

**OUTGROWER OIL PALM PLANTATIONS SCHEME BY
PRIVATE COMPANIES AND POVERTY REDUCTION IN
GHANA**

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BY

ANTHONY KENNEDY NTSIFUL

(MATRICULATION CERTIFICATE 9954)

ST CLEMENTS UNIVERSITY

DEDICATION

This research work is dedicated to the Almighty God for his guidance and protection throughout the study period.

Also I dedicate this work to my entire family, my wife and children and friends whose inspiration spurred me on in every step to accomplish this study.

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Anthony Kennedy Ntsiful

St Clements University

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Abstract

The study seeks to examine the effectiveness of corporate outgrower oil palm plantation schemes as poverty alleviation tool in Ghana. Ghana has undertaken several development initiatives aimed at alleviating poverty in the past three decades. The implementation of outgrower oil palm schemes by corporate entities has emerged as a development initiative to supplement the state provision of micro-credit to reduce poverty in Ghana. This is achieved through the formation of beneficiary partnerships with the rural communities through the implementation of joint corporate community scheme. In Ghana corporate entities such as Unilever Ghana and Ghana Oil Palm Development Corporation have developed joint schemes through the development of oil palm with the poor communities they operate under which the poor employ their own assets with the assistance of the corporate bodies help them undertake economic activities with the objective of reducing their poverty levels.

It is therefore important to explore the impact of these corporate-community joint schemes to find out how successful they were and how best they can be modified or refined to be fused into the existing methodologies for poverty reduction. The study therefore examined how the schemes implementation in the rural communities have assisted the participants to improve on their livelihood by building the required assets in the form financial, physical and human capital which are necessary to escape form poverty. It also focused on the assessment of the impact of these schemes on the communities that they operate and finally assessed the constraints that militates against their efficient development.

To achieve this the study took a positivist and interpretive research methodology approach and focused on quantitative social research using survey as its main method of collecting data and complemented this with interviews to find out the mechanism of the outgrower oil palm scheme and again to find out how this mechanism helps poor people overcome poverty, improve their living standard and help them to build the required assets. This is because the main aim of the study is not only to find out the mechanism of outgrower oil palm scheme, but also to find out how this mechanism helps poor farmers to improve their living standards. The approach aimed at examining various relationships by carefully analysing the collected statistics. With this methodology approach in mind, the study attempted to link the participation in the scheme and their asset build up ability as being members of the scheme. This was achieved by examining the collected evidence, which in turn formed an empirical foundation for the initially assumed general relationships. The field survey, which focused on obtaining answers to the research questions, covered a sample of the participants of the scheme, the non participants and key informants within the communities.

Data used in the study were collected on a field visit to the institutions selected for the study in Ghana, Ghana Oil Palm Development Corporation (GOPDC), Twifo Oil Palm Plantations Ltd (TOPP Ltd)/Benso Oil Palm Plantations Ltd (BOPP Ltd) over a four month period from May to August 2010. The field visit comprised three principal activities, namely documentary review, interviews and questionnaire distribution and collection of responses for the same.

The documents review came from the companies (GOPDC, TOPP Ltd and BOPP Ltd), the Ghana Statistical Services, Ministry of Agriculture and other organisations involved in poverty intervention programmes. Using face-to face interviews, data were also obtained from twenty Key Informants connected with the implementation of the scheme. Finally, the researcher administered questionnaire to 150 farmers made up of 50 participants of the schemes who are the treatment group, 50 private oil palm growers and 50 non oil palm growers who together are the control group. Further to the collection of data from the farmers, brief interviews with five farmers' leaders were undertaken to find their detailed opinion on the impact of the scheme and also find out their problems as scheme participants. The findings from the study revealed that the schemes implementation has generally contributed to the participants' accumulation of financial, physical and human capitals which are useful tool to come out of the poverty trap. Secondly, the schemes have impacted positively on the communities within which they are developed and are seen as partner for development in their operational area and finally the schemes are confronted with constraints that militate against their development which ought to be addressed to make them more vibrant as poverty intervention mechanism.

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Chapter One: General Background

1.1 Introduction

This research examines the usefulness of corporate outgrower oil palm schemes as a tool for poverty reduction in Ghana. In recent times, the growing emphasis of development policy has been the need to reduce poverty among the world's ever-increasing population. In Ghana, the World Bank, (2001) estimates that between 1998/99 about 43 percent of country's population was living in poverty. The figure represents a significant reduction compared to that of 64 percent recorded for poverty level in 1991/92. The Ghana Living Standards Survey estimated that the poverty levels reduced from 52 percent in 1992 to 40 percent in 1999 and further to 29 percent in 2005/6 (Ghana Statistical Service, 2007). However, with the growing population which is around nineteen-twenty million according to the 2001 census figures, there is the need to undertake aggressive poverty alleviation programs to address the 6.1 million people living in poverty which is high in absolute terms and likely to become higher as a result of the population growing at 2.07 percent (2006 estimates: World Factbook, 2006).

Ghana has undertaken several development programs designed to alleviate poverty. For example in 1984, the Economic Recovery Program (ERP) was drawn up with the objective to reenergize the total economy and to bring relief to the people. To ensure success, various related programs aimed at facilitating the ERP, like the Program of Action to Mitigate the Social Cost of Adjustment (PAMCCAD), Financial Sector Reforms Program (FINSAP), The Business Assistance Fund (BAF) were put in place.

These intermediate programs, although they do not fall directly under the poverty reduction program, contribute to the broader poverty reduction agenda. Micro Finance was equally introduced as a tool for poverty alleviation based on the premise that with the provision of small loans and savings facilities to the poor, they could be utilized to build up their assets base which is lacking amongst the poor in Ghana. It is argued that, providing small credits to the poor to undertake economic activities on their own would improve their living standards, particularly in social and economic decision-making, in addition to bringing them abreast of development in financial services.

An emerging supplement to state provision of micro-credit to reduce poverty in Ghana, and one to which research has devoted much less attention, is the involvement of corporate entities in the formation of beneficial partnerships with the poor rural communities through the implementation of joint corporate-community schemes.

Corporate organizations such as Unilever (Benso Oil Palm Plantations Limited, Twifo Oil Palm Plantations Limited) and Ghana Oil Palm Development Corporation have developed joint schemes through the development of oil palm with the poor under which the poor themselves employ their own assets with the assistance of the corporate entity help them undertake economic activities which help reduce poverty. It is important to explore the impact of these corporate-community joint schemes, and the experience of similar initiatives in Malaysia, Indonesia and Papua New Guinea, in order to find out how successful they were and how best they can be modified or refined and fused into the existing methodologies for poverty reduction to have an effective overall method.

1.2 Justification for the Study

The main aim of this study is find out whether the corporate-community joint schemes, the outgrower oil palm, used as strategy for poverty reduction within the rural communities in Ghana by private corporate bodies and supported by other donor agencies and the government has fulfilled its stated purpose. In particular it would verify how such schemes have assisted poor farmers to improve their livelihoods by building the required assets which are necessary to escape from poverty.

The outgrower oil palm concept is taking root in Ghana with more corporate entities implementing such schemes. Unilever Ghana Limited and Ghana Oil Palm Development Corporation have such schemes in the Western and Eastern Regions of Ghana respectively. Various mining companies in Ghana have equally begun similar schemes in their areas of operation as an alternative livelihood to the rural poor whose lands have been affected by the mining operations. The question that emerges from these schemes is for whose benefit are these schemes being implemented, since the parties involved are usually unequal partners. As argued by Little and Watts (1994), although the joint schemes based on contract farming allow potential problems with labour to be avoided it also allows the company to profit from self exploitation by participants' families.

There is a need for research that investigates the extent of benefit to the poor from participating in such schemes, both in terms of their short-term impacts on the poor and

also in terms of their long-term viability and linkages to existing government poverty reduction strategy.

According to the Ghana Statistical Service, poverty in Ghana is prevalent in the rural areas. About 40 percent of Ghanaians fall below the poverty line of less than a dollar a day as of 1998/99 and has further reduced to 29 percent in 2005/6 (Ghana Statistical Service, 2007). It was noted that out of the 29 percent below the poverty line, 86 percent of them live in rural areas which makes the poverty in Ghana a rural phenomenon.

To address rural poverty would mean focusing on a poverty intervention program for growth and employment creation in the rural areas and such issues can be addressed with the implementation of the outgrower oil palm schemes which is an agribusiness initiative. In Ghana the role of agriculture is pivotal for poverty reduction. For the majority of rural dwellers agriculture is their main source of livelihood. Improvement on their living standards depends on agricultural growth and development (Brempong-Asuming, 2003). It was further indicated that the overall domestic economy revolves around agriculture which employs 60 percent of the work force who are mainly smallholder farmers. From this it is justifiable that any poverty intervention program which is agricultural related would be in the right direction.

This assertion is supported by the Food and Agriculture Organisation (FAO) (2001), that agriculture is the single most important sector in many low-income countries, with a large number of people depending directly or indirectly on it for their livelihoods. The report further indicated that in about two-thirds of the low-income countries, agriculture

accounts for GDP share of between 30 to 60 percent and about three-quarter of all poor people in the developing world live in rural areas (FAO, 2001). It is therefore justifiable to undertake this study to show the potential of the oil palm as a single agricultural commodity product in reducing rural poverty as in Malaysia and Indonesia as evident from the literature review.

Thus this study will contribute to filling a gap in knowledge on the impact of the joint schemes on the livelihoods of the rural poor in Ghana. Despite extensive research in Asia, especially in Malaysia, Indonesia and Papua New Guinea, few studies assessing the impact of oil palm development have been carried out in Africa. Even in Asia, Tyynela et al, (2000) argue, impact assessment studies have seldom examined livelihood structures. They contended that a livelihood framework is important in that it identifies five core assets categories (natural, physical, human, social and financial capital) upon which livelihoods are built; they noted most studies concentrated on income in their impact assessment. The study will therefore aim at looking at human, physical and financial capital in its impact assessment. It is therefore the aim of the study to fill this gap.

The research knowledge gained will also aid the development of the oil palm outgrower schemes as a poverty intervention tool in Ghana.

1.3 Aims and Objectives of the Study

The main objective of the study will be to evaluate the effectiveness of the oil palm schemes as poverty alleviation tool. The research study will examine how the schemes

implementation in the rural communities have assisted the participants to improve on their livelihood through access to and accumulation of financial, physical, human, natural, and social capital. Participating farmers can then gradually acquire and accumulate assets, both tangible and intangible and with the lapse of time be able to accumulate surpluses after meeting all expenses; for which such surpluses would enable the farmer to increase their asset base. Furthermore, the farmers will be in a position to meet their basic needs of life such as food, shelter, education and health. To achieve this, the study will seek to concentrate on the underlying three key objectives:

- To critically examine the type of schemes being implemented, identify the potential beneficiaries and the motive behind the implementation.
- To determine the extent to which outgrower oil palm schemes/initiatives are alleviating poverty in rural Ghana.
- To develop a policy recommendation on how to make the schemes mutually beneficial, viable and sustainable as a measure for reducing poverty in Ghana

1.4 Research Questions/Hypotheses

The following research questions will provide the focus and direction of the research:

Main Question: Are the outgrower schemes/initiatives by private companies
alleviating poverty in rural Ghana?

Sub Questions:

1. How does participation in the scheme increase the asset base of the

rural poor (Financial, Physical, Human, Natural and Social Capital)?

2. How does the scheme benefit the community as a whole?
3. What are the constraints militating against the success and sustainability of the schemes?

Following from the above questions, the underlying hypothesis are to be tested to address the research questions:

Question 1: How does participation in the scheme increase the asset base of the participants? (Financial, human, physical and capitals).

Hypothesis 1: Farmers participating in the outgrower oil palm scheme are able to increase their asset base: (financial, human, physical and capitals).

Question 2: How does the scheme benefit the community as a whole?

Hypothesis 2: Outgrower oil palm schemes tend to benefit the rural communities where they are implemented.

Question 3: What are the constraints militating against the development of the scheme? (Example: Land ownership, access to capital, access to reliable information, food security, farmers' loan default).

Hypothesis 3: Constraints to outgrower oil palm schemes development reduce their potential to reduce poverty.

The study will involve a triangulation of different methodology frameworks and this will involve using three main procedural methods, namely:

- Literature Review
- Data collection and methods
- Statistical analysis of survey data

1.5 Methodology and Data Issues

1.5.1 Literature Review

The literature review process will be in three stages. The first stage will explore the key concepts and definitions of the study which are poverty, outgrower scheme, smallholder scheme and private companies and finally the conceptual framework that will guide the study. Secondly an examination of the theoretical and empirical studies of agricultural production as a driver of local economic development followed by an examination of the development value of oil palm and the concept of outgrower/smallholder oil palm schemes in general. Empirical studies on the impact assessment of the schemes on poverty alleviation in South Asia, particularly; Malaysia, Papua New Guinea, Indonesia, Africa and Ghana in particular would be reviewed. Constraints facing the smallholder farmers from converting their land to the schemes and the company as well would be

reviewed. Gaps identified from these studies would be identified and measures taken in this study to fill these gaps.

The third stage will involve an examination of the oil palm development in the Ghanaian context which will involve the examination of background information on Ghana in terms of geographical location, population; economy and agriculture performance.

The second part of the section will examine poverty and inequality in Ghana, an overview of the oil palm plantation development in Ghana and a review of the institutions selected for the study. Finally the section will end with the review of constraints facing the development of the oil palm in Ghana.

1.5.2 Data Collection

This section examines the methodology used to obtain and analyse data on the impact of the schemes on the livelihood of the poor farmers. The section presents justification for field work in Ghana, secondary and primary data collection, questionnaire design, pre-testing of questionnaire and the main steps of data collection, and analysis.

The research made use of both quantitative and qualitative methods of data collection. The quantitative was based on questionnaire-based survey and was backed by personal interviews which was semi-structured approach and conversational. The questionnaire was administered through a face-to-face interview, where the researcher asked the question in the presence of the respondents, and also completes the questionnaire. The

use of the face-face interview is seen to be cost effective and convenient in a country like Ghana where the communication systems are not reliable or allow the use of telephone interview or the mailing system. The process of data collection was cross sectional. The main objective of the use of the quantitative method was to help establish the associations between the identifiable variables such as the benefits for joining the schemes which are the outcomes and what goes into the schemes in the form of inputs supplies. This helped the researcher to test the impact of the schemes on the treatment group that is farmers participating in the scheme and the control group, the non-participant. This classification provided a base for the researcher to assess whether it is the treatment and not the characteristics of the individual farmers in the group that influence the outcome. The sample size for this was 150.

Qualitative methods were interview based and were semi-structured. This will be conversational. This helped to capture emerging issues not anticipated by the researcher and also not included in the questionnaire. The objective of the qualitative interview based method is to help investigate the farmers to know the impact of the smallholder oil palm schemes implemented by the private companies on their livelihood and to provide a detail view of how the schemes have contributed in the building of their asset base and what problems they are encountering as constraints; and to explore the variables in terms of outcomes and what the farmers are getting from the scheme like inputs such as loans, fertilisers, chemicals, expert advice and the extent of social and cultural impact. This contributed in providing a detailed view of the impact of the schemes in general from the respondents' perspective. The method was also applied on the other respondents who are

not members of the schemes and have been classified as the Key Informants by the researcher as defined below to know their detail opinion on the impact of the schemes on the community as a whole. The technique used as indicated above was semi-structured and was a face-to-face interview. The samples did not represent large population, but small purposeful samples representing rich information cases.

It is the view of the researcher that, the use of one method only allow for a partial understanding of the multi-dimensional concept of the poverty levels of farmers and how the schemes have help them out of poverty, the nature of the schemes, who benefits and the motive behind implementation. To achieve a broader and more in depth understanding of the schemes operation, and make use of the complimentary attributes of triangulation in conquering some of the problems arising in the use of one method, then it becomes important that the researcher approaches the research questions from a mixed method perspective which permitted triangulation. This has the advantage that the results from one method can be used to develop or inform the development of other method, results from qualitative analysis can be used to compliment the quantitative analysis, that is the interpretation of statistical analysis may be enhanced by a qualitative narrative accounts and vice versa; the use of the two methods in the study will tend to expand the scope of the inquiry into the study and improve the end results. These will help to neutralise personal bias and enhance the validity of the study (Green et al, 1989), and the cancellation of method effect (Saunders et al, 2007).

1.6 Concepts, Definitions and Conceptual Framework

In undertaking this research, it is important to identify the framework within which the study would be guided. The livelihood framework would be adapted to guide the study. The framework would be preceded by the definitions of the key concepts of the study which are outgrower schemes, smallholder schemes, private companies and poverty.

1.6.1 Outgrower Schemes Definitions

For the purpose of the study, outgrower schemes are schemes that provide production and marketing services to farmers on their own land. According to Glover and Kusterer (1990), the schemes generally refer to a government scheme with the public enterprise, purchasing crops from farmers, either on its own or as a joint venture with a private firm. Glover and Kusterer (1990) used the term contract farming to refer to the same arrangement in the private sector.

Mayers, (2000), defines it as contractual partnership between growers/landholders and a processing company for the production of commercial forest product. Outgrower joint schemes vary in the extent inputs, costs, risks and benefits are shared between growers/landholders and companies. Growers may act individually or as a group in partnership with a company, and use private or communal land/forests. The nature of the individual outgrower partnership in terms of their responsibilities, contributions, returns tend to be detailed in a formal contract. From the definition Mayers, (2000), contended that outgrowers schemes may include arrangements which are described in the literature as joint ventures and contract farming. Under the scheme, the landholder is contractually

responsible for the silviculture and the supply of the produce to the company at harvest. Under the contract, the company provides inputs and or technical support to the growers, and guarantees a market for the product. Quite a good number of such schemes occur in Indonesia, Malaysia, South Africa (Mayers, 2000).

1.6.2 Smallholder Schemes

According to Vermeulen, (2006), the use of the term smallholder has become a normal parlance in agribusiness especially in sustainable oil palm. The term is used in a broader perspective to encompass local residents involved in the palm oil industry including: peasant farmers who have chosen to grow oil palm on their own plots; settlers and transmigrants in areas under large-scale plantation, often brought in specially to provide labour; indigenous people whose customary land rights have been overridden by land rights granted by the government to a plantation company; farmers in debt to company-established cooperatives.

