable effects of poverty in the target communities.

ii)   Acquisition of household facilities.

Programmes to extend social amenities such as pipe borne water, electricity, KVIP, water closet toilet, line telephones could be encouraged. Personal acquisition of television, wireless set, bicycle, knapsack and DVD player should al-

so be encouraged. These strategies would go a long way to reduce the effects of poverty in the target communities.

iii)   Food availability.

To reduce the menace of poverty on the people, the problem of food shortages should be addressed. The periods of food shortages span from daily, once every two weeks, once every month and once every year among some households in the target communities. This could be addressed by periodic food aid programs. However, those in dire need for the aid must be clearly identified since some of the poor and very poor crop-based farmers and fisher folks never experienced food shortages during the year,

To be able to survive the food shortages, some of the poor and very fisher-folks and crop-based farmers resort to begging for favours, engaging in food for work activities, engage in work for food activities, taking food on loan from their neighbours and some even pilfer food from their neighbors' farms.

iv)   Contributions to development in neighborhood.

Even-though the poor and very poor are known to be financially handi-capped, they still contribute to the development of their neighborhoods. These efforts need to be complemented by government sources so as to reduce the bur-den on the already impoverished poor

Items of household expenditure and income

Official sources could absorb part of the electricity bills of the poor and very poor households. This would reduce the burden on the poor. The FCUBE and National Health Insurance Programs could also be intensified especially

among the target communities in order to reduce the burden on the people. This could alleviate hardship and reduce poverty.

A further study is required to identify other factors besides income, occupation, education, health and occupation which influence poverty line in the target communities.

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A.   Interview Schedule to Examine Poverty among Fisher-folk and Crop-based Farmer Households in the Komenda-Edina-Eguafo-Abrem District of Central Region, Ghana.

Introduction

The aim of this interview schedule is to examine poverty among fisher-folk and crop- based farmer households in the KEEA District of the Central Region, Ghana. The confidentiality of all informants is greatly assured.

A) INDIVIDUAL HOUSEHOLD CHARACTERISTICS

Please tick (√) only one option that applies to you.

Q1.   Are you educated?

Yes   No

(If no, answer Question 1, if yes skip to Questions 2 and 3)

Q2. Educational attainment of household head

Please tick (√) only one option

 a) I never attended school because my parents could not afford it

 b) I never attended school because there was no school in my area

 c) I never attended school because I was not interested

Q3.   Educational level of household heads

**   (Please tick (√) only one option that applies to you**

   a) My last level of education is Primary School

   b) My last level of education is JHS

   c) My last level of education is Vocational school

d) My last level of education is Senior High School

Q4. **Educational attainment of dependants**

Please tick (√) all the options between (a - g) that are applicable to your Household.

a) Some of my dependants are educated up to Primary School

b) Some of my dependants are educated up to SHS

c) All my dependants are educated up to Poly-technique

d) All my dependants are educated up to the University

e) None of my dependants have ever attended school because I cannot afford it

f) None of my dependants have ever attended school because they helped on my farm

Please tick (√) only one option between (h - l)

g) The schools in my area are less than 1 km from the house

h) The schools in my area are between 1- 2 km from the house

i) The schools in my area are between 2- 3 km from the house

j) The schools in my area are between 3- 4 km from the house

k) The schools in my area are more than 4 km from the house.

Q5. **Health status of household**

Do you have a health facility in your area?

(Please tick (√) only one option)

Yes   No

If yes, then please tick (√) only one option between (a- e) that is applicable to your household. If no, skip to Question 5

a) The health facility is about 0-1km from my house

b) The health facility is about 2-3km from my house

c) The health facility is about 4-5km from my house

d) The health facility is above 5km from my house

Q 6.   Number of dependants in household

Please tick (√) only one option between (a –f) that is applicable to your Household.

Members of my household are

a) 2

b) 3

c) 4

d) 5

e) 6

f)   greater than 7

Composition of household workforce

Q7.   Age groups in households

Please tick (√) all the options between (a- f) that are applicable to your Household.