The Round Table in Sustainable Palm Oil (RSPO) in Malaysia, defines smallholder as family-based enterprises producing palm oil from less than 50 hectares of land (RSPO). Vermeulen and Goad, (2006), identified three main types of smallholder arrangements, these are:

Support Smallholders: These are growers who cultivate palm oil with the direct support of either government or the private sector. The basic concept is that the agency or private plantation company provides technical assistance and inputs of seed stock, fertilisers and pesticides, on a loan basis. There may be verbal or written contracts delineating the agreement and possibly including guarantees of sale, and terms of calculating the mill

price (Vermeulen and Goad, 2006). Examples of such supported smallholder schemes are nucleus-plasma in Indonesia and the various land resettlement and rehabilitation schemes in Malaysia (FELDA).

Independent Smallholders: Growers who cultivate palm oil without direct assistance from government or private companies. They sell their produce to local mills either directly or through agents

Collective landowner schemes: These are another type open to the local communities who hold land titles or recognize customary land rights. These are land leases or joint ventures, whereby local landowners rent out use of their land to a plantation company or part take in the profit based on the equity value of their land. This is in strict terms not a smallholder model, but can be an alternative basis for local landowners. The mini-estate or Konsep Baru in Malaysia and the Lease-lease-back schemes in Papua New Guinea are current models.

The term outgrower and smallholder would be used to mean the same thing in the underlying literature.

1.6.3 Private Companies

Corporations are separate legal entity or person which has rights and duties independent of the rights and duties of a real human being and which has legally been authorised to act in its own name through duly appointed agents. As with natural legal persons, a company may enter into contracts and duties of its own and it may sue and be sued and it

existence is maintained though members may die or are removed or replaced (Rush & Ottley, 2006).

Corporations as above can either be public or private. Public companies according to section 1(3) of the Companies Act (CA), UK, is one limited by shares whose memorandum of association state that the company is public company and that has complied with the statutory requirements regarding registration and must have the word limited at the end of its name (Rush & Ottley, 2006), by this it implies that with a limited company with share capital, a member's liability is limited to the value of his/her shareholding which is unpaid.

A private company according to the CA 1985 is any company that is not a public company; by this a private company can be formed by a one person. There are different types of private company, but the most common is a private company limited by shares which means should the company go into liquidation, members or the shareholders liability is limited to the unpaid portion of their shares. They may include large-scale corporations through to small-scale private enterprises, the main feature being that they are organized for making profit.

1.6.4 Poverty

The choice of definition of poverty has important implications for how we measure poverty, how we describe it, and how we analyse it. Poverty might be seen as a straightforward concept (Ragnar et al, 2002). The original meaning as defined in a dictionary focuses on income and wealth, like the lack of money or material possessions.

They argued that over the last decades, there has been a trend towards a broader definition of poverty, including also non-material aspects of human well-being. This then reflects changes in development theory, but also a general tendency of policy pressures for broadening concepts important in international policy debates, incorporating new concerns until the point where the concept becomes all-encompassing as to be devoid of contents.

Poverty can be broadly defined as an absence of well being or of capabilities that are generally accepted as being desirable or valuable (Daguspsta, 1993, Hanmer et al, 1997). Thus a positive state of well-being may be thought of as an expression of the human capabilities of doing and being, where doing involves agency, choice and freedom, and being involves welfare and happiness. Lack of well-being therefore implies severely curtailed human capabilities (Sen, 1997). Poverty signifies the inability of people to realise their potentials as human beings (Ellis, 2000). The human capability properties of doing and being are not themselves measurable, even though attributes of their lack such as hunger, under-nutrition, physical weakness, illness, lack of shelter, being dressed in rags, and so on, are recognisable as description of the many facets of being poor (Ellis, 2000).

Emanating from the above argument, economist and others approach well-being, or lack of it, indirectly by applying indicators that attempt to capture important dimensions of poverty which are measurable within inevitable time and cost constraints. Some of these indicators go straight to the human physiology effects of destitution and hunger, such as comparing individuals in relation to expected values of their height-for-age and weight-

for- height. Other researchers measure poverty with other indicators as income and consumption whilst some too use indicators as participatory techniques to discover which individual or house households are considered or consider themselves, poor in the social context of their community.

The preferred method of economist for distinguishing the poor from the non-poor is the level of per capita consumption that just permits the individual to satisfy basic nutritional requirements expressed in calories, given the measured share of food in the per capita expenditure of the poor. This constitute a poverty line, that is, consumption level below which are regarded as inadequate to achieve a minimally acceptable material standard of living .The levels of consumption falling below this poverty line correspond to what is called 'personal consumption poverty'; (Lipton, 1996).

The economist definition of poverty is basically about lack of material needs and concentrates on measurement of consumption, by using income as surrogate (Hulme et al, 1996). This approach has been criticised for its reductionism and bias to measure (Chambers, 1995) it has considerably strength in terms of permitting quantitative comparisons and the analysis of changes in the access of different people to their most pressing material needs (Townsend, 1993). Greeley, (1994: 57) is among the proponents that defended the use of income-poverty measures: an absolute and objective poverty line is a form of information that empowers the poverty reduction agenda and encourages appropriate resources allocation by many national governments

Studies of poverty using the poverty line method have shown that the majority of those classified as poor live in rural areas of the developing countries. For example, the World Bank (1990b:31) provided data which suggested that between 65 and 95 percent of the total numbers living in poverty in selected African and Asian countries were located in rural areas. This was supported by International Fund for Agricultural Development (IFAD) study on rural poverty (IFAD, 2001). It has also been identified that the absolute number of people living in urban poverty is rising steeply in many low-income countries. In Sub-Saharan Africa, for example, the income gap between rural and urban areas has been shrinking in the wake of structural adjustments policies (Jamal and Weeks, 1993). This is due to declining real wages in the formal sectors of the economy, especially government, and the retrenchment of urban-based state employees due to budget slash. Moser, (1998), indicated that the decline in relative urban living standards is one of the factors provoking greater interdependencies between rural and urban branches of families in the construction of their livelihoods.

Research on poverty has revealed much about the characteristics that are widely shared by poor people and families. According to Ellis, (2000), the most fundamental of these is the lack of assets, meaning lack of ownership or access to land, other productive assets, skills, education and good health. In the rural context, landlessness, low human capital resulting from poor health and inadequate education provision in rural areas have been observed to be a highly accurate predictor of poverty. The proportion of rural people in poverty rises markedly in locations that are marginal in terms of agricultural productivity, remote from services, and prone to natural disaster (Ellis, 2000).

Studies undertaken by Hanmer et al (1997) on poverty in some selected African countries using the participatory approach which provides information on the poor's own perception of poverty, as it emerged from either individual or group discussions, or from wealth-ranking exercise in which the individual household within the community are first ranked revealed the following indicators for understanding poverty: (1) Consumption goods and nutrition: the poor are identified as those who cannot support themselves and wear ragged clothing (Ghana), in Uganda, Cameroon and Zambia the poor cannot afford soap and skip meals and in Gambia the non-poor man can feed his family all year round. (2) The use of social services: the poor are those who do not send their children to school in Uganda and Zambia; the poor have to rely on traditional healers rather than health clinics (Benin, Cameroon, and Zambia). (3) Ownership of assets: in Ghana the rich owns a vehicle, grinding mill and many cattle and cattle are an important indicator of poverty in the Gambia as well; in Kenya the non possession of animal's granary and land are indicators of poverty. In rural Zambia the poor are those without ox-carts, grinding mills, radios, bicycles and a private source of water and productive assets such as fishing nets and the oxen; and the poor in Benin lack land. (4) Housing quality: in Ghana the rich live in a cement house; and the rural Zambia, in large, high quality houses, and in urban Zambia the non-poor own their own houses, though only the richest extend them beyond two rooms. (5) Means of livelihood: in Ghana and Uganda the non-poor do not work on other people's land; in Benin, the poor are those who have to sharecrop; and in Zambia they do piecework. (6) Powerlessness: in Cameroon the poor are unable to make

themselves heard which may be either be a cause or consequence of poverty (Hanmer et al, 1997:2.3-2.4).

A conclusion drawn from the perceptions on poverty on the above approach was that poverty varies both between and within countries.

Poverty is a multi-dimensional phenomenon and one of the main strengths of participatory approaches to poverty measurement is that such approaches recognise the diversity of perceptions of poverty and thus have the potential to facilitate an understanding of its many dimensions for a particular group Wratten (1995)

Participatory social development definition of poverty tends to promote a focus on micro-level support to enable individuals to participate socially economically and strengthen their ability to stay out of poverty. An understanding of this approach to poverty could therefore contribute to both policy changes and direct support to the poor. Specific measures may include community level interventions to strengthen health, education, communications, credit for small enterprises, community capacity building, political participation, and the localisation of decision making and the differentiation of special needs of particular poor groups.

There are other limitations to participatory approaches to poverty definition and assessment. Such methods, for example require more time from participants and researches and tend to promote micro-level/local interventions at the expense of long-term macro-level or structural actions.

According to Hanmer et al (1997), the income measurement definition of poverty is so narrow because poverty is multi-dimensional; no single indicator is adequate in measuring it, as such poverty cannot be reduced to a single indicator, that is low incomes are not the only dimension of poverty. They further stressed that poverty is a multi-dimensional phenomenon which cannot easily be reduced to a few quantitative indicators.

According to Sen, (1999), poverty must be seen as the deprivation of basic capabilities which are identified as the five basic human capabilities or freedoms: political freedom, economic facilities, social opportunities, transparency guarantees and security for the poor rather than merely as lowness of incomes. The claim in favour of capability approach to poverty are: poverty can be sensibly identified in terms of capability deprivation, the approach concentrates on deprivation that are intrinsically important than the low income, which is only instrumentally important; there are influences on capability deprivation, and thus on real poverty other than low incomes, that is income is not the only element that generates capabilities; the instrumental relation between low income and low capability is variable between different families and different individuals. Sen, (1992), then argued that poverty should not be seen in terms of income and actual living standard but of capability failure: the failure of basic capability to reach certain minimum acceptable level and that the lack of anyone of the five basic human capabilities is an indication of poverty. The only identifiable problem with Sen's framework is that the model is based on the market principles.

The idea of the social exclusion of defining poverty put forward by de Haan, (1997; 1999) which was later supported by the International Labour Organisation (ILO), concludes that social exclusion of poverty is similar to that conceptualised by Townsend, as the lack of resources required for active participation in society to enjoy a socially acceptable living standard. It connects poverty closely with the lack of citizenship rights.

1.6.5 Analytical Framework of the study

The framework has been developed based on the literature review on the Outgrower Oil Palm Schemes and poverty reduction. The review of the literature on outgrower oil palm schemes and poverty reduction suggest that the schemes as rural development driver are developed to open up isolated rural areas, accumulate property for the landless farmers, better development and use of natural resources, creation of jobs for the rural people, ensuring national food security, diversify exports and stems rural exodus all in the interest of poverty alleviation in rural communities (Schmidt, 2000). It was also hinted that the scheme provide an opening to market access, and increased income from the sale of the cash crop with reasonable level of risk and that it is an easy means of providing a linkage of the smallholder and the national and international capital (Watts, 1994; Glover, 1983). Glover also contended that the schemes which are based on contract farming concepts has an economic logic of dividing risk between farmers and the contractor, there is also the public motive of promoting the smallholder scheme, transferring technology, building a smallholder political base and generating foreign exchange, from the smallholder' perspective, they are motivated among others, the food security, cash flow

and risk avoidance all as potential instruments for reducing poverty in rural communities.

The conceptual framework that would be used to analyse the key factors that led to poverty reduction in farmers in the schemes livelihood would draw heavily on the Sustainable Livelihood (SL) approach, which applies a multidimensional view of poverty. Department for International Development (DFID), (1999) review suggested that taking people's capacity to make a living as the basis for understanding the process of poverty, the sustainable livelihood approach identifies two broad groups of factors which affect poverty. First, access to and entitlement to various types of assets or resources is seen as key to people's capacity to create sustainable living. Secondly, the societal context in which people live can have either a dramatic enabling or limiting effect on people's ability to manage and sustain their various categories of assets to meet their own livelihoods

The various livelihood approaches and the one indicated by DFID, above have in common that asset status of the poor individuals or households are fundamental to understanding the options open to them, the strategies they adopt for survival, and their vulnerability to adverse trends and events (Ellis, 2000). He further argued that poverty policy should be about raising the assets status of the poor, or enabling existing assets that are idle or under-employed to be used productively. Such approaches look positively at what is possible rather than negatively at how desperate things are. As indicated by Moser, (1998) they seek to identify what the poor have rather than what they do not have

and to strengthen people's own inventive solutions, rather than substitute for, block or undermine them.

On the basis of the afore mentioned analysis and the import of asset holding by the poor as benchmark for determining poverty levels, the livelihood approach (Carney, 1998, DFID, 1999-2000, Scoones, 1998 and Ellis, 2000) would be used as a guide to evaluate the impact of the out-grower/smallholder oil palm schemes by private companies on poverty reduction in rural Ghana.

The livelihood approach is concerned first and foremost with people. It seeks to gain an accurate and realistic understanding of people's strength (assets or capital endowments) and how they endeavour to convert these into positive livelihood outcomes. The approach is based on a belief that people require a range of assets to achieve positive livelihood outcomes; no single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek. This is particularly true for poor people whose access to any given category of assets tends to be very limited. As a result they have to seek a way of nurturing and combining what assets they so have in innovative ways to ensure survival (DFID, 1999).

According to Ellis (2000), from the framework, the expectation is that variation in assets holding will provide fairly accurate predictors of relative level of poverty. The task then becomes one of identifying those assets that can be more accessible to the poor, perhaps through group formation that raises the social capital of the poor, or that can provide the basis of savings and credit, improving their financial capital status, or creating

opportunities to assist the poor in acquiring skills that can enable them to make more effective use of their labour resources and enhancing human capital.

The livelihood approach recognizes five capitals that capture the assets that households utilize to generate consumption and accumulate or liquidate for the future use. These are natural capital, physical capital, human capital, financial capital and social capital and these are explained briefly as follows:

Natural Capital: It comprises the land, water and biological resources that are utilized by people to generate means of survival. It is enhanced or augmented when it is brought under human control that increases its productivity. Natural capital consists of both renewable and non-renewable natural resources (Ellis, 2000).

Physical Capital: Physical capital assets comprise capital that is created by economic production processes. They include buildings, irrigation canals, roads, tools, machines, and so on are physical assets (Ellis, 2000). In economic terms, physical capital is defined as a producer good as contrasted to a consumer good. Others include consumer durables such as household appliances like refrigerators, sewing machines and cookers, vehicles and clothing as well as other productive assets such as fixed enterprise assets as equipments, machinery and tools of trade.

Important classes of physical assets that facilitate livelihood diversification are infrastructural assets such as roads, power lines, and water supplies. Roads have multiple effects in reducing the spatial cost of transactions in resources and outputs. They again

facilitate the movement of people between places offering different income-earning opportunities, they create markets that otherwise would not come into existence, and in countries lacking in telecommunication facilities, they play an important role in transfer of information between rural centres and remote settlements (Swift, 1998).

Financial Capital: Financial capital refers to the financial resources that people use to achieve their livelihood objectives, that is, they are the stocks of money to which the household have access. They are basically savings, and access to credits in the form of loans. Neither money savings nor loans are directly productive forms of capital; they owe their role in the asset portfolio of households to their convertibility into other forms of capital, or directly into consumption (Ellis, 2000). In many societies, the absence of financial markets or distrust of such financial institutions as do exist, result in savings being held in other forms. For instance, in the rural Sub-Saharan Africa, the keeping of livestock often plays a critical role as a store of wealth and as buffer against bad times. Cattle and goats are considerably less as a form of saving than cash in a rural financial institution; they possess the same attributes when sold of being convertible into other forms of capital or into consumption (Swift, 1998).

Human Capital: Human capital refers to the labour available to the household: its education, skills and health which together enable people to pursue different livelihood strategies and achieve their livelihood objectives (Carney, 1998). Human capital is increased by investment in education and training, as well as by the skills acquired

through pursuing one or more occupation. (Ellis, 2000). Labour as an asset is also made more effective by being free of illness or debilitating health problems.

Social Capital: The term social capital is defined by Moser (1998), as ‘reciprocity within communities and between households based on trust deriving from social ties’. This places emphasis on localised reciprocity, as envisaged, for example, in ideas of moral economy and social insurance (Scott, 1976). In the context of the sustainable livelihood framework social capital is taken to mean social resources upon which people draw in pursuit of their livelihood objectives. These according to Swift, (1998:8) include the following:

- Networks and connections, either vertical or horizontal between individuals with shared interest that increase people’s trust and the ability to work together and expand their access to wider institutions, such as political or civic bodies.
- Membership of more formalised groups which often entails adherence to mutually agreed or commonly accepted rules, norms and sanctions,
- Relationships of trust, reciprocity and exchanges that facilitates co-operation, reduced transaction cost and may provide the basis for informal safety nets amongst the poor.

Of all the assets described above, social capital is clearly the most difficult to describe in other than broad qualitative terms (Bebbington, 1999 as cited in Ellis, 2000). According to Ellis (2000) a great deal of reciprocity is hidden or discovered only by time-consuming anthropological research or emerges into the open only at times of serious livelihood

crisis. In evaluating the impact of the schemes on poverty social capital would not be considered owing to the complexities in assessing the impact and again natural capital would also not be considered due to minimal impacts in relation to other forms of assets and therefore only human, physical and financial capital would be used in the study.

1.7 Outline/Structure of the Study

Chapter One: Introduction

The first chapter introduces the problem background of the study and presents the framework of the research study to readers. Besides the justification for the study, it also provides the research objectives, research questions and hypothesis for the study, summary of the methodology and data issues and finally offers a working definition of some of the dominant key concepts and analytical framework for the study and concludes with the outline/structure of the study.

Chapter Two: Theoretical and Empirical Perspective and Literature Review

Outgrower/Smallholder Oil Palm Schemes/initiative and Poverty Reduction

Chapter Two is the core part of the thesis and the main purpose of this chapter is to provide reader's insight into the theories involved in the study which is the base of the investigation. Firstly, it provides the general theoretical review of agricultural production as a driver of local development. The chapter further provides an overview of outgrower scheme as rural development model and smallholder's motive for joining outgrower scheme. It further provides the theoretical review of development value of oil palm and key issues to oil palm production. The chapter finally examined the theoretical overview of oil palm outgrower scheme and the accompanied scheme design, oil palm outgrower contract arrangements, the impact of the scheme on poverty reduction and constraints to outgrower oil palm schemes development and draws conclusions.