Some members of my household are

a) less than 5years old

b) between 6-11 years old

c) between 12- 18 years old

d) between19- 23years old

e) between 24- 29years old

f) above 30 years old

Q8.   Females in households

Please tick (√) only one option between (a-e) that are applicable to your

Household.

The number of female(s) in my household

a) is 1

b) are 2

c) are 3

d) are 4

e) are more than 4

Q9.   Males in household

Please tick (√) only one option between (a-e) that are applicable to your

Household.

The number of male(s) in my household

a) is 1

b) are 2

c) are 3

d) are 4

e) are more than 5

B)   ECONOMIC STATUS AND ECONOMIC ACTIVITIES

Q1.   Occupation of household head

Please tick (√) all the options between (a – h) that are applicable to you

a) My main occupation is fishing

b) I do some petty trading too

c) I sometimes tap palm wine

d) I am sometimes hired by farmers as a source of farm labour

e) There are seasonal breaks in my main occupation

f) I grow some cassava

g) I grow some maize

h) I grow some vegetables

i) I grow other crops too (please specify)………………………

Q2.   Land ownership status of households

Please tick (√) all the options between (a-e) that are applicable to

a) I use a piece of land I bought personally

b) I use part of the community land

c) I use a rented land

d) I use an inherited land

e) My land is a gift

Q3.   Sources of Household income in a year

Please tick (√) all the options between (a-j) that are applicable to you and your household

a) I sell some of my fish/crop during the year

b) I sell more than what I consume

c) I sell less than what I consume

d) I sell the same quantity as I consume

e) I sell all my fish/crop harvested

f) My fish/crops was just sufficient for my household consumption

g) I do not get any income from other sources during the year

h) I get some monetary gifts from other sources

i) I obtain loan from financial institutions

j) I borrow money from friends

Q4   Household income

Using the check list provided, please estimate the total amount of money you real-

ized from the sale of fish or crops between January to December last year? (Please

tick (√) only one option)

My main household income was

a) between GH¢ 50-100

b) between GH¢ 101-200

c) between GH¢ 201-300

d) between GH¢ 301-400

e) between GH¢ 401- 500

f) between GH¢ 501- 600

Q5   Household expenditure

Using the checklist provided, please estimate the total amount of money you

spend on household facilities between January to December last year

(Please tick (√) only one option)

My total household expenditure was

a) between GH¢ 50-100

b) between GH¢ 101-200

c) between GH¢ 201-300

d) between GH¢ 301-400

e) between GH¢ 401- 500

f)   between GH¢ 501- 600

Q6.   Household facilities

Please tick (√) all the options between (a-f) that are applicable to you

a) I have pipe borne water in my house

b) I have electricity in my house

c) I have KVIP in my house

d) I have water closet in my house

e) I have a line telephone   in my house

f) Please specify any other facility you have in your house………….

Q7. Items of household expenditure

Please tick (√) all the options between (a-g) that are applicable to you and your household

a) I pay development levy

b) I make expenditure on my children's education

c) I make funeral donations

d) I make church contributions

e) I pay water and electricity bills

f) I pay hospital bills

g) Other (please specify)…………………………………….

Q8.   Source of labour

Please tick (√) all the options between (a-e) that are applicable to you

a) My children are my only other source of labour apart from myself

b) I use paid labour

c) I use my spouses labour

d) I use communal labour

e) Other (please specify)……………………..

C)   SOCIAL STATUS

Q1.   Seasonal food shortage in household

Please tick (√) only one option

a) I run short of food in my household everyday

b) I run short of food in my household every week

c) I run short of food in my household every fortnight

d) I run short of food in my household every month

e) I run short of food in my household every year

Q2. Other sources of food to my household

Please tick (√) only one option between (a- e)

a) I depend on begging for food

b) I depend on food for work

c) I loan food from my neighbors to be paid back later

d) I take from other peoples farms without their knowledge

e) Other (please specify)……………………….