Chapter Three: Outgrower Oil Palm Development in the Ghanaian context

Chapter starts with the overview of the background information on the Ghanaian economy by examining the location, population and the overview of the economy of Ghana and the agriculture sector of Ghana. The chapter also focuses on the poverty and inequalities in Ghana, overview of outgrower oil palm development in Ghana and the institutions selected for the study. Finally, the chapter provides constraints facing the development of oil palm development in Ghana.

Chapter 4: Methodology and Data Collection

The principle purpose of this chapter is to present the theoretical and practical research methods, which also represents the choice the researcher has made in order to make the right option of the study. The preconceptions that may have been influenced are how the researcher has written this thesis, the choice of the subject and why the subject is interesting to study. The chapter further explained the perspective of the study, scientific ideal, scientific approach, data collection methods discussing the choice between conducting a quantitative and qualitative research. The chapter also gives the idea about questionnaire design and justification for fieldwork and data collection, pre-testing of the questionnaire and the sampling selection process adopted for the selection of respondents of the survey and the interview. It concludes with the recruitment and training of research assistance.

. Chapter Five: Data Analysis

In this chapter, statistical methodology applied to the study is discussed. The chapter gives the overview about the type of statistical ideas implemented to analyse and get information from the answers the researcher received from the interviews. The researcher presents the views of the people through the empirical findings of the impact of the scheme on the livelihoods of both participants and non-participants of the scheme and their reflection, through statistical tables and diagrams. The chapter also reflects on the views of the respondents about the impact of the schemes on the communities in general and the constraints militating against the development of the oil palm schemes.

Chapter Six: Finding, Conclusions, Recommendations and direction for further Research

The first part of the chapter gives a summary of findings of the study followed by conclusions and recommendations of the research and the contribution to knowledge based on the findings and recommendations and finally provides direction for further research work and the limitations for the study.

Chapter Two: Theoretical and Empirical Perspective and Literature Review- Outgrower/Smallholder Oil Palm Schemes/ Initiatives and Poverty Reduction

2.1 Introduction

This chapter of the study focuses on the theoretical and empirical review of previous studies on outgrower/smallholder oil palm schemes and its impact on poverty alleviation in Asia particularly Malaysia, Indonesia, Papua New Guinea, Africa in general and Ghana in particular. The first part will examine the potential of agricultural production as driver for local development which will be followed by a general review of outgrower schemes as rural development model and the motives for smallholders for joining the scheme. The second part will be a detailed examination of previous studies on the development value of oil palm which is the core agricultural commodity crop for this study, and examine in detail key issues to oil palm production. The research would be narrowed down to oil palm initiative implemented through the smallholder/outgrower concept which is the focus of the research work for poverty reduction; this will be the third part. The third part will be based on general review of previous studies of outgrower oil palm schemes, scheme design and a detailed review of the oil palm outgrower contract and its impact on poverty reduction. The fourth section will review the constraints militating against the development of the schemes. The final section will draw lessons and points towards possible gaps that currently exist in the knowledge of the outgrower/smallholder oil palm schemes and its impacts on poverty alleviation with particular reference to Africa and Ghana in particular, and hence the need for the study.

2.2 Agriculture production as a driver of local development

This section will examine the potential of agriculture production as a driver of local development to help the researcher to know the potency of agriculture as pro-poor growth in local economies; this will in no small way provide an impetus to the researcher in answering the leading research question; can outgrower oil palm schemes which is an agriculture based initiative by private companies alleviate poverty in rural Ghana.

According to Timmer, (1988), agriculture forms a share of national output and employment in the early stages of development, the sector is treated in most theories of economic development. The theories have evolved over time, but generally can be divided between the classical views in the 1950s and the 1960s of agriculture as a passive contributor to economic growth, and the agriculture-led industrialisation school of the 1970s and the 1980s.

Arthur Lewis, the leading proponent of the classic theory, viewed economic development as a growth process of relocating factors of production, especially labour, from an agricultural sector characterised by low productivity and the use of traditional technology to a modern industrial sector with higher productivity. He indicated that the contribution of agriculture to development was passive and that agriculture acted more as a source of food and labour than source of growth. The theory further noted that despite the passive role of agriculture, its growth was seen as a necessary tool for successful economic transformation for two reasons; to ensure the supply of food and prevent rising food prices and real wages from undermining industrial development, and to utilise a major

natural resource, land, as an additional source of growth that would not compete with resources for industrial growth (Lewis, 1954). The theory as above was employed to support the industrialisation-led strategies adopted by many developing countries during the 1950s and 1960s, which resulted in a pronounced urban driven policy and investment decisions throughout the period (Lipton, 1977).

There was a change in approach beginning the 1960s, (Johnston and Mellor, 1961; Schultz, 1964); the period saw a major revision in development thinking argued for a central role for agriculture as a driver of growth, especially in the early stages of industrialisation. This view of agriculture as having an active role in development stimulated in large extent the emerging experience in Asia, which was based on two core contributions. First, it was recognised that traditional agriculture could be transformed rapidly into a modern sector through the adoption of science-based technology, thereby making a large contribution to overall growth. Secondly, economists now recognise the strong growth linkage and multiplier effects of agricultural growth to non-agricultural sectors. The review further indicated that agriculture has a strong direct forward linkages to agricultural processing and backward linkages to input supply industries (Johnston and Mellor, 1961). Other writers support the fact that a large share of manufacturing in the early stages of development is agriculturally related (Pryor and Holt, 1999; Gemmell et al, 2000).

In a recent review by Perry et al, (2005), they suggested that multiplier effect is not insignificant; their recent work in Latin America indicates that after accounting for these backward and forward linkages in an input-output framework, agriculture's share of

Gross Domestic Product is about 50 percent higher than official statistics estimates. Nonetheless, studies by Ravillion and Datt, (1996), have suggested that the linkages are dependent in the particular type of urban economic growth.

Studies undertaken by Hazell and Roel, (1983) revealed that the rising incomes of rural households during the early stages of development were seen as vital to providing a market for domestically produced goods and services. They further reiterated that technological changes and productivity growth in agriculture were linked to lower food prices, which in turn held down urban wages and stimulates industrialisation and structural transformation.

The role of agriculture in rural rather than national development was the primary focus for many economists during the 1980s and the 1990s (Hazell and Haggblade, 1991; Hazell and Roell, 1983; Haggblade, Hammer and Hazell, 1991). This rural perspective recognised that agricultural productivity growth stimulates rural non farm growth, especially where infrastructure and the investment climate are already in place (Barnes and Binswanger, 1986; Hazell and Haggblade, 1991). The shift in emphasis was motivated by imperfect or missing commodity and factor markets; rigidities in rural-urban factor mobility; high transport cost; the existence of rural nontradables; and rural unemployment and underemployment. It was emphasised that agricultural productivity growth stimulates rural economies through production and consumption linkages at the regional level. Labour demand between agriculture and rural non-farm activities can create further rural linkage effects, and reciprocal reverse flows from rural non-farm

activities can help finance the purchase of agricultural inputs, which further improves productivity (Reardon et al, 1994; Barrett et al, 2003).

Mellor, (1976), reviewed that such growth- linkage of agricultural development as indicated by the proponents have proven successful when agricultural growth is driven by broad based productivity increases in a rural economy dominated by small farms, as in most of Asia and African countries. Such small to medium sized farm households have more favourable expenditure patterns for promoting growth of the local non farm economy, including rural towns, since they spend higher shares of income on rural non traded goods and services, which are normally labour intensive (Mellor, 1976; King and Byerlee, 1978; Hazell and Roell, 1983). They further argued that for these strong growth linkage effect, agricultural growth can further lead wider economic growth in many countries, open up economies, during their early stages of industrialisation, a strategy that is labelled ‘agricultural-demand-led-industrialisation’ (ADLI) (Adelman, 1984). According to Adelman, the ADLI strategy stressed the central role of increased agricultural productivity in achieving industrialisation through expanding demand for goods produced by domestic industry. The Mellor-Adelman causality running from agriculture to industrialisation as the key link.

A more recent study carried out by other researchers; (Mellor and Gavian,1999; Gavian et al, 2002; Mellor and Renade, 2002), suggested that the recent cross-national and international studies have shown that in low and middle income countries job formation and poverty reduction are influenced directly as well as indirectly by agricultural growth.

For example, Lin Lin et al, (2001) performed a cross section analysis using World Development Indicators data from the World Bank to demonstrate a strong statistical relationship between agricultural productivity and poverty reduction. They found that depending on the model and the data set used, a 10% increase in crop yields is associated with reduction in percentage of people living on less than \$1 per day of between 6 and 12 percent. They concluded then that strong agricultural growth has been a feature of countries that have successfully reduced poverty such as India, Bangladesh, Indonesia and China with the direction of causality from the farm growth to non farm growth.

There exists a large body of econometric literature to support these propositions; using Social Accounting Matrices for 27 countries, Vogel (1994) examined the strength of the linkages between agriculture and the rest of the economy at different development stages. At early stages of development, the backward linkages were very strong, while the forward linkages were much weaker. Rising household incomes represented about 70 percent of the backward linkages. Along the development path, the forward input-output linkage strengthened due to the greater integration of the sector into the broader economy.

The lesson learnt from the evidence is that the direction of causality in the growth linkage is from the farm growth to non-farm growth, not the other way round; which implies that anti poverty policies should be focused on growth in farm output, however, this assertion is highly contested in recent literature (Ellis, 2000). It further helps to explain the

continued emphasis on the technological change in agriculture in much literature on rural development in the 1980s and the 1990s (Ellis, 2000).

On the contrary, it is the argument of other researchers that agriculture alone cannot provide the sufficient livelihood opportunities for local development. Rural non-farm (RNF) employment can play a potential role in local development and rural poverty reduction and numerous studies indicate the importance of non-farm enterprise to rural income (Reardon, 1997, Reardon et al, 1998, Islam, 1997; Newman and Canagarajah, 1999). Reardon (1997) documents small enterprise studies that show that the typical rural household in Africa has more than one member employed in a non-farm enterprise. He argued that rural-non farm (RNF) income share in Africa ranges from 22 percent to 93 percent. Reardon et al, (1998) also argued that in Africa, the average share of RNF incomes as a proportion of total rural incomes, at 42 percent, is higher than in Latin America and higher still than in Asia.

Studies by Gardner, (2005), also support the argument for rural-non farm for local development. He noted that several arguments raised in support for agriculture as engine of growth suggest that the causality may run in the opposite direction, that is, from non agricultural to agricultural growth. The results of his studies suggested that in terms of growth in real household incomes, agricultural growth is not a critical feature but could be helpful for promoting growth. He stressed this citing that in the case of the United States data, it is the linkages of farm factor markets especially labour markets within the non-farm economy that is important to serve as engine of growth in agricultural value added per worker and agricultural incomes. He argued then that this is consistent with

some recent empirical findings across the developing world (Reardon et al, 1998, Haggblade et al, 2002). For example, in the Philippines wage rates of agricultural workers were found to increase when there was an increase in demand for labour in rural non-farm economy, therefore real income growth in the non-farm sector was more significant in raising low farm incomes than other variables.

In their review, the OECD, (2006:28) pointed to the fact that successful rural development led by agriculture depend on increased agricultural sector productivity and improved access to domestic, regional and global markets. The review indicates that market access is critical for agriculture to become the main driver of pro-poor growth. Household and firms in the rural sector rely heavily on access to markets for their agricultural production and the labour to produce surpluses. It was argued that the reasons for the poor market access include the global 'rules of the game' in the form of restrictions, standards and subsidies of wealthy states down to local level factors. They also include poor organisation and influence of producers, weak transport and communications infrastructure and limited market information. It was suggested that to address these constraints requires policy shifts at the regional and global levels and substantial investment in the transport infrastructure to enable produce to move from production units to the market place. Strengthening social capital, in such forms as producer organisations, can ensure that agricultural households have the ability to negotiate in the marketplace and secure fairer prices for their products. By this agricultural household can improve their incomes through enhanced engagement with the market place underpinned by an ability to increase productivity in a sustainable way.

Such commercial agricultural businesses can be viewed as engine of growth with the wider rural economy, stimulating and sustaining the labour market and opening commodity market.

Ashley and Maxwell (2001), Ellis and Harris (2004), and others have advocated “rethinking rural development.” theory, argue that rural areas are highly heterogeneous in size, structure, capability of their populations, patterns of economic activity, and degree of integration with national and international economies. They indicated that in most rural areas, agriculture is a relatively small production sector that will be commercially incorporated into national and international commodity chains. It was contended that rural households already have diverse and geographically dispersed portfolios of income sources. With these changes at hand, those who subscribe to the “rethinking rural development” school question whether agriculture can be the engine of rural growth and suggested instead promoting poverty reduction through a rural livelihoods framework. Ellis and Harris (2004) then stressed further that public investment should be geared towards improving the ease at which migrants can access major cities, where growth is assumed to be taking place. Migration, it was noted, provides an opportunity for the benefits of growth to trickle down to rural households, where agricultural-based incomes remain stagnant.

Ashley and Maxwell, (2001), again argued that the potency of the role of agriculture as engine of growth is now questionable given the changing global environment. First, long-term global declines in agricultural commodity prices have undermined the profitability of agriculture as a business. Secondly, the policy instruments that supported the Green

Revolution in Asian countries, such as price supports, fertilizer and credit subsidies and irrigation schemes, are less acceptable models of public sector intervention today. Thirdly, the pressure on the natural resource base for agriculture is leading to worsening degradation and even declining productivity. Ashley and Maxwell (2001) further noted that the expectation of equitable growth through agriculture depends on the success of small farms. Nonetheless, the rise in supermarkets, the growing importance of quality standards, and poor access to markets increasingly threatens the ability of smallholding farmers to compete with large-scale, commercial farmers.

While this school is pessimistic about agriculture's potential, it provides few viable alternatives to the primary growth role played by agriculture in the early stages of development or explains how growth will occur especially in Africa's urban areas, where high unemployment and informal economies often dominate. Instead, it emphasizes migration and rural non-farm activities and believes diversification options for multi-occupation and multi-location households can become the relevant engine of growth for rural areas in the developing world especially Africa. The view is supported by Lucas and Stark, (1985), who suggested that the use made of cash resources that are generated from migration, contributes to agricultural development which can be used for agricultural investments, this can then be interpreted as relieving a credit constraint caused by credit market failures.

La Anyane, (1985), in his review indicated that there are writers who uphold the view that industrialisation is the sole means of raising the productivity of an economy and that agriculture cannot provide the engine of growth for a developing nation because of the

low income elasticity of demand for agricultural products. It was suggested then that the pride of place should be given to industrialisation, because it is the only sector that can break the vicious circle of poverty-low savings-low incomes-and pave the way for the take-off of the rural economies and the nation as whole. He further argued that industrialisation leads to further industrialisation which can stimulate growth of the other sectors. He further stressed that the interdependence between agriculture and industry is so pervasive that greater attention should be focused on mutual interdependence of agriculture and industry.

2.3 Outgrower Schemes as Rural Development Model

This section will examine the outgrower schemes in general as rural development model based on the contract farming concept. To achieve this, the researcher will review the detailed concept of the contract farming concept which is the basis for the implementation of the schemes and the benefits that the schemes have on rural development and the smallholders' motives for joining the schemes.

In the wake of globalisation and liberalisation, there are growing numbers of contract farming and outgrower schemes linking smallholders to agribusiness. Christophor et al, (2001) argued that the outgrower schemes are seen as having great potential for raising rural incomes through the application of entrepreneurial private sector solutions to agricultural development. Most arrangements integrate aspects of production, marketing and associated advice through more or less formal contractual arrangements. Commodity

companies have been operating outgrower schemes for many years. It is common for commercial enterprises to provide outgrowers with inputs and advice, or guarantee their access to the inputs and services producers require. Extension becomes a component of a more vertically integrated system, the cost of which is either factored into the producer price or deferred to a settlement of the contractual arrangement. The outgrower schemes have been identified as a means to influence overall poverty reduction in the rural communities (Christoplor, et al, (2001).

Glover, (1984), in his review also indicated the outgrower involves the system in which local farmers supply produce while the firm retains responsibility for technical assistance and marketing. He noted that such form of coordination holds considerable potential for rural development since it can facilitate the transfer of technology and the integration of the smallholders into the national economy which are key ingredients for rural development.

Vermeulen et al, (2003), review which support Glover's claim argued that the outgrower model whose implementation are normally based on community-corporate deals or partnership have an increased opportunity for local groups to exploit their particular comparative advantages such as proximity to the resource, competitive labour cost; integration within local development and to gain technology and market access, in order to forward local development according to residents needs and aspirations.

The FAO study by Eaton and Shepherd, (2001), suggests that contract farming outgrower schemes works best as partnership between agribusiness and farmers. They argued that

contract farming has potential to increase the incomes of farmers as well as their technical and managerial skills while reducing farmers risk and uncertainties. It also provides small and medium farmers with access to profitable competitive markets, to agricultural inputs, technology and advice from which they would otherwise be excluded. These immense economic benefits can trigger rural development and poverty reduction.

Eaton and Shepherd, (2001), have developed five different models for contract farming and outgrower schemes implementation and these are discussed below:

(1) Centralised: The sponsor purchases crops from farmers for processing, and markets the products. Under this quotas are distributed at the beginning of each growing season and quality is highly controlled. Crops like tobacco, cotton, sugar can, bananas, coffee, tea, cocoa and rubber are dealt with under this model; (2) Nucleus Estate: The sponsor owns and manages a plantation, usually close to a processing plant, and introduces technology and management techniques to farmers, sometimes called 'satellite' growers. This type is mainly used for tree crop, but is sometimes applied to dairy production; (3) Multipartite: this type involves statutory bodies and private companies jointly participating with farmers. This type is very common in China, where government departments, township committees and foreign companies have entered into contracts with villages and individual farmers; (4) Informal, or individual developed: Individual entrepreneurs or small companies make simple, informal production contracts with farmers on a seasonal basis, particularly for fresh vegetables and tropical fruits. Supermarkets usually purchase fresh produce through individual developers; (5) Intermediary: Formal subcontracting of crop production to intermediaries is common in

Southeast Asia. In Thailand, large food processing companies purchase crops from individual called collectors or farmer committees, who make their own informal arrangements with farmers.

The outgrower schemes implementation are generally based on the concept of contract farming and this concept which has become the centre stage of modern plantation agricultural development would be reviewed in detail to determine whether the premise on which the outgrower schemes are based can be a very good model for rural development.

According to the proponents of the contract farming concept, it often involves a great number of variations and multiple objectives; which include welfare, political, social and economic criteria. The institution usually takes the form of central processing or export units purchasing harvests of independent farmers, but also includes multipartite, nucleus estate and informal models (Eaton & Shepherd, 2001). The terms of the purchase are arranged through contracts that vary from case to case but are normally signed at the planting time. The agribusiness normally provides credit, inputs, farm machinery and technical advice to the farmers in exchange for the commodity they produce (Glover,1984; Grosh, 1994, Eaton & Shepherd, 2001).

Baumann, (2000) in his reviewed on contract farming indicated that there is contrasting view on the development literature on contract farming. One theoretical part of it looks at contract farming in terms of an agrarian transition and seeks to question whether it is

possible for the path of agrarian transition and modernisation to be based not on large wage-labour based capitalist farms as against small farm unit linked to capitalist enterprises (White, 1997). The other proponents, which is more policy oriented focuses much on policies and strategies for promoting the development of agro-production. At the extreme of the literature, are the Harvard Business School approach and the Food First Approach. The former approach considers contract farming to be an opportunity for the transfer of technology to the smallholder and a means through which they can enter the market with minimal risk. In this situation, contract farming complements current development goal which stresses on free trade, private sector growth and smallholder efficiency. The Food First school of thought (Lappe and Collins, 1977) is critical of contract farming and views the system in a dependency theory framework as an exploitative extension of international capital. The Harvard Business School approach is basically driven by a contrasting ideology and does not consider growers welfare or sociological and political aspects of the grower-firm relationship.

There are other writers who argue in between the two extreme that contract farming in especially in developing countries has experienced a mixed fortune, registering some successes and many failures (Little & Watts, 1994; Runsten & Key, 1996). Several studies (Minot, 1986; Glover & Kusterer, 1990; Eaton & Shepherd, 2001) have analysed the nature and performance of contract farming schemes in developing countries stressing the import of contract farming, identified the problems and measures to improve the concept. Some studies on contract farming also come from anthropologists, political economists, sociologists and geographers (Grosh, 1994). These literatures are largely

dominated by questions relating to the dependency and world system approach, and criticises contract farming as an institution leading to an increase in the marginalisation of farmers and communities that do not participate in contracting (Little & Watts, 1994). In this regard it is the argument of the critics that technological advances are passed on to the minority, resulting in uneven benefits that do not often suit the needs of the developing country concerned (Meliczek, 2000). There is existing evidence of an increase in landlessness as a result of contract farming expanding land requirements (Little, 1994), he further contended that the system amount to self exploitation of family labour with company manipulating and abrogating contracts. In Africa for instance, contract farming has been observed to disrupt power relations within farm households; to exploit an unequal power relationship with the growers as well as market fluctuation and has led to growers becoming overly dependant on their contracts which tend to affect the sustainability in the long term (Key & Runsten, 1999).

Glover, (1984, 1987) in his review expressed optimism about the potency of contract farming, whilst at the same time accepting the fact that contract farming are often exploitative he equally stressed that contract farming and the outgrower schemes have led to a significant rise in living standards of the people. He further indicated that at the beginning of the contract at least, there is less room for exploitative relations between the outgrower and the contractor than the traditional patron-client relations. The smallholder cannot be forced but has to be induced to become an outgrower and the main inducement is price (Glover, 1984).

Glover then concluded that the arrangement under the concept holds considerable potential for rural development since it can facilitate the transfer of technology and integration of the smallholder into the international economy which are key ingredients for rural development. He further indicated that the study of the contract farming and outgrower concept that attempts to assess its potential as a tool in rural development strategies and its impact on smallholders should therefore include two elements: an analysis of the economic logic of contract farming and the an assessment of its political aspects. These additional economic benefits under the outgrower concept as identified by Glover include: employment creation; risk sharing; land use and resource control; saving, loans and diversification; access to market, credit, investment, infrastructure, technology and social services, which together are vital elements for rural development and poverty reduction (Glover, 1984, Eaton and Shepherd, 2001, Vermeulen et al, 2003, Mayers, 2000, Glover and Kusterer, 1990, Chambers and Leach, 1987).

2.3.1 Smallholders' motives for joining Outgrower Schemes

In their joint literature on the economic logic of the schemes as rural development model; Little and Watts (1994) reviewed that the primary motive and benefit for the smallholders to become outgrowers is the market access, and the accompanied increased income from the sale of cash crop with a reasonable level of risk. They argued that local markets for commodities normally experience volatility in prices. International markets are more stable than the local ones but inaccessible without specific channels such as those provided under the outgrower schemes. Smallholders are more reluctant to the

adoption of new technologies because of the implicit risk. Again there is no guaranteed supply of inputs such as fertiliser and agro-chemicals from the government. The contract initiative provides the smallholder with access to these technologies and extension services. The companies involved have a high vested interest in ensuring that the smallholder succeeds and as such have access to these services. It also provides them with access to credit. Even in cases when the firm itself does not provide loans to its growers, banks generally accept a contract as collateral. The credit-facilitating aspect of the contract is often the farmer's principal motive for signing up.

From the companies' perspective, the schemes allow the companies to diversify the sources of their raw materials, which in reality make good business sense (Anorld, 1997, Curtis and Race, 1998, Mayers, 2000). Anorld further argued that in assessing the cost of operations, companies normally consider in addition to direct costs of tree growing, the indirect costs and the financial risk incurred through land purchase and otherwise employment of large labour teams, much of which can be avoided through the outgrower/smallholder partnership schemes (Anorld, 1997). Companies also receive sociocultural and socio-political benefits by involving local communities in such partnership deals, as a more supportive community context for the project development is more likely to be enhanced.

Such diverse motives as reviewed above makes it contradictory as to whether the schemes are for the benefit of the poor farmer and that they are in actual fact good models for rural development and poverty alleviation as against the corporate agenda of

maximising profit and shareholders value. This issue will be addressed from the review of the impact of the schemes on farmers' livelihood and poverty reduction in the course of the study.

2.4 The Development Value of Oil Palm

This section of the review will examine the economic relevance of oil palm as a development tool by drawing on previous studies from the tropics where oil palm has contributed in their economic development effort especially as an initiative for the reduction of poverty in rural economies.

Oil palm (*Elaeis guineensis* Jacq) is basically a native of West Africa, where local populations have traditionally used it to make foodstuffs, medicines, woven material and wine. The palm oil is now planted in large scale plantations throughout the tropics because it is used in a number of commercial products including cooking oil, soap, cosmetics and margarine. The Crude Palm Oil (CPO) is the primary product derived from the red fruits of the oil palm, while Palm Kernel Oil (PKO) is derived from the fruits nut is considered to be a secondary product. Palm Kernel Meals is used for animal feed (Cheng Hai, 2002).

Oil palm plantations are established primarily in the tropics, where they covered a total of 65,000 square kilometres in 1997 and produced 17.5 million tons of palm oil and 2.1 million tons of palm kernel oil. The total area covered by oil palm plantation by 2005 within the tropics had grown to 120,000 square kilometres with the production hiking to

30 million tons in same year. In Asia, the two largest producers of palm oil are Malaysia, with a total of 40,000 square kilometres of plantations in 2005 and Indonesia, with 53,000 square kilometres in 2005. The two countries combined production accounting for 85 percent of palm oil produced world wide (Dow Jones, July 2003). Other countries within the tropics are also joining the large-scale oil production; notable among them are Thailand, with more than 2000 square kilometres and Papua New Guinea. Carrere (2002) also indicated that there are vast tracts of oil palm establishment in Africa as well.

In a review by Glastra et al, (2002) on the uses of oil palm, it was reported that palm oil is basically used as household cooking oil, but in the United States it is used primarily as an ingredient in commercially processed foods. Chocolate products such as candy bars and cake icing may contain palm oil as a substitute for cocoa butter. Ice cream, margarine, peanut, butter, coffee whitener, canned cream soups, sauces, baked goods, trail mix and other snack foods, and microwavable convenience foods may all contain palm oil. They further argued that palm oil has an industrial and chemical uses, for example, as a mineral oil substitute for producing lubricants, detergents, soaps, and cosmetics including lipstick, makeup remover, body lotion, and sun cream. The oil palm fruit it was noted provides palm kernel oil and palm kernel meal; which is used in some of the same kinds of food as palm oil, even though their fatty acid compositions differ. Palm kernel meal on other hand is an important ingredient in animal feeds.

On the market potential of oil palm, Casson, (2000), noted that the Oil World, which is the leading market research institute in the oil palm sector based in Germany, indicated

that the world demand for palm oil is forecast to increase from its present 22.5 million tonnes in a year to 40 million tonnes in 2020 and that palm oil will become the leading most produced, consumed and internationally traded edible oil in about 2012 (Oil World, 2002). If such a demand is to be met, producer countries will have to plant 3000 kilometres of new estates annually until 2020 to increase their share in the vegetable oil market because, palm oil can easily be produced more cheaply than other vegetable oil and again oil palm trees produce a much higher yield per hectare than any other seed oil which gives it a natural competitive advantage (Oil World, 2002). The report further cited that global production, consumption, and trade in palm oil have soared since 1970. In 2002 for example, palm oil and palm kernel oil accounted for almost 50 percent of total global exports of oil and fats. It indicated that between 1997 and 2001, global palm oil production grew by 31 percent, consumption by 34 percent, and global exports by 43 percent (from 26.6 billion pounds to 38.7 billion pounds). The world's biggest importers of palm oil over the period 1997-2002 were Asia, primarily India (14%), Indonesia (11%), China (9%), Malaysia (6%), and Pakistan (6%). The European Union-15 countries together consumed (12%) of the world's oil. From the review, the United States palm oil imports were much smaller share of the global market during those years, but became the second largest importer in 2001.

Hanacek, (2005) in his recent studies on the future markets for the oil palm especially in the United States market, indicates that the impending Trans fats-labelling requirement for the United States food companies will give a further boost to the global requirement of oil palm. He argued that if the United States plans to replace 2.5 billion pounds per

year of partially hydrogenated oil with palm oil, its imports would triple over the 2003 figures of 421 millions tons. Such demand it was reported would necessitate 1,996 square kilometres of new oil palm plantations, an area which is equal to almost 1 percent of the total area of Malaysia. Such market potential for oil palm globally has provided the impetus for the vast investment in oil palm across the tropics and enhances the economic importance of the oil palm as development product.

Studies conducted by Tauli-Corpuz and Tamang, (2007), showed the economic importance and impact of the oil palm on most tropical countries economies, they noted that oil palm is very lucrative for both foreign and domestic investors in terms of profits. These mega-profits are ensured by the cheap labour, low cost of sale or rent land, ineffective environmental controls, high demand, support from multinational and bilateral donors and a short growth cycle. They reported that, in Malaysia palm oil exports is one of its competitive edge in global trade and it has contributed to the economic growth of the country. In 2002 alone, palm oil produced more than USD3.8 billion in export revenue for Malaysia and USD2.1 billion for Indonesia.

Wakker, (2000), in his review highlighted on the strategic importance of oil palm, he suggested that oil palm is an exportable commodity and as such makes it attractive to various governments overburdened with external debt and seeking new sources of foreign exchange. According to the review, oil palm as an export commodity has gained much support from other external agencies such as the World Bank, the International Monetary Fund and the United Development Programme which provide financing and do profit

from such investment. From the study Wakker noted that, the main Dutch Banks, ABN-AMBRO Bank, ING Bank, Rabobank and MeesPierson, do maintain very collaborative financial support with large oil palm companies in Indonesia. Van Gelder, (2001 as cited in Cassons, 2000), studies in Indonesia also revealed that a total of 61 European financial institutions in six countries provided financial support to business groups in the Indonesia oil palm sector. This result supports Wakker's proposition that the investment in oil palm is motivated by its foreign exchange potential and the support from other external agencies.

Studies conducted by Arifin and Susila, (1998:25) suggest that in Indonesia palm oil has conferred economic important benefits for the government and some element of the Indonesia society because it has, provided employment for the growing population and has become an important source of foreign exchange. They claimed that prior to the 1997 economic crisis, oil palm exports alone were able to bring in earnings of approximately US\$1.4 billion which was 31 percent of the country's agricultural export in 1997, and 3.5 percent of Indonesia's total non-oil and gas exports (Arifin and Susila, 1998:25). This supports Wakker's claim that oil palm is a strategic crop that supports governments overburdened with external debts. On employment potential of the oil palm industry, Cassons,(2000), reported that some 400,000 rural workers in Indonesia are permanently employed by the oil palm estate which is based on the outgrower concept and enjoy free or heavily subsidised housing, school, health care and other amenities, whilst a further 500,000 farmers derive their significant incomes from the estate-linked smallholder schemes. With down-stream processing and services industries added, the total number of

people, workers and immediate families that rely on the success of the oil palm estate within Indonesia is at least 4.5 million.

Studies carried out by Mannan and Ganapathy, (2004), further enhanced the potential of the oil palm as development commodity. The studies show that the oil palm waste in the form of leaves, fronds, old trunks from the oil palm plantation; the palm mill waste including empty fruit bunches, pericarp, and effluent and oil palm shell can be used in an economically way as construction materials in the construction of low-cost houses, farmers structures, tennis courts, pavement, blocks and paving drains. They indicated that Malaysia for example is capable of producing 3.13 million tonnes of oil palm shell annually and can be used in the construction sector.

According to (Monbiot, 2005), the recent discovery of oil palm as useful product for conversion into biofuel in the form of biodiesel which has been found to be environmentally friendly than the use of petroleum has given a further boost to oil palm as an economic viable product and has become new incentive for investors in oil palm. He argued that oil palm has been identified as the most favourite options for fuel source, given its added advantage of high per-hectare yield and low production costs which can be exploited to compete with petroleum. However, such low cost advantage tend to be extremely high at the local level where the plantations are established, given that they are based on the expulsion of rural population, the exploitation of workers, the repression of local communities, corrupt practices in the land acquisition, and its accompanied environmental destruction. The European Union (EU) promotes the use of biofuels as an

alternative energy source for transport. The European Biofuel Directive (2003) has a target of 5.75 percent of transport fuel in Europe from biofuel by 2010 and 20 percent by 2020. The situation has caused huge supply gap in oil palm to address the demand for biofuels. Malaysia, Indonesia, Colombia, Ecuador, Nigeria, Cote d'Ivoire, Papua New Guinea, and others are expanding their oil-palm plantation to fill the gap (Tauli-Corpuz and Tamang, 2007).

The proponents cautioned against this new development in the oil palm industry highlighting its negative impact on the economy especially in the tropics in the form of high deforestation and food insecurity in exchange for solution to the North fuel usage problem (Carrere, 2002).

2.4.1 Key Issues/Challenges to Oil Palm Production

The previous section examined the review of the development value of oil palm; in the section following the researcher will look into literature on the key issues confronting the development of the oil palm production in general.

Other researchers argue against the vast global investment and the overall establishment of oil palm plantation due to its negative social and environmental impact (Wakker, 2005; Casson, 2003). They argue that areas under oil palm plantation model adopted have experienced serious social and environmental impact on the local communities where they are established. Socially they contended that the appropriation of large tracts of land which have hitherto been in the hands of the indigenous people to pave way for the

plantation is a deprivation of the people livelihood. This normally generate resistance from the local people, which is in turn confronted by repression by state forces as well as that of the companies; such act from the critics amount to violation of land rights and human right abuse and even the right to life.

As indicated by Carrere (2001), such conflicts are common in Indonesia, from the results of his study, as of 2001, the conflicts land area within the oil palm sector had risen to 569,000 hectares; such development nurture numerous persistence and often violent clashes between the company and the community; the companies have mobilised and paid the police, army or government official to suppress unrest, which often translate into gross human right abuse. Some conflicts have prevented many companies from operating altogether. According to Wakker (2000), oil palm can annihilate local communities; they tend to cause social conflict, destruction of indigenous cultural values, and loss of traditional tribal lands. He cited that an evaluation of the Ophir Oil Palm project financed by German bilateral aid in Western Sumatra showed that, while the project increased the income of a few population smallholders, it also had a large negative impact by turning many villagers in the project into poorly paid wage labourer. The income gap also causes envy and discord within the community. Many villagers were pushed out of their former traditional community farming; and when forced to give up their land for oil palm, poor rural farmers may move into new virgin forest lands or marginal areas to clear more rainforest for subsistence farming.

Other environmental issues highlighted by the proponents include, deforestation in the tropics. Studies conducted by Casson (2003) revealed that about 97 percent of Malaysia

deforestation from 1985-2000 can be attributed to oil palm expansion. He further indicated that using official data sources to calculate the degree of deforestation due to oil palm, from 1982 to 1999, about 16,000 square miles of Indonesian tropical rainforest was converted to oil palm, timber, coconut and all other forms of plantation. Of that total, the study estimates that oil palm plantation were responsible for at least 44 percent about 7000 square miles of rainforest. In addition to the loss of the forest, the monoculture plantations provokes erosive processes, which leaves the soil exposed to the heavy tropical rains and tends to affect local rivers and streams as a result of contamination and sedimentation, with negative impacts on both the aquatic species that live in them and the local population who depend on them as source of water and food.

The large oil palm plantation companies, which found it convenient to clear the forest by setting them on fire, were responsible for the gigantic forest fires in Indonesia which shocked the whole world in 1997. Brown and Jacobson, (2005) in their studies noted that about 19,300 square miles of Indonesian rainforest were burnt in 1994, and another 17,800 square miles burnt in 1997 and 1998, all totalling about 37,000 square miles of rainforest burned in the years mentioned, an area equal in size to the state of Indiana.