Q3.   Influence in society

Please tick (√) all the options between (a – f)

a) I pay tithe to my church annually

b) I pay annual development levy

c) I make regular funeral donations

d) I am in good talking terms with all my neighbors

e) I attend community meetings regularly

f) I take part in all development activities

D)   PRODUCTIVE ASSETS HELD BY HOUSEHOLD

Q1.   Which of the following assets do you have?

Please tick (√) as many options that are applicable to you

a) I own some cutlasses

b) I own some hoes

c) I plough my field seasonally

d) I have my own local barn

e) I use a community silo

f) I sell all my produce soon after harvest

g) I store some of my produce and sell during the lean season

h) I have a knapsack(spraying machine)

i) I own a mist blower

Q2. **Type of crop farming activity carried out**

Please tick (√) as many options that are applicable to your household

a) I irrigate my crops during the dry season

b) I depend on natural rain only

c) I apply fertilizers to my crops

d) I spray my crops with agro chemicals when necessary

e) I grow crops only for household consumption

f) I allow Agricultural Extension Officers to visit my farm

g) I listen to the advice of Extension officers

h) I implement the advice of Agricultural Extension Officers

E) **Demographic information**

Q1. **Marital status of household head**

Please tick (√) only one option

a) I am married

b) I have never married

c) I am divorced

d) I am a widow(er)

Q2. **Gender of household head**

Please tick (√) only one option

a) I am a man

b)   I am a woman

Q3.   Household sizes

Please indicate a number against each of (a-o) that is applicable to your household in each case

a) The number of infants in my household between 0-0.5 years are

b) The number of infants in my household between 0.5-1.0 years are

c) The number of children in my household between 2-3 years are

d) The number of males in my household between 4-6 years are

e) The number of males in my household between 7-10 years are

f) The number of males in my household between 11-14 years are

g) The number of males in my household between 15-18 years are

h) The number of males in my household between 19-25 years are

i) The number of males in my household between 26-50 years are

j) The number of males in my household between 51+ years are

k) The number of females in my household between 11-14 years are

l) The number of females in my household between 15-18 years are

m) The number of females in my household between 19-25 years are

n) The number of females in my household between 26-50 years are

o) The number of females in my household between 51+ years are

Q4.   Age of household head

Please tick (√) only one option between (a- f)

a) I am between 18-24 years

b) I am between 25-34 years

c) I am between 35-44 years

d) I am between 45-54 years

e) I am between 55-64 years

f) I am between 64+ years

THANK YOU VERY MUCH

Appendix B: Household Expenditure

Expenditure	Poor crop-based farmer households		Poor fisher-folk households		Very poor crop-based farmer households		Very poor fisher-folk households		
Range of hh expenditure GHS	No. of HH	Total expenditure in HH during the year. GHS	No. of HH	Total expenditure in HH during the year.GHS	No. of HH	Total expenditure in HH during the year.GHS	No. of HH	Total expenditure in HH during the year. GHS	Total No. of HH within the expenditure range
203	0	0	0	0	1	203	0	0	1
209	0	0	0	0	1	209	0	0	1
218	0	0	0	0	0	0	1	218	1
241	0	0	0	0	0	0	1	241	1
242	0	0	0	0	1	242	0	0	1
250	0	0	0	0	1	250	1	250	2
256	0	0	0	0	1	256	0	0	1
260	0	0	0	0	1	260	1	260	2
264	0	0	0	0	0	0	1	264	1
267	0	0	0	0	0	0	1	267	1
270	0	0	0	0	1	270	2	540	3
272	0	0	0	0	1	272	0	0	1
275	0	0	0	0	1	275	0	0	1
278	0	0	0	0	1	278	2	556	3
279	0	0	0	0	1	279	1	279	2
280	0	0	0	0	2	560	1	280	3
281	0	0	0	0	0	0	2	562	2
282	0	0	0	0	1	282	1	282	2
286	0	0	0	0	1	286	0	0	1
287	0	0	0	0	0	0	1	287	1