The tropical forests which are eliminated to make way for the plantations are the habitat for an enormously diverse species. Studies in Malaysia and Indonesia have shown that between 80 percent and 100 percent of the species of fauna inhabiting tropical rainforests cannot survive in oil palm monocultures (Wakker, 2000). From the study those few species that do manage to adopt often become pests, and having lost their normal food supply begin to make a meal of the young palm plants, causing harm to the plantation, which in turn will necessitate the application of pest control methods in the form of

chemicals which further damage the biodiversity as well as fresh waters and the health of the local people. Studies undertaken by Tenaganita and Pesticide Action Network (2002), on the use of the chemical showed that oil palm industry uses about 25 different herbicides, insecticides, and other pesticides, causing contamination of crops, soils, and groundwater. The study indicated that one of the most commonly used chemical is the toxic herbicides paraquat dichloride. The results of the study showed that female plantation workers in Malaysia confirmed widespread pesticides poisonings and problems associated with paraquat. Approximately 30,000 women work daily as sprayers in Malaysia of whom many have reportedly showed acute symptoms of paraquat poisoning, including nosebleeds, eye irritation, nail loss, and abdominal ulcerations.

Indonesia's and Malaysia's rainforest provide sustenance to magnificent wildlife, including the Sumatran rhinoceros, Asian elephant, orangutans and others, these animals are under tremendous threat and many face the danger of imminent extinction as a result of the clearance of the rainforest for oil palm. The concern was reiterated in the World Bank report (2001), that Indonesia is undergoing a species extinction spasm of planetary proportions. According to the report by the World Conservation Union, (2004), most Indonesian and Malaysian terrestrial species are forest animals and can survive only on rainforest habitat, not on plantations. The report noted that, of the more than 400 land mammal species of Indonesia, 140 (32 percent) threatened according to the Red List of Threatened Species of the World. In Malaysia, nearly 300 land mammal species, 47 (16 percent) are threatened with 6 critically endangered. An oil palm plantation is in effect a 'biological desert'.

Despite the social and environmental issues reviewed above, proponents of the plantation model argue that palm plantations have been found to be a solution to unemployment problems and have even proven to demonstrate environmental benefits. This argument was supported by the Colombian oil palm producers' federation which put it in a simple paraphrase as: oil palm plantations are forests which protect our ecosystems.' In like manner, a director of the International Finance Corporation, stated that the establishment of IFC-financed oil palm plantations in the Ivory Coast 'would lead to more employment and higher living standards and promote exports that will earn foreign exchange for the country as well, while at the same time supporting agricultural production with the maximum sensitivity to the environment (Africa News Online, 1999). A Malaysian minister of state stated that palm plantations are in fact, 'better than the developed nations' pine trees in terms of absorbing carbon gases' (Lohmann, 1999). Saenz Vertiz, (2005) also indicated that a promoter in oil palm in Peru stated that the 21,200 planted hectares in that country generated 4,200 direct and 21,000 indirect employments. The import of these arguments is to support the fact that the investment in oil palm has an immense benefit both to the companies, government, and the local community and the economy in general and at the same time being environmentally friendly; the last portion of the argument is very contentious which needs to be investigated to prove its validity to authenticate whether oil palm plantations are environmentally friendly, unfortunately this is outside the scope of this research work.

2.5 Oil Palm Outgrower Scheme

This section of the research will focus on the outgrower oil palm scheme arrangement which is the main focus of the research by reviewing the nature of the schemes design and the contract arrangements for successful implementation; which may include contract agreement binding the parties, management of contract default, provision of credit to farmers, selection of farmers, production methods and negotiation arrangements (Simmons, 1999; Baumann, 2000).

2.5.1 Schemes Design

Wakker, (2005), in his review on oil palm outgrower scheme arrangements revealed that a common model is for a plantation lot of 2-5 hectares prepared and planted by a company with oil palm and transferred to a family to manage the mini-estate as part of a large complex including CPO mills which are run by the company. This is the Nucleus Estate and Smallholder (NES) arrangements. This type of model under the contract farming system is reviewed in the preceding section above. Such schemes arrangements are popular in Malaysia which is set up by state run companies such as the Federal Land Development Authority (FELDA) and Indonesia PTPN (Perseroam Terbatas Perkebunan Nasional) (Wakker, 2005). He further argued that the development of most oil palm plantations within the tropics is based on the Nucleus Estate and Smallholder concept. The concept or the model facilitates private investment in most tropical countries like Papua New Guinea, Indonesia and others. In all cases the implementation of the schemes

are based on the contract farming concept and this has been reviewed in detail in the immediate preceding section.

Studies undertaken by Spek and Goh, (2002), in Indonesia on the smallholder schemes in the country revealed that, Nucleus Estate and Smallholder (NES) scheme was the most popular scheme arrangements in the oil palm plantation systems in Indonesia which is based on the contract farming concept. Under the smallholder scheme, a plantation lot of 2-5 hectares is prepared and planted by the company, and transferred to the family or the individual to manage the mini-estate as part of the larger complex plantation which is owned by the company. They further argued that the nucleus company is in charge of developing smallholder (plasma) estate, which is usually adjacent to its own estates; this is complete with a house, house garden and land already planted with the oil palm trees. Arrangements are in place to guarantee the financing of these estates and the provision of agricultural inputs such as fertiliser to the smallholders. The smallholder farmer agrees to sell the fresh fruit bunches (FFB) to the nucleus company based on a price formula that takes into account the market price of CPO and PKO, adjusted for the cost of processing, transportation and marketing cost which are debited to the farmers as loans. The parent company withholds loan instalments from the FFB supplies as payments Spek and Goh, (2002). They commenced making payments when the trees started to become productive at 3 to 4 years of age plus 6 percent interest per annum.

Similar studies carried out by Cheng Hai, (2003) on the smallholder concept in Malaysia revealed that in Malaysia, of the 3.38 million hectares oil palm planted in 2000, 60

percent were private ownership owned by plantation companies, 30.5 percent were under government settler schemes, while the remaining 9.5 percent were individual smallholder schemes. It was argued that the biggest player in the smallholder scheme arrangements is FELDA which has been set up by the government and specially mandated to develop agricultural land for the rural poor and the landless. The size of the land for which it issues land title ranges between 4.1 hectares to 5.7 hectares per family. Under the scheme, smallholders are not allowed to convert the oil palm to any other crop, nor are they permitted to dispose off the allocated plot without FELDA's approval.

According to Jannot, (2003), oil palm development in Africa has been promoted through the 'estate' development model. It is based on a scheme that from the 1960s combined estates, central industrial oil mill and outgrowers in nucleus estate systems. From his review, the model was implemented and managed by State-owned companies from the 1960s to the 1990s, with much support from international donors.

The public development companies guaranteed smallholder farmers their inputs and planting material on a credit basis, technical support, FFB collection and track upkeep. The production delivered to the oil mill served to guarantee its supplies and enable credit recovery. He noted that at the end of 1990s, liberalisation policies spurred on by the international agencies led to the privatisation of the State companies and these have been taken over by private companies. Examples of such oil palm schemes are in Ivory Coast, Cameroon, Nigeria, Benin, Uganda and others.

In Nigeria, Presco a private company in oil palm development owned by SIAT of Belgium, has started the outgrower schemes as part of the companies expansion programme in 2003, it was noted that the scheme is part of the company's oil palm development programme under the outgrower scheme with the aim of promoting the cultivation of oil palm in Edo State of Nigeria in realisation of the company's sustainable and income generation potential for the rural populace. Under the scheme, participating farmers receive high yielding planting materials, fertiliser, all material inputs and technical support from Presco, while the farmer's input in the form of land and labour. Presco provides ready market for the FFB from the farmers and the loan deductions made out of farmers FFB supplied (Biafra Nigeria World News, 2004).

Research carried out by Amanor, (2001) on smallholder/outgrower schemes operation in Ghana with special emphasis on GOPDC suggests that, under the scheme the contract farmer is allocated with plot of 4-8 hectares and the company again undertakes to supply the contract farmer with various inputs like seedlings, fertiliser, money for hiring labour and many others. The farmer in turn undertakes to supply GOPDC with all the fruits the palm plantation yields. The provision of the inputs is not free, but takes the form of a loan, which attracts compound interest. The farmers have a grace period of six years before they start repaying the loan, which is paid in fruit and deducted from the proceeds of the harvest. During the sixth and seventh year the farmers pay off the compound interest and, from then, the principal loan begins to be deducted from the yield.

From the review above on the oil palm outgrower/smallholder scheme concept, it is revealed that the concept is the same as in Asia and Africa. That is they are all based on the contract farming concept and the NES module in terms of input supplies to farmers, labour, land, loan deductions in kind as reviewed in details above.

The main difference between the Asia concept and the Africa concept is that, under the Asia concept as identified in Malaysia and Indonesia, the smallholders are allocated farm lands which is close to the plasma estate to serve as land for food cultivation as a solution to the food insecurity associated with the scheme, again the schemes have complete settlement with basic amenities like schools, hospitals and other social centres attached to the project. This is not the case in the African contest.

2.5.2 Oil Palm Outgrower Contracts

The successful implementation of the schemes depends on addressing those key issues which have been identified as influencing the effective implementation of the schemes. These have been identified to include: contract agreement binding the parties, provision of credit to farmers, selection of farmers, production methods, negotiation arrangements (White, 1997, Simmons, 1999; Baumann, 2000).

Contract Agreement binding the Parties

In a joint review by White (1997) and Glover (1990) on the constitution of the contract, they noted that the contract agreement serves two main purposes. The first is that the

contract is the means by which risk is distributed between the outgrower and the company. Secondly, the contract is seen as a representation of a relationship rather than the relationship itself (White, 1997). The constitution spells out in detail the rights and obligations between the outgrowers and the company, including the penalties for breach of the contracts by either party. Glover, (1987) argued that, few contracts are ‘perfectly contingent’ and most are vulnerable to interpretation and many a times heavily weighted against the smallholders to the favour of the companies. This observation was supported by the Commonwealth Development Corporation (CDC) (CDC, 1989). They further contended that the contracts tend to be more favourable for the smallholder when the processor is heavily dependant on the smallholder for a steady flow of raw materials. For example, a good contract identified among the oil palm scheme is the ‘Contract du Planteur’ at Palmindustrie in the Ivory Coast because processors are heavily dependant on smallholders for raw material (88% and 40%) (CDC, 1989).

Baumann, (2000), argued that most of the agreements, at the initial period of the projects have good arrangement for exploiting the resources of the farmers, in the form of good prices, credit and technical advice which tend to lock up the farmers into production through exploitation of gaps in the contract by the company and again because the company normally have long waiting list of outgrowers, they modify the qualifying requirement to be an outgrwer which result in eliminating the poor farmer.

Provision of Credit to Farmers

Many smallholders are credit constrained in that they have no access to credit at all (Glover & Kusterer, 1990; Hayami & Otsuka, 1993). If even access to credit is available

they face high interest rates from the banks and from local money lenders or excessive transaction costs if they use bank credit.

Baumann, (2000), in his review revealed that access to credit is one of the biggest incentives the smallholder/outgrower farmers get in joining the scheme. The credit can be given in cash, in kind, or in the advance of services or capital inputs. Loans are given on the security of the land or the anticipated value of the oil palm. Loan recoveries are usually made from the FFB sales. From the company perspective, credit is normally given in kind rather cash to avert the risk that money will be spent immediately.

The advance of credit is a vital part of the scheme and it is the only avenue that the smallholder can enter the market. Repayment for the loans advanced by the companies normally starts after six years as in Palmindutrie of Ivory Coast. The longer the pre-harvest period the greater the problem usually is with repayments; because there is likely to be a difference between the projected and actual profits. These problems are compounded by high and variable inflation rates which make it difficult to determine interest rates, and changes in cost or market conditions.

Glover, (1990), equally noted that a potential weakness in the credit scheme is the that farmers can be locked up into a deteriorating debt situation, since farmers entering into such contractual relationship may be unable to terminate it if the company deducts payments and the expected benefit do not materialise causing the farmer to stick to the company and become effectively at their managerial mercy.

Selection of Farmers

Simmons, (1999) in his review indicated that most of the literature reviewed on contract farming outgrower schemes with regard to farmer's selection assumed that agribusiness companies selected smallholders for contract and the possibility of self selection by smallholders is referred to only indirectly. This showed that contracting firms are usually perceived to hold the power in relationships with smallholders, and by this implies that firms can pick and choose partners for contract. The distinction between selection by the agribusiness company and the self selection is very vital since the self selection farmers are only in to gain from the contract.

When the companies have the power to pick and choose the farmers, there are a number of selection factors that seem to be common across contracts. These include previous farming experience, farm size, and fertility of farm land and community considerations (Vermeulen and Nathalie 2006; Runsten, 1992; Little and Watts 1994).

Runsten, (1992), further suggests that, there are logistical advantages for the firm by selecting farmers from a single geographical region or area. Most contracts involve visits to farmers, village headsmen and farm group meetings and money is saved if these people are in close proximity to each other and the processing mill. In Indonesia oil palm schemes contracts often involved one or a few villages in regional clusters. Hence from the firms' point of view, seeking to establish a new contract, the problem is not simply to identify suitable growers but also a suitable community environment as well (Runsten, 1992).

Production Methods

In his review of the production methods under the outgrower scheme, Anorld (1997) noted that in most outgrower partnerships, the company recommends, and sometimes controls, production methods to ensure optimal productivity of the plantations. It was argued further that such practice tend to be too complex, labour intensive and costly for the farmers which force most farmers participating in the scheme to opt to the hiring of contractors to conduct the operation; the end result is that many farmers profit from the farms tend to be reduced because of higher production costs. Kato (1996) argued further that such practices tend to cause farmers to modify schedules of the standard production methods to be able to avoid excessive cost build up but such technique tend to have productivity tradeoffs, either in lower yields or inferior quality, which tend to have a negative impact on the financial returns to the farmers and the companies (Kato 1996). Mayers (2000) also suggested that the problem with the complexities in the production methods which cause farmers to rely on contract labour and its accompanied high cost can be addressed by involving farmers in the production operations themselves, and rely less heavily on the company, to achieve improved productivity and increase profits by reducing contract labour costs.

Negotiating arrangements

Good negotiation arrangements between stakeholders of the schemes have been identified as a tool to secure successful implementation of the scheme within the community. In a review on the negotiation arrangements, Daniels and Walker (1999: 42-48) described the

process as a mutual learning process for exchanging perspectives between clients and professional planners with the object of transforming ones understanding of problem situation. They further indicated that the negotiation should be based on social learning which acknowledges that interest groups bring different knowledge to the learning process in the form of values, capacities, perspectives, methods and stories of historical experience, which facilitates joint problem-solving by fostering perceptions of interdependence, trust and mutual appreciation.

Curtis and Race, (1998), argued that in as much as negotiation with participating farmers are good, most companies believe the arrangements are too time consuming and expensive. In situations where the companies are even willing to negotiate with the farmers, the companies' greater knowledge of markets and the general inexperience of the farmers place them in a poor negotiating position. To enhance the farmers capacity to negotiate more balanced and equitable partnerships, growers can benefit from employing a third party to negotiate on their behalf (Mayers, 2000), this from the writer will ensure that the partnership is more balanced.

2.6 Impact of Schemes on Poverty Reduction

This section will explore to answer the question; are the outgrower oil palm schemes by the private corporations alleviating poverty in the rural communities where they are established by reviewing the impact assessment of past literature to assess the effectiveness of the schemes in this direction.

Broad based knowledge about the successful achievement of such initiative and their positive impact on rural livelihood remains only partial and contested. Overall the evidence is thin. At one extreme are studies arguing that oil palm plantations based on corporate-community schemes bring about complete and permanent change of local communities' way of life, economy and culture and contribute to help them out of poverty as a result of the rise in the cash incomes (Wakker, 2005, Simeh and Tengku, 2001, Mayers and Vermeulen, 2001). On the other side are researchers who caution against the herald of the scheme on rural livelihood and poverty reduction by highlighting on the negative impacts that the scheme can have on the rural poor (Sawit Watch, 2002; L'afanchi, 2000). In between the two extremes are proponents that support the evident that though the scheme provides beneficial impacts to rural poor but that owing to embedded problems; especially on the operation of the various credit schemes tend to leave most farmers with high accumulated debt which tend to erode their profit, and again the rural farmers are disadvantaged by the opportunity cost of the oil palm developments which have consumed large areas of land which was previously their own to use as nucleus and transmigrant estate, such problems from the argument do not make the scheme total panacea to rural poverty (Potter and Lee, 1998).

From studies carried out by Simeh and Tengku, (2001), by way of case study to assess the impact of the smallholder oil palm schemes on rural livelihoods, in terms of poverty alleviation, they noted that FELDA in Malaysia claims success in this direction. The results of the study showed that through the organised oil palm smallholder, the incidence of poverty in agriculture as a whole had reduced from 68.3 percent in 1970 to only 11.8

percent in 1997 (A case study on Malaysia oil palm by Arif Simeh, April 2001). It was equally noted that poverty among the FELDA smallholder is still prevalent in some areas and that they are particularly vulnerable when the global oil palm prices are low. The box below explains in detail the results of the study:

Incidence of poverty in the Agriculture Sector Malaysia, 1970-1990

Year/Sector	1970	1975	1980	1984	1990
Rubber smallholders	64.7	59.0	40.0	43.4	24.1
Oil palm smallholders	30.3	9.1	8.2	n.a	n.a
Coconut smallholders	52.8	50.9	47.1	46.9	27.1
Paddy Farmers	88.1	77.0	73.0	57.7	39.0
Other agriculture	99.8	78.0	64.3	34.2	n.a
Fishermen	73.2	63.0	52.0	27.7	27.7
Estate Workers	40.1	47.0	38.0	19.7	19.7
Total in Agriculture	68.3	63.0	49.3	23.8	21.1

Source: Malaysia, Malaysia Plans: various issues adapted.

As can be seen from the data, the incidence of poverty among oil palm smallholders was the lowest as compared to other sub-sectors in agriculture; while the average incidence of poverty in the sector in the period was 21.1 percent to 68.3 percent, the incidence of poverty among oil palm smallholders was only 8.2 percent to 30.3 percent. From the data, in 1984, oil palm smallholders were no longer identified as significant group to be related with poverty. The identifiable problem with this finding is that the comparison was based on national trends and does not provide much insight into the local choices, since fishermen and rice paddy farmers mainly live in areas and situations where oil palm is not an option.