290	0	0	0	0	2	580	1	290	3
291	0	0	0	0	2	582	0	0	2
294	0	0	0	0	2	588	0	0	2
297	0	0	0	0	0	0	1	297	1
300	0	0	0	0	4	1200	3	900	7
301	0	0	0	0	1	301	1	301	2
303	0	0	0	0	1	303	0	0	1
305	0	0	0	0	1	305	0	0	1
310	0	0	0	0	0	0	1	310	1
315	0	0	0	0	3	945	0	0	3
316	0	0	0	0	0	0	1	316	1
317	0	0	0	0	1	317	0	0	1
318	0	0	0	0	2	636	1	318	3
320	0	0	0	0	1	320	0	0	1
325	0	0	0	0	1	325	0	0	1
333	0	0	0	0	0	0	1	333	1
351	0	0	0	0	1	351	0	0	1
359	0	0	0	0	0	0	1	359	1
361	0	0	0	0	1	361	1	361	2
370	0	0	0	0	0	0	2	740	2
371	0	0	0	0	1	371	2	742	3
372	0	0	0	0	2	372	0	0	2
377	0	0	0	0	0	0	1	377	1
378	0	0	0	0	0	0	1	378	1
379	0	0	0	0	1	379	0	0	1

380	0	0	0	0	0	0	2	760	2
382	0	0	0	0	1	382	0	0	1
386	0	0	0	0	2	772	0	0	2
390	0	0	0	0	1	390	2	780	3
391	0	0	0	0	0	0	1	391	1
400	0	0	0	0	2	800	4	1600	6
401	0	0	0	0	0	0	3	1203	3
406	0	0	0	0	1	406	0	0	1
411	0	0	0	0	1	411	1	411	2
415	0	0	0	0	0	0	1	415	1
435	0	0	0	0	0	0	1	435	1
440	0	0	0	0	0	0	1	440	1
450	1	450	0	0	0	0	0	0	1
457	0	0	2	914	0	0	0	0	2
458	0	0	1	458	0	0	0	0	1
459	3	1377	1	459	0	0	0	0	4
460	2	520	0	0	0	0	0	0	2
462	3	1386	5	2310	0	0	0	0	8
465	1	465	0	0	0	0	0	0	1
468	0	0	4	1872	0	0	0	0	4
469	1	469	0	0	0	0	0	0	1
470	4	1880	3	1410	0	0	0	0	7
471	1	471	1	471	0	0	0	0	2
472	0	0	1	472	0	0	0	0	1
475	1	475	1	475	0	0	0	0	2

477	1	477	1	477	0	0	0	0	2
478	0	478	2	956	0	0	0	0	2
480	1	480	0	0	0	0	0	0	1
481	1	481	0	0	0	0	0	0	1
482	2	964	1	482	0	0	0	0	3
483	1	483	1	483	0	0	0	0	2
484	1	484	0	0	0	0	0	0	1
485	1	485	0	0	0	0	0	0	1
487	0	0	1	487	0	0	0	0	1
490	2	980	1	490	0	0	0	0	3
491	1	491	1	491	0	0	0	0	2
495	3	1485	0	0	0	0	0	0	3
497	0	0	1	497	0	0	0	0	1
498	1	498	1	498	0	0	0	0	2
500	1	500	2	1000	0	0	0	0	3
501	1	501	0	0	0	0	0	0	1
502	1	502	1	502	0	0	0	0	2
503	1	503	0	0	0	0	0	0	1
506	0	0	1	506	0	0	0	0	1
507	1	507	0	0	0	0	0	0	1
508	1	508	0	0	0	0	0	0	1
509	1	509	0	0	0	0	0	0	1
510	0	0	1	510	0	0	0	0	1
511	0	0	1	510	0	0	0	0	1
512	0	0	2	1024	0	0	0	0	2

	HH		HH		HH		HH		Total
514	1	514	0	0	0	0	0	0	1
515	1	515	0	0	0	0	0	0	1
517	1	517	1	517	0	0	0	0	2
519	1	519	0	0	0	0	0	0	1
520	0	0	1	520	0	0	0	0	1
530	1	530	0	0	0	0	0	0	1
535	1	535	0	0	0	0	0	0	1
537	1	537	0	0	0	0	0	0	1
540	1	540	1	540	0	0	0	0	2
549	0	0	1	549	0	0	0	0	1
550	0	0	1	550	0	0	0	0	1
555	0	0	1	555	0	0	0	0	1
556	0	0	1	556	0	0	0	0	1
560	0	0	3	1680	0	0	0	0	3
564	0	0	1	564	0	0	0	0	1
565	0	0	1	565	0	0	0	0	1
570	1	570	0	0	0	0	0	0	1
571	0	0	1	571	0	0	0	0	1
580	1	1	0	0	0	0	0	0	1
TOTAL	50	24,119	50	24,921	50	15,319	50	16,743	200

HH= Households

Source: Survey data (2012)

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Appendix C. Household Income

Range of HH expenditure GHS	No. of HH	Total expenditure in HH during the year. GHS	No. of HH	Total expenditure in HH during the year.GHS	No. of HH	Total expenditure in HH during the year.GHS	No. of HH	Total expenditure in HH during the year. GHS	Total No. of HH within the expenditure range
	Poor crop-based farmer households		Poor fisher-folk households		Very poor crop-based farmer households		Very poor fisher-folk households		
246	0	0	0	0	1	246	0	0	1
251	0	0	0	0	2	502	0	0	2
256	0	0	0	0	0	0	1	256	1
259	0	0	0	0	0	0	1	259	1
261	0	0	0	0	0	0	1	261	1
262	0	0	0	0	0	0	0	0	1
270	0	0	0	0	0	0	1	270	1
271	0	0	0	0	1	271	0	0	1
272	0	0	0	0	1	272	0	0	1
275	0	0	0	0	0	0	1	275	1
276	0	0	0	0	0	0	1	276	1
278	0	0	0	0	0	0	1	278	1
279	0	0	0	0	0	0	1	279	1
280	0	0	0	0	1	280	0	0	1
286	0	0	0	0	0	0	2	572	2
287	0	0	0	0	2	574	1	287	3
288	0	0	0	0	0	0	1	288	1
290	0	0	0	0	2	580	1	290	3

296	0	0	0	0	0	0	1	296	1
297	0	0	0	0	1	297	1	297	2
298	0	0	0	0	0	0	1	298	1
299	0	0	0	0	2	598	0	0	2
300	0	0	0	0	0	0	1	300	1
301	0	0	0	0	0	0	2	602	2
302	0	0	0	0	0	0	1	302	1
305	0	0	0	0	1	305	0	0	1
306	0	0	0	0	2	612	0	0	2
312	0	0	0	0	0	0	2	624	2
315	0	0	0	0	1	315	0	0	1
317	0	0	0	0	0	0	1	317	1
322	0	0	0	0	0	0	1	322	1
328	0	0	0	0	2	656	0	0	2
329	0	0	0	0	1	328	0	0	1
345	0	0	0	0	1	345	2	690	3
351	0	0	0	0	1	351	0	0	1
356	0	0	0	0	1	356	0	0	1
360	0	0	0	0	1	360	1	360	2
365	0	0	0	0	1	365	0	0	1
370	0	0	0	0	1	370	0	0	1
375	0	0	0	0	2	750	2	750	4
376	0	0	0	0	0	0	1	376	1

377	0	0	0	0	0	0	1	377	1
380	0	0	0	0	1	380	1	380	2
381	0	0	0	0	2	762	2	762	4
387	0	0	0	0	1	387	0	0	1
390	0	0	0	0	1	390	1	390	2
391	0	0	0	0	1	391	0	0	1
394	0	0	0	0	1	394	0	0	1
395	0	0	0	0	1	395	2	790	3
398	0	0	0	0	0	0	1	398	1
399	0	0	0	0	0	0	1	399	1
400	0	0	0	0	2	800	1	400	3
402	0	0	0	0	1	402	0	0	1
403	0	0	0	0	1	403	0	0	1
406	0	0	0	0	0	0	1	406	1
407	0	0	0	0	1	407	0	0	1
411	0	0	0	0	1	411	0	0	1
412	0	0	0	0	4	1648	1	412	5
416	0	0	0	0	0	0	1	416	1
417	0	0	0	0	0	0	1	417	1
419	0	0	0	0	0	0	1	419	1
428	0	0	0	0	2	856	2	856	4
437	0	0	0	0	0	0	1	437	1
444	0	0	0	0	2	888	1	444	1