Another study carried out by Warner and Bauer, (2002) in Papua New Guinea on the positive impact of smallholder oil palm schemes on rural poverty revealed the following. The study was to assess the impact of the scheme on net income and on empowerment of the poor especially women and children in 2001. The income level was assessed quantitatively whilst the empowerment was done through qualitative analysis. For the income levels the results indicated the total household income for the smallholders had increased to K2167 which was far above the poverty line of K646 set by the World Bank for the country in 2001. The assessment for the women empowerment through qualitative measure used anecdotal evidence rather than surveys and data analysis had the following results: Koczberski et al (2001), women in the scheme have become economically independent and do not have to rely on their husbands generosity for cash income and as such feel empowered through the loose fruit collection. From the children perspective the results showed that, school attendance rate among the children of participants in the scheme showed an increase.

A study by Mudiyono et al (1992) on the impact of the PTP (*Perseroan Terbatas Perkebuna*) oil palm estate around Parindu and Ngabang in Indonesia concluded that, despite a number of social problems associated with the change from traditional to a purely commercial orientation, overall the farmers who participated in the programme were better off economically than their previous occupation, and more than the non participants. They asserted that under the traditional system they use to earn an income of between 60,000 and 90,000 rupiah per month; in comparison to farmers working in

plasma estates earned between 100,000 and 180,000 rupiah per month throughout the year. These are 1991 observations. They further argued that there was increased variety of employment opportunities for the land-poor; from the interview most of the farmers in the district asserted that since the company became operational with the schemes their standard of living had improved and they earn cash which help in educating their children.

In contrast to the above findings which give a very pervasive impact of the schemes on rural livelihood, field research work carried out by Potter and Lee (1998) in Indonesia, empirically identified that with some few exceptions, where the schemes tend to provide monthly incomes for the smallholder farmer much of which were far below the estimates as revealed through their interviews; oil palm schemes do not normally appear to provide smallholders with sustainable livelihood. The credit schemes which is the pillar of the programme makes the smallholders highly dependent on the nucleus company which many of them end up with bad debts. With this the farmers made a lot of reservation which came out of the interview; smallholders were concerned with the cost associated with the plasma estates that erode the profits received. They complained that the debt they owed to the company for the establishment was often much greater and took longer time to pay off than anticipated. The PTP villagers for instance from the study revealed that they had incurred a final debt of 4.5 and 6.5 million rupiah, with others incurring a total debts of 18 million rupiah. Such debt situation tends to reduce the incomes farmers earn from their trees in their early years (Potter and Lee, 1998).

L'afanchi, (2000), in a case study on the experience in Indonesia noted that, from the results of interviews conducted, local communities in Indonesia are the primary producers of agro forestry and agricultural commodities such as rattan, coffee, tea, rubber and rice. The production of these commodities from the studies has been adjusted to the needs and priorities of the farmers where food sovereignty and stable income are more important than high cash income. The studies further revealed that traditional agro forestry production systems are relatively more resistant to market shocks and do not require long time horizons or large initial investments to realise returns on them. From the local people perspective through interviews conducted, customary forest management tend to provide a greater return to labour than oil palm.

In another studies undertaken by Sawit Watch, (2002) on impact assessment suggests that the schemes are not a panacea to rural livelihood. The study based on smallholder schemes in Sulawesi found that growing palm oil is significantly less rewarding in terms of revenue generation than growing corn, and to worsen their situation, the credit scheme does not allow farmers to convert the estate into other crops which create food insecurity for farmers. His claim is support by the Gross and Net monthly income generated by farmers from the period covered by his study and this is reproduced below:

	Corn		Palm Oil (FFB)	
	Rp	US\$	Rp	US\$
Gross Income	1.600.000	188	1.350.000	159
Cost	648.563	76	900.000	106
Net Monthly Income	951.437	112	450.000	53

The above studies by Sawit Watch can be criticised on the grounds of being too simplistic an impact assessment. Thus from the results it is evident that corn revenues are higher than that of oil palm. The returns from a crop like corn cannot easily be compared with a perennial crop like oil palm without considering the yield profile of the palm tree. Again oil palm fruitage is seasonal in nature within a particular year as such to make any prudent income comparison, the annual yields revenues should have been used instead of the monthly revenues, and moreover the relative cost and profits from different crops will differ from place to place and from year to year, especially given the fluctuation in oil palm price internationally. In Malaysia for example, after many years of decline, smallholders' income from palm oil doubled between 2001 and 2004 as world prices rose again (Ismail, 2004). The only good thing about the study is that it was purely based at a particular local level. Based on his results, Sawit then concluded that the schemes are unfair and inequitable but are formed to procure peoples land and as a way for companies to access cheap credits in the name of the community.

2.7 Constraints to Outgrower Oil Palm Schemes development

The development of oil palm plantations and it accompanied outgrower schemes cannot be said to be without constraints that militate against their full realisation. This section of

the literature will review in detail the constraints facing the outgrower oil palm development to help in providing answer to the research question: what are the constraint facing the development of the outgrower oil palm development? To make any meaningful progress toward more viable, sustainable palm oil production for smallholders and their broader communities will mean overcoming the current constraints. The main areas of much concern to smallholder/outgrower farmers in the oil palm schemes have been identified to include; ownership status, cash requirements for meeting upfront expenses to grow palm oil, access to reliable information and the need to balance subsistence security with cash crop production and the notable problem of the risk associated with global price fluctuations (Vermeulen and Goad, 2006).

Vermeulen and Goad (2006), reported in their study on constraints that the most serious issue facing the development of the scheme is land disputes resulting in numerous disagreements and uncertainty over land tenure. Kartohardjo and Supriono, (2000), stated that in year 2000 alone the entire 81 oil palm plantation companies in Sumatra, reported land disputes with local communities. In a similar vain, Sarawak Penan Association in Malaysia, (2005), reported that in Malaysia, Native Customary Rights landowners have been reluctant to invest in joint ventures by handing over land, which they see as a right of inheritance rather than exchange.

In Indonesia the study reported that holders of customary land rights are challenging the lack of recognition of the rights of indigenous people in the allocation of land for oil palm plantations, and unfair practices in allocating plots to the smallholders from the large plantation estate (Serikat Petani Sawit, 2006). Land tenure insecurity on smallholdings

invariably limits farmers' investment in palm oil. The land dispute has also been identified as a constraint facing the companies as well which tend to limit their expansion plans. This was highlighted by Carrere, (2001) in his study in Papua New Guinea on land conflicts in oil palm sector; he indicated with the establishment of oil palm, customary land rites are sometimes crossed, or at other times, the companies lease out some of the land to people from other areas for oil palm plots. This results in tension and misunderstandings within and between communities, as land use decisions are no longer based on customary decision making processes; conflicts arising from land disputes are on the increase as the schemes are introduced, which have prevented many companies from operating altogether and at the same time limiting their expansion plans.

Zen et al, (2005), argued that most companies have adopted many ways of solving this land disputes to ensure smooth operations, the report indicated that in Indonesia, some companies have developed a joint venture model scheme that gives the local people share certificates for their 2 hectare land rather than allocating an actual block of land. Shareholders are then given the option of working on the plasma under the cooperatives, trained by the plantation company or in the nucleus staff. This from the study is to preempt conflicts arising from the variable performance of the individual blocks and at the same time ensure efficiency.

In terms of access to capital as a constraint, Casson, (2000), noted that international and domestic banks only provide loans to the estate companies but not the smallholders, for the following reasons: lack of creditworthiness, limited deal sizes, which result in high risk premiums for smallholders. The only option open to the farmer is to rely on the

companies to provide loans which are many a time on favourable terms. He reported that communities in West Kalimantan, Indonesia, reported through their interviews that one company has expected credit repayment of 30 percent crude palm oil production per month on a credit of IDR 11.4 million (EUR 1,045; DTE, 2005). Studies conducted by Koczberski et al,(2001) in Papua New Guinea suggested how this constraints is being solved by the companies, they revealed that companies extend interest-free credit to selected inputs, New Britain Palm Oil Limited, has given smallholders cash payouts per unit fertiliser applied, motivating smallholders to apply fertiliser immediately rather than leaving it stacked up. They indicated that the upfront cash payments are then added to the debt of the smallholder to the company. The popularity of scheme demonstrates how poor smallholders may tend to prioritise immediate cashflow over their long-term economic interests

In another study conducted by Majid-Cooke, (2002), on solution for the smallholders' capital access constraints, it was noted that farmers are given portions of Equity of the company. The report suggested that in Konsep Baru scheme in Malaysia, the plantation company does not need to buy land; it provides financial capital for landowners to develop the land for oil palm. The community that holds native customary rights to the land is awarded a 30 percent share of this investment. A land Bank mechanism allows farmers to register their land in the bank as an asset which enables the private company to use the land as a deposit to borrow money locally or abroad.

Information on price and pricing policies, market opportunities, technical aspects of production and site management, and more especially on rights and options under

national law or formal agreements was reported as a major difficulty for many farmers under the scheme. The study found that the main issue of concern was not only access to the information, but the confidence and trust to have in the information that comes to the farmers, given that the independent sources are rare (Vermeulen and Goad, 2006). Simmons, (1999), suggested that NGO's can be used in this direction, to provide agronomic advice to smallholders and evaluate advice given to growers by the agribusiness firm. He indicated that in Mexico, Asesoriay Servicios Integraos Agropecuarios (ASIA) acts as an intermediary between smallholders and agribusiness firms in negotiating contracts and facilitating arrangements in contract flower production. Their role he indicated includes contract evaluation, discussion with smallholders, and liaison with the contractor, technical assistance and helping with purchases of farm inputs. The NGO also provides links to credit sources and it is involved in making and receiving payments (Rello & Morales, 2002).

NRI, (2003), in their study on constraints facing smallholders in oil palm community-company schemes, reported that one single key issue that confront the farmers is food security. This may provide opportunities as well as difficulties. An identifiable significant feature of the tree crop is that they can be established, managed and harvested using family labour and easily supported with hired labour. It was further argued that palm oil smallholders have been successful in balancing food and cash crop production if allowed by companies within the schemes. Governments and donor development programmes have often favoured export tree crops over domestic food crops. This issue is addressed by allowing intercropping of young oil palm as in Papua New Guinea. In Malaysia and

Indonesia, land is set aside close to the estate for food production (Vermeulen and Goad, 2006).

Papenfus,(2000), in Sumatra revealed that entering into palm oil production is a long term decision, which involves risk, to the extent that if the investment appears sound now through explicit or implicit estimates of net present value, irreversibility of land use decisions combined with unanticipated price volatility tends to discourage farmers to enter the schemes. Thus with the palms attaining maturity, smallholders cannot achieve uniform or predictable harvest to ensure constant flow of income. He further argued that the presence of uncertainty in prices for Crude Palm Oil may also contribute to the existence of an option value to waiting to convert land to oil palm. Studies undertaken by Zen et al, (2005), identified such variations in productivity among smallholders in the same vicinity of as much as 50 percent around the mean. In another study by Koczberski et al, (2001), in Papua New Guinea, they reported wide variation productivity among the farmers and this was due to a range of underlying factors ranging from land tenure security to intra-house relationships. While some of the smallholders put a great deal of effort in applying technologies and maximising outputs, others prefer to invest more in other crops or other livelihood strategies, and as they put it, for large plantation companies, production of oil palm is the core business, but for smallholders oil palm is just one of an array of agricultural and non-agricultural means of making a living.

There are other specific constraints which are very unique to companies. The discussions below are some of the findings of such constraints:

From the review by Deitrich, (1994), transaction costs incurred by agribusiness firms in dealing with large number of individual smallholders under the schemes constitute a major constraint to the companies, this he indicated fall broadly into three main areas. These are: Cost of drafting, negotiation and enforcing contracts. According to Glover and Kusterer (1990), the initial costs of drafting contracts are increased by the need to have first season contracts work well. They further reported that farm contracts have a ‘honey moon’ period during the first season where smallholders show high level of commitment to the company; smallholder experience naturally increases with the later seasons when, with contract maturity, contracts provisions tighten and the smallholder behaviour changes and become more business oriented in thinking. It was argued; as a result getting the contract right in the first season should be a priority for the company and this is likely to be costly especially when numbers involved are large. Glover indicted that upfront costs of negotiating and managing smallholder contracts include:

- Cost of gathering agricultural, social and economic information about an area or region.
- Costs of contracting and maintaining relationships with individual smallholders, farm groups and village committees or headmen. This may involve both political action and commitment at the local level.
- Cost of gathering information on individuals to select smallholders suitable from the company’s perspective as partners in the contract.
- Cost of negotiating with individuals farmers including farm visits and establishment of personal relationships between smallholders and firms representatives.

- Cost of writing contracts, and where greater number of farmers are literate there is and additional cost of legitimisation of the contracts through a village committee.

To ensure the containment of such cost and at same time as a solution to such constraint, smallholders are normally organised into local cooperatives as in Indonesia. Studies conducted by McGuire et al, (1998), in Indonesia reported that, the government introduced the KKPA (Koperasi Kredit Primer Anggota, which means Members' Primary Credit Co-operative) scheme as a rural microfinance programme where formalised local cooperatives c

ould borrow funds at highly subsidised repayment terms. The scheme was applied to the oil palm sector from 1995, to supplement the nucleus plasma schemes. Cooperative of smallholders have more autonomy under KKPA than under the earlier nucleus-plasma models, with greater advantage of reducing transaction cost to the companies.

Smallholder loan default was identified as constraint facing companies for the development of the schemes during their study on the schemes development (Vermeulen, and Goal, 2006). The results of the study revealed that in Papua New Guinea, companies to mitigate such constraint demand that smallholders make repayment of loans as a proportion of crop rather than in cash. That in Papua New Guinea, the companies withhold loan instalments from the delivery of FFB to the company. With this the report indicated that the company extend interest-free short term in kind credit, repayable at 50 percent of gross fresh fruits bunch income over three months, tools, one year, fertiliser, or two years, seedlings. Koczberski et al, (2001), further indicated that, avoidance of

repayments has been a problem where smallholders have been able to sell produce to private contractor rather than the company. They indicated that such debt avoidance has not prevented the schemes in Papua New Guinea from being successful but rather has caused companies as a solution to modify the terms.

2.8 Summary

The chapter has reviewed the theoretical and empirical literature on agricultural production and rural economic development in general. The review then was narrowed to the development value of oil palm and its outgrower scheme and the impact on poverty reduction in relation to assets building of the rural poor. The review placed much emphasis in Malaysia, Indonesia, Papua New Guinea, where such schemes started and have made positive contributions to poverty reduction of the rural areas and where large volumes of literature on impact assessment on the outgrower oil palm schemes on poverty alleviation and other African countries particularly Ghana exist. The review also confirmed the conflicting and the mixed results on the potential of the schemes to alleviate poverty in the rural communities where they are established.

The review further showed that few studies on impact assessment in Africa in general and Ghana in particular have been undertaken as compared to Asia (Malaysia, Indonesia, and Papua New Guinea). From the review, even the studies on the impact in Asia mostly concentrated on increase in farmers incomes as basis for assessing poverty reduction. It must be stressed then that poverty has dimensions other than the level of cash income, or other economic factors in general. Livelihood comprises the capabilities, assets, including

both material and social resources, and activities required for the means of living. The livelihood framework therefore identifies five core assets categories or types of capital: human, social, natural, physical and financial capitals upon which livelihood are built.

From the above therefore it can be concluded that though few studies have been done on the effective impact assessment of the schemes on poverty alleviation most of these studies have not utilised effectively generally accepted livelihood framework which captures the five core assets in livelihood diversification. The study will therefore concentrate on human, financial and physical capitals in its impact assessment. It is this gap in the research that this study intends to fill in.

Chapter Three: Outgrower Oil Palm Development in the Ghanaian

Context

3.1 Introduction

This section will examine an overview discussion of the background information on Ghana in terms of location and population, the economy and agriculture performance. The section will continue to examine in detail the poverty and inequality in Ghana by looking at the definition of poverty in the Ghanaian context, the poverty trend and the incidence of poverty in Ghana. The section will then end with an overview review of the oil palm plantation development in Ghana, followed by a review of the institutions selected for the study and examine as well the constraints/challenges facing the development of the oil palm in Ghana and conclusions drawn.

3.2 Background information on Ghana

3.2.1 Location and Population

3.2.2 Location and size

The Republic of Ghana, formerly the Gold Coast, is a West African country lying on the Gulf of Guinea. It has a total border of 2,093 kilometres, including 548 kilometres with Burkina Faso to the north, 688 kilometres with Cote d'Ivoire to the west, and 877 kilometres with Togo to the east. It has a coastline on the Gulf of Guinea, part of the Atlantic Ocean, measuring 539 kilometres. It has an area of 239,540 square kilometres, making it about the size of the state of Oregon. Water occupies 8,520 square kilometres

of the country, primarily Lake Volta. The capital of Accra is located along the south eastern coast.

Ghana has a tropical climate, warm and comparatively dry along the southeast coast, hot and humid in the southwest, and hot and dry in the north. Its terrain is mostly low plains with a plateau in the south-central area. Its highest point is Mount Afadjato, which rises to 880 metres. Lake Volta, its largest lake, is the world's largest artificial lake. Ghana has ten regions: the Northern, Upper West, Upper East, Volta, Ashanti, Western, Eastern, Central, Brong-Ahafo and Greater Accra.

3.2.3 Population

The population of Ghana was estimated at 19.5 million in July 2000, an estimate that takes into account the impact of HIV/AIDS. It was estimated at 17.8 million in 1996, with a density of 81 people per square kilometre. About 37 percent of the population lived in urban areas and 10 percent in urban agglomerations of more than a million people. The population grew at 2.8 percent a year between 1970 and 1990, and 2.9 percent between 1990 and 1997. The fertility rate in 1997 was 4.9 children per woman. Ghana has a young population, with more than 42 percent of the people below 15 years of age in 2000 and 55 percent in the 15-65 year bracket. Those over 65 constitute only 3 percent of the population. Life expectancy was estimated at 57 years overall, with 56 and 58 years for men and women respectively.

The population is predominantly of African origin, with the Akan tribe comprising 44 percent of the population, the Moshi-Dagomba 16 percent, the Ewe 13 percent, the Ga-

Adangbe 8 percent, the Yuroba 1.3 percent, and European and other nationals less than 1 percent.