458	1	458	0	0	0	0	0	0	1
460	0	0	1	460	0	0	0	0	1
464	0	0	1	464	0	0	0	0	1
468	1	468	1	468	0	0	0	0	2
471	0	0	1	471	0	0	0	0	1
477	0	0	1	477	0	0	0	0	1
480	0	0	1	480	0	0	0	0	1
484	0	0	1	484	0	0	0	0	1
490	0	0	1	490	0	0	0	0	1
500	1	500	2	1000	0	0	0	0	3
501	1	501	0	0	0	0	0	0	1
502	0	0	2	1004	0	0	0	0	2
503	1	503	0	0	0	0	0	0	1
504	1	504	0	0	0	0	0	0	1
506	1	506	0	0	0	0	0	0	1
507	0	0	2	1014	0	0	0	0	2
508	1	508	1	508	0	0	0	0	2
509	1	509	1	509	0	0	0	0	2
510	1	510	0	0	0	0	0	0	2
511	1	511	0	0	0	0	0	0	1
512	1	512	2	1024	0	0	0	0	3
513	1	513	2	1026	0	0	0	0	3
514	0	0	2	1028	0	0	0	0	2

515	1	515	1	515	0	0	0	0	2
516	2	1032	0	0	0	0	0	0	2
517	2	1034	2	1034	0	0	0	0	4
519	1	519	1	519	0	0	0	0	2
520	1	520	1	520	0	0	0	0	2
521	1	521	0	0	0	0	0	0	1
522	1	522	0	0	0	0	0	0	1
523	1	523	0	0	0	0	0	0	1
524	1	524	0	0	0	0	0	0	1
525	1	525	1	525	0	0	0	0	2
526	1	526	0	0	0	0	0	0	1
527	1	527	1	527	0	0	0	0	2
528	0	0	2	1058	0	0	0	0	2
529	1	529	0	0	0	0	0	0	1
530	1	530	0	0	0	0	0	0	1
532	1	532	1	532	0	0	0	0	2
533	1	533	0	0	0	0	0	0	1
534	1	534	0	0	0	0	0	0	1
535	1	535	0	0	0	0	0	0	1
536	1	536	0	0	0	0	0	0	1
538	1	538	0	0	0	0	0	0	1
539	1	539	0	0	0	0	0	0	1
540	0	0	1	540	0	0	0	0	1

	HH		HH		HH		HH		
541	1	541	0	0	0	0	0	0	1
542	1	542	0	0	0	0	0	0	1
543	1	543	0	0	0	0	0	0	1
544	1	544	0	0	0	0	0	0	1
545	1	545	0	0	0	0	0	0	1
546	1	546	0	0	0	0	0	0	2
548	1	548	0	0	0	0	0	0	1
555	1	555	1	555	0	0	0	0	2
556	0	0	1	556	0	0	0	0	1
560	0	0	1	560	0	0	0	0	1
561	0	0	1	561	0	0	0	0	1
562	0	0	1	562	0	0	0	0	1
563	0	0	1	563	0	0	0	0	1
564	0	0	2	1128	0	0	0	0	2
570	1	570	2	1140	0	0	0	0	3
571	1	571	3	1713	0	0	0	0	4
575	1	574	0	0	0	0	0	0	1
580	1	580	2	1160	0	0	0	0	3
581	0	0	1	581	0	0	0	0	1
582	1	582	0	0	0	0	0	0	2
584	1	584	0	0	0	0	0	0	1
TOTAL	50	26422	50	26342	50	17203	50	17112	

HH = Households
Source: Survey data (2012).