3.2.4 Overview of the Economy of Ghana

In the 1970s and early 1980s, Ghana experienced a sharp decline in its macroeconomic performance and the period has been described as the most turbulent for the economy since independence: Real gross domestic product grew at -1.5% per annum in 1978-1983, and inflation hit 116% in 1977 and 123% in 1983 (Sowa 2002). There was shortage of almost every conceivable item: food, raw materials and even water. Then in 1983, in the midst of drought and bush-fires, nearly a million Ghanaians were expelled from Nigeria. To re-invigorate the economy, the then government adopted an Economic Recovery Programme (ERP) in 1983 with the aim of freeing the economy from its downturns, and the Structural Adjustment Programme (SAP) of 1986 which, among other things, sought to introduce a liberalized trade and investment regime, pursue an export-led economic growth strategy and consolidate the turn-around achieved through ERP. Although these programmes succeeded in halting the decline in the economy, the state of wellbeing for the majority of people rarely improved. This led to the Programme of Action to Mitigate the Social Cost of Adjustment (PAMSCAD) which was intended to compensate for some of the negative outturns associated with liberalization and divestiture of most state owned enterprises. The net effect on the livelihoods of Ghanaians was generally negative as results from the 1991/1992 living standards survey indicated: 52% were classified as poor (living on C900,000 per annum), with 37% of that population, living in extreme poverty

(less than C700, 000). (As at the time of the survey, \$1 = ¢2700. Thus the amount translates to \$259 per annum).

Between 1991/1992 and 1998/1999, there appeared to be some improvements in the state of wellbeing. For instance, the national incidence of poverty among the extreme poor (living on less than ¢700,000 a year) declined from 52 to 40% and the incidence among the poor (those living on less than ¢900,000) declined from 37 to 27% (Ghana Statistical Service 2000).

As with other countries that subscribe to MDGs, Ghana has developed two Poverty Reduction Strategies (GPRS I and II) since 2000. The first GPRS consisted of policies, strategies, programmes and projects to support growth and poverty reduction over a three year period (2003- 2005). With a subtitle of ‘An Agenda for Growth and Prosperity’, “The Government of Ghana aims to create wealth by transforming the nature of the economy to achieve growth, accelerated poverty reduction and the protection of the vulnerable and excluded within a decentralized, democratic environment” (Government of Ghana 2003a). The emphasis during this period was to stabilize the economy, and lay the foundation for a “sustainable, accelerated and job creating agro-based industrial growth” (Government of Ghana 2003a). Following the lessons learnt from the first phase, the Government launched GPRS II for 2006 - 2009. GPRS II, operating under subtitle ‘Growth and Poverty Reduction Strategy’, covers three broad areas namely Human Resource Development, Private Sector Competitiveness and Good Governance. Strategies to achieve these objectives are, to a large extent, reflected in the 2007 Annual

Budget. For instance, the government increased the allocation of expenditure for health and education by 18 and 37% respectively between 2006 and 2007.

Macroeconomic performance in Ghana in 2007 was generally positive despite the challenges experienced, particularly with the soaring oil and food prices on the international market. The growth rate in real Gross Domestic Product (GDP) was 6.2 percent which exceeded the 2005 growth rate by 0.3 percent points, though it was lower than the growth rate that was recorded in 2006 by 0.2 percentage point. The end of period inflation rate was 12.8 percent in 2007. Though this was higher than the rate recorded in 2006 by 2.3 percent, it still indicated an improvement over the 2005 figure of 13.9 percent. The cedi depreciated slightly against the dollar by about 1.0 percent within the 2005-2007 periods.

Total external debt outstanding decreased sharply by 58.7 percent between 2005 and 2006 as a result of debt cancellation under the Multilateral Debt Relief Initiative (MDRI) by the International Monetary Fund (IMF), International Development Assistance (IDA) of the World Bank and African Development Bank (AfDB). However, the total external debt outstanding increased in 2007 by 29.3 percent.

Since 2005, official sources have often described Ghana's economy as robust and this description was used in 2008, despite the fuel price shock and the effects of the global financial crisis. The Gross Domestic Product (GDP) growth rate was initially reported at 6.2 percent and then later revised to 7.3 percent compared to 6.3 percent in 2007. The

figure is the highest recorded in decades (The State of the Ghanaian Economy, 2008). The growth rate looks remarkable, especially in the light of the global downturn at the time; it reflects mostly a general increase in government consumption spending and investment. It raises once again the fundamental question of the meaning of growth within the poor country context and its sustainability within a stable macroeconomic environment.

Ghana reported a growth rate of 0.3 percentage point above the targeted rate of 7.0 percent for 2008. The increase in the real GDP growth rate translated into a higher real per capita GDP growth rate of 4.8 percent which was based on a population growth rate of 2.5 percent in 2008, up from 4.0 percent in 2007. Between 2002 and 2008, the economy experienced average annual real per capita GDP growth of 3.5 percent (The State of the Ghanaian Economy, 2008). It was further indicated that the economy of Ghana can only double its current real per capita GDP of about USD\$450 in two decades at the current average real GDP growth rate.

3.2.5 Agriculture

Agriculture is the mainstay of the Ghanaian economy. It contributes more than one-third of the Gross Domestic Product (GDP), about 75 percent of export earnings, and provides the main livelihood for about 53 percent of the population (Ghana Economic Survey, 2007). The country covers an area of approximately 239 thousand square kilometers of which agricultural land forms about 57 percent of the total land area. Only about 20 percent of this agricultural land is under cultivation.

Agricultural activity in Ghana is influenced by agro ecological conditions which divide the country into six distinct zones, namely (i) the high rain forest, (ii) the semi-deciduous rain forest (iii) the forest-savannah transition, (iv) the Guinea savannah, (v) the Sudan savannah and (vi) the coastal savannah. The conditions of these ecological zones limit the types of crops that can be successfully cultivated in them. In general, tree crops do better in the forest zones while food crops do well in the transitional and savannah zones.

Crop production in Ghana is for three main purposes; namely, food production for consumption, raw materials for industry and production for export. The major staple food crops include cereals, mainly rice and maize; and starchy staples which include yams, cassava and plantain. Industrial raw materials include cotton, oil palm, tobacco, bast fibre. The main export crop of Ghana is cocoa for which Ghana was for a long time the leading world producer. It is the single crop commodity which has since 2001 contributed a significant part of productivity gains (The State of the Ghanaian Economy, 2008).

Ghana however, lost its place as the highest producer of cocoa, with its recorded share of world cocoa exports declining from 35 percent in 1961-5 to only 15 percent in 1981.

The traditional crop farming system still prevails in Ghana, particularly in food production where small-scale farming predominates. Under this system, land preparation is accomplished by slashing and burning the vegetation. The seed is obtained from the previous harvest. Several crops are intercropped in a haphazard fashion, perhaps to avoid risk of total crop failure, particularly on small scale subsistence farms. The field is

cultivated for a few seasons and abandoned for several years when yields are observed to be too low. The cultivation is shifted to a "new" land or previously abandoned field thus earning the name "shifting cultivation". The abandoned land regenerates the lost fertility through natural means.

Thus, the traditional farming system depends mainly on natural soil fertility and very little on chemical fertilizers. The system works better in regenerating soil fertility in the forest zones which have higher vegetative cover than in the savannah zones with lower vegetative cover. The longer the land is allowed to rest, the higher the level of fertility generated. However, due to increasing population pressure, the fallow period is being progressively shortened, resulting in lower crop yields where fertilizers are not used.

Over the years, a number of policies have been developed and implemented to ensure food security in the country with the latest being the Food and Agricultural Sector Development Policy (FASDEP II), which seeks to modernize the agricultural sector as a catalyst for rural transformation, in line with the goals set for the sector in the Growth and Poverty Reduction Strategy (GPRS II), and also the objective of the New Partnership for Africa's Development (NEPAD) and the Millennium Development Goals (MDGs).

The importance of agriculture in the economy of Ghana cannot be overemphasized. Agriculture contributes immensely to the Gross Domestic Product. During the first half of the 1980s, the sector's contribution averaged about 55 percent and declined to about 42 percent during the first half of the 1990s. The main reason for the decline in agriculture's

contribution to GDP is the increasing influence of the services sector in Ghana's economy. The sector's contribution to GDP saw an upsurge and remained at about 36 percent in 2005 and 2006 but declined to 34.3 percent in 2007.

The agricultural sector is a major source of government revenue, mainly through duties paid on exports of agricultural commodities, particularly cocoa. The contribution of agriculture to government revenue has, however, declined steadily from about 26 percent in 1987 to an average of about 20 percent in the first half of the 1990s. The decline has been a deliberate government strategy in order to boost cocoa production in the country through exchange rate devaluations which have the effect of raising prices in the domestic currency. Related to government revenue is agriculture's contribution to foreign exchange earnings of the country. Agriculture's contribution to foreign exchange earnings averaged about 30 percent during the second half of the 1980s and declined to about 26 percent during the first half of the 1990s. Foreign exchange earnings from agriculture grew from USD\$1,549 million in 2007 to USD\$1,999 million in 2008 which is 37 percent of Ghana's foreign exchange earnings. The contribution has traditionally come mainly from the export of cocoa and timber and non-traditional agriculture exports (The State of the Ghanaian Economy, 2008). Since 1986, the government has been promoting the export of non-traditional commodities of which agricultural commodities such as raw foodcrops, seafood and processed commodities, oil palm feature prominently. From 1986-89, the agricultural commodities in the non-traditional exports fetched the country an average of about 67 percent of the foreign exchange earned from this source. During

the first half of the 1990s, however, the average proportion declined to about 34.3 percent.

The agricultural sector has continued to offer job avenues to the highest proportion of the economically active population in the country as farmers, farm labour and other workers in agriculture related activities such as processing and marketing. However, as consistent with economic development everywhere in the world, the proportion of the economically active population in agriculture has been declining gradually over the years from over 60 percent in the 1970s to an estimated 47 percent in 1994. Economic transformation is often accompanied by structural changes in subsistence agriculture, which often leads to agricultural diversification and specialization. As economic development proceeds, the agricultural sector plays an important role of supplying the labour force needed by the other emerging sectors. The sector is also the main source of food for the large nonagricultural and mainly urban population and supplies the bulk of the raw materials needed for processing by the agro-based industries.

3.3 Poverty and Inequality in Ghana

The concept of poverty and definition of “the poor” vary in accordance with the perception and objective of those doing the defining. Recognition that defining poverty in traditional consumption and expenditure terms is insufficient on its own to address the needs of the poor themselves has led to the fusion of human and social welfare indicators in development indices and poverty alleviation programmes. Again the self-recognition

of poverty, gathered from the poor themselves, has become an increasingly central to sector and programme planning, with the recognised aim of including the voices of the poor not only in terms of identifying their needs, but in an interactive process of planning for development.

The Ghana Living Standards Survey (GLSS) defines poverty using an economic index, characterising the poor as those subsisting on a per capita income of less than two-thirds of the national average. The very hard core poverty is defined as income below one third of the mean.

The GLSS survey of 2005/06 showed that 40 percent of the rural households in Ghana are poor (Ghana Statistical Service, 2007). According to the GLSS, the majority of the poor are engaged in food crop cultivation as their main economic activity, in contrast to those engaged in private formal and public sector employment that are the wealthiest. Extreme poverty was found to concentrate in the rural savannah of the north and certain areas in the south, whereas the wealthier sector of the population is located in the large urban centres. The Ghana Statistical Service equally takes cognizance of the other dimensions of poverty, it indicated that, poverty is a multi-dimensional phenomenon and as such consumption based measures need to be supplemented by other welfare indicators like asset-based indicators, access to services indicator and human development indicators.

There have been attempts by others to broaden the definition of poverty in Ghana beyond income. Studies undertaken by Nkum and Ghartey Associates (2000) under the support of the National Development Planning Commission (NPDC) and the German Technical Co-operation (GTZ) identified key elements as defined by the poor themselves: inability to afford basic needs like food, shelter, cloth, health care and education; absence of economic indicators, job, labour, and crop farms, livestock, investment opportunities; inability to meet social requirement such as paying development levy, funeral dues, participating in public gatherings; absence of basic community services and infrastructure like health, education, water and sanitation, access to roads and others (Nkum and Ghartey 2000).

The above indicates the multi-dimensionality of poverty as clarified by the study in 2000 which reflects the broader work carried by the 'Voice of the Poor' exercise across several countries, where poverty or ill-being was identified as being complex and interwoven, including a material lack and need for shelter, assets, money and often characterised by hunger, pain, discomfort, exhaustion, social exclusion, vulnerability, powerlessness and low self-esteem (Narayan et al 2000:21). In the above context, and as reflected through other Ghana specific literature (Batse et al 1999; Nsiah-Gyabaah 1998), identified poverty as a composite of both personal and community life situation where on the personal level; poverty is reflected in an inability to gain access to basic community services. In the same vain qualitative assessment carried out by Nunan et al (2001) on poverty in the urban areas revealed that the poor are characterised both in terms of their occupation and their lack of assets and social services.

In another studies by (Appiah 1999; Nkum and Ghartey 2000), the perception of well-being and poverty in Ghana vary between rural and urban areas and between men, women and the youth. Whereas the rural poor identify issues such as food insecurity, inability to have children, disability and ownership of property, urban people on the other hand emphasis the lack of employment, the availability and adequacy of social services, skills training, capital and so on as being linked to poverty and well-being levels (Appiah 1999; Nkum and Ghartey 2000). In general the concerns of the men related to social status and employment, for women the general welfare of their children and family, and the youth for capital to invest or undertake economic activities

The self characterisation as identified above help to better understand poverty in details in Ghana, the breath of detail and situation specificity have lent weight to the view that measuring poverty in terms of income (as in the Ghana Living Standards Survey) provides an easier basis on which to get a total understanding of the number and location of the poor.

According to Brook and Davila (2000), despite the difficulties, it is postulated that the broader interpretation of poverty not only present a more accurate picture of who the poor are; defined in terms of income, consumption, dignity, autonomy, material, non material assets, gender and ethnic equality, freedom and security, rather such interpretations facilitate the analysis of the many causes of poverty, leading to more creative and effective solutions.

3.3.1 Poverty trends

According to the poverty data of Ghana (2007), there has been a general downward trend in poverty comparing the most recently living standard survey, 2007. Based on the upper poverty line of 3.7 million Ghanaian cedis (USD410), the incidence of poverty in Ghana reduced from 52 percent in 1991/92 to a little under 40 percent in 1998/99 and further decline to 29 percent in 2005/06. Despite this decline, the level of poverty is still high. Poverty in Ghana is predominantly a rural phenomenon, with about 40 percent of incidence in rural areas. The rural poor account for more than 86 percent of the poor which is higher than the 1998 figure of 83 percent (Ghana Statistical Service 2007). In terms of extreme poverty, that is the lower poverty line of 2.8 million Ghanaian cedis (USD310), defined as those whose standard of living is insufficient to meet their basic nutritional requirement even if they devote their entire consumption budget to food, the incidence fell from 37 percent in 1991/92 to 27 percent in 1998/99 then further to 18 percent in 2005/06. The decline in poverty incidence has led to the lowering of the absolute numbers of the poor from 7.9 million individual in 1991/92 to 7.2 million to 6.1 million individual in 2005/06 (Ghana Statistical Service 2007 :7).

It further suggested that, in line with the general decline of poverty in the country, the percentage of rural population living below the poverty level declined from about 64 percent in 1991/92 to about 50 percent in 1998/99 and has further declined to 39 in 2005/06.

These outcomes suggest the need to undertake poverty reduction policies in a well-focused manner and lend credence to the Ghana Poverty Reduction Strategy (GPRS) which has an agenda to reduce poverty from its current level of 29 percent to 20 percent as well as increase in GDP growth and reduce mortality rates amidst the improvement in other social amenities like education and economic infrastructure building as well.

There are also important patterns to poverty in Ghana, notably by geographical location, with almost all studies, methods and indicators showing substantial higher levels of deprivation in the northern savannah region compared to the south. For example, 42.2 percent of all household in Ghana in the lower income quintile in Ghana in 1998/99 are located in the rural savannah, yet this locality only accounts for 20.6 percent of the overall population (Ghana Statistical Service 2000). The indicators per 1998/99 also revealed quite a number of poor areas in the coastal areas as well, notably in the Central Region. There has been a change in trend per the 2007 survey; pattern of poverty recorded in GLSS (2007) revealed a sharp difference in poverty levels between geographical adjacent regions. Poverty incidence declined in all regions except Greater Accra and Upper West Regions. The poverty incidence in the Greater Accra Region was about 5 percent in 1998/99, after a decline from 26 percent in 1991/92. It however, increased significantly to over 11 percent in 2005/06. This is the direct results of migration from other poorer regions to Accra, the capital city of Ghana. The highest incidence of poverty for the survey period was Upper West from 84 percent in 1998/99 to about 88 percent in 2005/06. The observation is that poverty vary significantly by geographical area and that there has been a reduction in geographical adjacent regions

from 1998/99 numbers. The pattern of change in poverty between 1998/99 and 2005/06 also varies substantially by region, with the most significant reductions in poverty occurring in the Eastern and Central Regions, which were the regions with highest poverty incidence in the southern Ghana in 1998/99.

The poverty trends were also linked to occupational or economic activities in which households are engaged. In 2005/06 poverty was highest among food crop farmers. Moreover, their contribution to the national incidence of poverty was found to be greater than their population share, with almost 46 percent of those identified as poor from households whose main economic activity was food crop farming (Ghana Statistical Service 2007:14). It further indicated that given its large population share and high poverty rates, any further poverty reduction would have to benefit substantially the farmers, especially the ones not producing cocoa. Poverty rate fell among both wage employees in the public sector and the non-farm self employed. The public sector saw a reduction of 12 percentage points in 1998/99 and a further 15 percentage point reduction in 2005/06. There was a fall of 10 percentage point to 12 percentage point in 1998/99 and 2005/06 respectively for non-farm self employed. In 1998/99 food crop farmers experienced the least reduction in poverty by 8.7 percentage point relative to other groups. There was improvement in 2005/06 data source of 13.9 percentage points.

Poverty in Ghana has important gender dimensions, with most indicators showing that women face higher levels of deprivation compared to men, and levels of income poverty are high among households with higher dependency ratio. From the IFAD report (2001),

women are the worst affected in terms of poverty in Ghana with more than half of the women who are heads of the households in the rural areas are among the poorest 20 percent of the population. They are basically responsible for 50 to 60 percent of agricultural production. The women have less opportunity than men in terms of access to education or health benefits or have a voice of decisions affecting their lives. For the women, poverty means high numbers of infant death, undernourished families, lack of education and other deprivation. The Ghana Statistical Survey (2007), survey indicates an improvement in the poverty level of women from 43 percent in 1991/92 to 35 percent 1998/99 then a further decline to 19 percent in 2005/06.

The above analysis showed that the incidence of poverty measured in terms of consumption expenditure has declined by quite a large margin in Ghana between 1991 and 2006; however, this reduction has not been uniformly spread across the country. The decline in poverty since 1998/99 concentrated mostly in the Central, Western, Eastern, Upper East and Northern Regions; with Greater Accra and Upper West experiencing increases. Farmers in general, non-farm self employed and the public sector employees have the gains in their standard of living, while private sector employees and non-working households experienced the least gains. On the gender dimension, female-headed households enjoyed increasing lower poverty.

3.3.2 Household assets

Poverty is a multi-dimensional phenomenon and as such consumption based measures need to be supplemented by other welfare indicators like asset-based indicators, access to services indicator and human development indicators. Ghana poverty assessment however takes cognisance of the other dimension of poverty as indicated above.

The Ghana Statistical Service (2007), survey examined the poverty in terms of household ownership of durable goods which are alternative measure of poverty to the consumption based measure. One advantage of the asset-based indicators is the ease with which they can be measured compared to indicators based on consumption expenditure. The asset-based measure captures changes in household ownership of such assets that can be considered as an indicator of changing living standards of households. This measure depends on many factors outside the control of households, such as whether or not they have access to electricity and other location and cultural attributes that shape lifestyle but cannot be changed easily by households. The Ghana Statistical Survey (2007) revealed that the standard of living measured in the three surveys, 1991/92, 1998/99, 2005/06, periods is positively correlated with the ownership of the durable goods. The proportion of households owning most of the durable goods showed large increases between 1991/92 and 1998/99 and a further increase in 2005/06. The increases occurred in both urban and rural areas but observed to be higher for wealthier groups, with greater disparity among urban households. However, the level of ownership of these assets is much lower in the rural areas than among the urban households of a comparable standard

of living. It is evident from the analysis then that Ghana poverty trends recognise the importance of household asset owning in determining the poverty level of households.

3.3.3 Access to services

Access to basic essential services does not usually depend on individual households, but on public decision. For example, access to electricity, water and to some extent toilet facility depend on decision beyond households. From the fifteen year survey as highlighted in the 2007, GLSS, there was significant improvements over the fifteen year period (1991-2006) in the number of households obtaining their drinking water from a safe source, using adequate toilets facilities and having access to electricity. Increases in use of safe drinking water sources and access to electricity have been most pronounced in rural areas and for poorer urban households. This represents a significant reduction in urban-rural gap in access to safe drinking water as compared to situation that prevailed about fourteen years ago. These trends are consistent with government interventions which are focus mainly on improving access for rural areas while encouraging the need to ensure private partnerships in water provision for urban areas (Ghana Statistical Service 2007).

3.3.4 Human Development

Education and health status of the household individual are also indicators that are classified as 'basic needs' that should be seen as complementary to the consumption-based indicator.

3.3.5 Health

The health status of the people determines their quality of life, level of productivity and longevity (Natural Resource Institute 2000). The results from the Core Welfare Indicators Questionnaire Survey carried out across Ghana in 1997 identified, amongst the urban households, a linear increase in levels of handicapped persons from the non-poor to the poorest households with eight times more physically or mentally handicapped persons in the poorest households. Levels of sickness: malaria, diarrhoea, identified during the survey found that the majority came from the poorest quintiles especially the rural areas. There was equally a negative correlation between the levels of poverty and the accessibility to health facilities. The poor were found to have less access to health facilities. Urban areas were generally better off in this respect, with own-account agriculture workers constituting the highest percentage of those having to travel over 30 minutes to reach the nearest health facility. Apart from the physical access, rural own-account agriculture-sector were also found to be least likely to use medical services as a result of high cost than those engage in other employment sectors. From the studies lack of access to health service is differentiated by location, with majority of health facilities located in the urban areas and only 3 percent of rural households having access to a doctor in their communities and 50 percent of the rural population living in communities with modern health care facility (Botchie 1997). The situation changed in the 2007 survey; compared to the 1991/92 and 1998/99 survey, individuals consultation of doctors and pharmacist/chemical sellers when ill or injured have increased. The proportion of those ill or injured and did not consult any health practitioner has declined during the

survey. This pattern was observed in all income groups in both rural and urban areas (Ghana Statistical Service, 2007).

3.3.6 Education

Education formal, non-formal or vocational has been identified as determinant of well-being, with those who are better educated being able to secure formal sector and self-employment. Education on the other hand has been identified as important tool in providing people with the basic knowledge, skills and competencies to improve their quality of life at all levels of development. The lack of education is normally recognised by the poor themselves as a key cause of poverty (Kunfaa 1999). The lack of it has a negative effect in the form of causing unemployment, large family size, and lack of good management. In a survey conducted by the Ghana Statistical Service (1998), it was found that there was increasing literacy rate alongside decreasing poverty in both rural and urban areas. The rural literacy was found to be very low than the urban, with 63 percent of urban dwellers compared to 40 percent of the rural population. In a similar survey, the Ghana Statistical Service (2007), draws a link between school attendance and enrolment at two levels: primary and secondary levels of education on the premise that as school enrolment persistently and appreciably increases overtime, literacy rates and levels of educational attainment for the whole population are also likely to rise. The school attendance of children at the primary and secondary schools was examined in terms of net enrolment rate which are the proportion of those in the relevant age range attending school. From the survey enrolment rates in primary and secondary schools saw considerable improvement over the fifteen year period (1991-2006). It was observed that

more than four out of five Ghanaian children in the relevant age group are attending primary school. The Savannah areas are still having the lowest enrolment rate by large margin. The increases in net enrolment rates at secondary school level have been much bigger for girls than boys, but are still below those for boys. With the increases, it was identified that net enrolment rates at the secondary level are much lower than at the primary levels, especially at the rural areas.

3.4 Overview of Oil Palm Plantation Development in Ghana

3.4.1 The Evolution of the Oil Palm Plantation Ghana

Agriculture has become the main economic activity in the Sub-Sahara African Region. It contributes directly and indirectly to the economic development of the countries of the sub region in the form of employment and income generation, and is the one single activity which has used up a major part of the arable land area.

Plantation agriculture was introduced in the tropics in the sixteenth century when the Portuguese settled in the coastal parts of Brazil as a system of exploiting the hot humid environment and the native cheap labour force available and slaves and other contract labour for the purpose of producing tropical crops like sugar cane for export to the temperate countries like European market to feed the ever growing industries (Courtenay 1980).

The tropics at the time lacked any known mineral wealth and settlers were involved in the cultivation of sugar cane, which found ready market in Portugal. Slaves were sent in from Portugal's Atlantic island colonies, and during the sixteenth century Brazil was the world's major supplier of sugar (Courtenay 1980).

The plantations systems which were initially concentrated in the South America and the West Indies, spread to the Sub-Saharan African and other areas in the tropics with their mode of ownership evolving from paternalist resident planters, through absentee landlords and limited liability companies, to transnational or multinational corporations and national or state enterprises all with the objective of providing the needed raw material to feed the ever increasing industrial sector of the region.

Plantation system took the centre stage of the economies of Sub-Saharan Africa following the partitioning of Africa by the Europeans colonial powers in 1885. A clear example is seen in the industrial revolution of Belgian Congo currently Zaire where in 1911, Lever Brothers, a multinational company developed large hectareage of oil- palm plantation to serve as source of raw material for export. The emphasis on plantation development in the sub region lost momentum as a result of economic depression brought by the World War 11 in the 1945.

Plantation system took prominence in the sub- region after the war with the return of favourable investment atmosphere, with Lever Brothers playing a leading role in this development. The period saw Lever Brothers establishing plantations in Zarie, Cameroon, Ivory Coast, Liberia, Nigeria and Angola with the object of producing the needed raw materials; palm oil to feed their industrial set up in those countries producing

secondary products from the main primary product palm oil. The expansion of plantations continued through to the immediate two decades of post war 11. The plantation establishment gingered up during the post independent era, that is, 1960-1965, where most countries in the Sub Sahara Africa including Ghana had their independence. The reason for the vast expansion was the need for most of these newly independent counties to see economic development in their countries and as such saw the plantations as a very good impetus for any meaningful industrial development, with the involvement of the national governments of the newly independent states. Thereafter the expansion slackened, mainly because of a decline in external investments following the growing political instability and state control of the national economies and the attendant erosion of foreign investors' confidence in them (Courtenay 1965; Gourou 1965; Udo 1982; Dickenson et al. 1983; Dinham and Hines 1983; Hilfani and Barker 1984; Thomas 1984).

In Ghana, plantation agriculture was first introduced in Ghana by the Dutch in the late eighteenth and the nineteenth centuries in the south east coast of the country. (Dickson 1969). Oil Palm Plantations were set up in the hinterlands of Accra coast and the estuary of the Volta River. The main idea was to produce export crops to avoid the costly transportation of slaves from Africa to the West Indies, where they were used as plantation workers in the production of sugar cane, tobacco, and other subtropical and tropical crops for export to Europe (S.K. Dapaah 1994). This was facilitated by the abolition of the export slave trade and the general encouragement given to agriculture by the Europeans, aided by emergence of export agriculture product as the dominant economic activity in much of southern Ghana with much emphasis on oil palm.

The plantation development took an upsurge turn with the passage of the Oil Palm Ordinance in 1913 (Dickson 1969: 148), which attracted most Europeans, Germans and the British, to the country to establish plantations. This era saw much attention to export crop commodity, but with particular attention on palm oil as a foreign exchange earner for the country which for the first time in the century, displaced gold as the country's principal export earner at the time (Dickson 1969: 143). This encouraged peasant farmers to enter into the oil palm plantation as livelihood; the activities of these peasant farmers were coordinated into a central processing mills installed within the southern sector to process their produce into palm oil.

The plantation system failed to make significant impact on the economy especially oil palm which was the main stay of the economy. The oil palm plantations system suffered a dramatic down turn as a result of the following:

1. Drop in oil palm priced in the European market in the late nineteenth century,
2. The implementation of the Poll Tax Ordinance to tax all exportable commodities,
3. The insurgence of inter-tribal wars down south which dislocated most peasant farmers,
4. Rivalry amongst the European colonial masters seeking territorial hegemony, coupled with the negative attitude towards the plantations system by the British Crown which within the same period had gained upper hand in the European struggle to colonise Ghana (Howard, 1978).

The failure of the plantation system could further be attributed to the British colonial administration, who at the time of gaining administrative authority did not favour the plantations system for the underlying reasons: there was the fear of dispossessing the indigenous owners of their land rights since the establishment of large plantation set ups would require the acquisition of vast track of lands which might precipitate local opposition and disrupt their export production system. Another reason was the British had a conviction that the peasant farming system was more economically resilient than the large scale plantation systems. The peasant system was seen as inexpensive method of producing tropical export crop.

The ambivalence towards the plantation system was reinforced by a decision much latter against the system at a conference on the West African oil- palm industry in 1962 in Nigeria (Shepherd 1936; La- Anyane 1961; 1963, Usoro 1974; Udo 1982). The result was that plantation system did not make much impact on the economy during the colonial era in Ghana.

Plantation development took a different turn immediately after independence in 1957. The period of self government in Ghana coincided with the first time in recorded history that industrialisation began to be perceived as the most expedient way to bring about rapid structural changes, high rate of economic independence of the emerging countries. (Dapaah 1994). The above influenced a change in agricultural policy by the first president of the country that aimed at avoiding dependence on small scale peasant farmers. At the time Ghana welcomed aid and technical support from both private and government sources in the west, but with the philosophy of socialisation of agriculture

and industry (Dapaah 1994). The development emphasis was on the establishment of State Farms Corporation. This led to the establishment of many state owned plantations during the first republic which centred on oil palm and rubber plantations; the State Farms were established as a government-operated enterprise which used modern farming techniques with the object of producing food for the increasing population and raw materials for the developing industries and export. Unfortunately these state owned plantations could not stand the test of time owing to internal and external problems. Most of the farms were managed from a central point; no proper accounts were kept of expenditures and returns from these farms. In addition most farms were set up to satisfy political interests rather than the basic agronomic requirement of the crop.

The lack of the required financial support, political interference, mismanagement characterised by corrupt practices and lack of management commitment, and the rigidity of the centralised state control; these state-owned farms did not prove economically viable (Miracle and Seidman 1968). The result of such unfortunate practices was the worsening of the rural living conditions by dispossessing the peasant farmers of their fundamental natural resources, land, with little or no compensation (Gyasi 1990), and the deforestation and other forms of ecological and economic disturbance associated with the removal of the natural vegetation to make room for the monoculture plantations (Gyasi 1990).

To protect these assets, quite a number of such plantations were sold to private corporate bodies, whilst others were abandoned to their faith after felling of the tree crop at their

peak of fruition, leaving the bare vegetative cover exposed to the vagaries of the weather which majority have ended up as derived savannah in place of the original forest land. This era gave birth to the involvement of the private corporate sector in plantation agriculture in Ghana.

There was a policy change in 1972, when the military took over the government of the country and shifted its agricultural focus to large scale private investment in plantation agriculture. Recognising the economic and social benefits of traditional small scale farming, the policy incorporated contract farming to be an integral part of any agribusiness operation (Daddieh 1994:196). He further indicated that the government sponsored schemes called for the private sector to provide financial support and technical services to either smallholders or outgrower farmers as an integral part of the plantation development. These new plantation schemes to be developed under the policy was eventually supported with loans from international financial institutions. The development of large scale palm oil agribusiness in Ghana was however facilitated by a combination of the private sector, the state and international capital from development agencies, such as the European Development Bank, the World Bank and the African Development Bank (World Bank 1981; World Bank 1993). The first of such plantations to be established under the policy was the Ghana Oil Palm Development Corporation (GOPDC), near Kwea in the Eastern Region of Ghana. Three other additional oil palm plantations were also established during the 1970s: the Twifo Oil Palm Plantation (TOPP), located near Twifo Praso in the Central Region, the Benso Oil Palm Plantation (BOPP) near Benso in the Western Region and the National Oil Palm Plantation (NOPP)

in the Western Region. The establishment of these four plantations contributed in the expansion of Ghana's oil palm hectarage from 18,000 hectares in 1970 to 103,000 hectares by 1990 (Gyasi, 1996). The oil palm companies are to grow oil palms for producing crude palm oil (CPO) to feed the local industries as raw materials and again for local consumption and export.

3.5 Overview of Institutions selected for the study

3.5.1 Ghana Oil Palm Development Corporation (GOPDC)

This section will examine GOPDC, one the institutions selected for the study in detail in term of its activities before and after privatization.

The GOPDC operations in the Kwabibirim area of the Eastern region of Ghana, is a good case study of the development of the oil palm plantations systems and its variant outgrower and smallholder system. The project is on record to be the first large nucleus estate outgrower program in Ghana (World Bank 1994), it is therefore proper to be used as a benchmark for this study. Being first in the country after the policy change to market led, the selection of the project as base for the study helps to demonstrate the transformation process from the state-oriented form of agricultural development to the market-led where market forces play a leading role.

The nucleus of the industrial plantation is located at Kwae, near Kade, in the Eastern Region of Ghana within the Akyem Abuakwa traditional area. It has a total concession of 8,587 hectares. When outgrowers and smallholders are included the total area under oil palm is over 16,000 hectares. The plantation was formerly a state-owned corporation

which commenced operations in 1975 when it was launched with a 13.6 million dollar loan from the World Bank. The first phase of the project was completed in 1982 with a 3,500 hectare plantation, 1,000 hectare in total of smallholder farms and a 200 hectare area for outgrowers. This was complemented with an oil palm mill with a capacity of 15 tons of fresh fruit bunches (FFB) per hour.

The company was privatized in 1995, in line with the government divestiture programme, with Siat (Ghana) holding 80% of equity and the Government of Ghana 20%. Of the 80% Siat n.v. of Belgium holds 40.8%, Social Security and National Insurance Trust (SSNIT) 24% and the African Mutual Trust Fund 15.2%. The GOPDC now has two nuclei estates at Kwae and Okumaning about 25 km away, on land acquired from government through the Akyem Abuakwa Traditional Area. The new Okumaning estate commenced planting in June 2002. It is the intention of the company to invest USD\$6.2 million over the next ten years to provide infrastructure and equipment particularly for this second nucleus. The total crude palm oil storage capacity of GOPDC is 10,000 metric tonnes, half of this is at Kwae and the other 5000 metric tonnes is at Tema harbour.

Land under Oil Palm

Prior to divestiture, the core Kwae estate was about 4000 hectares with outgrowers having 9000 hectares under oil palm. As at the middle of 2003 the total planted area was about 18,750 hectares with 4750 hectares at the Kwae estate nucleus, 14,000 hectares cultivated by smallholders/Outgrowers. The land at the Kwae estate not planted with oil palm is used for many purposes such as, nursery 12.5 hectares, food crops 332 hectares,

forest 225 hectares, and fire-wood trees 50 hectares while 2791 hectares is classified as contested lands. The Kwae concession is 8000 hectares and the Okumaning concession is 5080 hectares in total area.

Smallholders and Outgrowers prior to divestiture each held 20 acres out of which 17.5 acres was cultivated with oil palm and 2.5 acres was left for food crops and the farmer's hamlet. Recently farm holdings were reduced to 10 acres with 7.5 acres for oil palm and 2.5 acres for food crops and a hamlet. Smallholders operate within GOPDCs concession while Outgrowers were on private land. For all purposes they are treated the same way as smallholders.

The main sources of funding for GOPDC are local banks. Local corporate taxes for GOPDC have been on average 17.5% since 1995, except for 2001 and 2002 when they were reduced to 16.25% per annum. The tax that has impinged negatively on GOPDC's profitability has been the Value Added Tax introduced in 1999. The company considers the tax as being discriminatory, since small enterprises engaged in the same industry do not charge their customers with Value Added Tax. Thus, GOPDC costs and poorer yields per hectare than those for Malaysia make their crude oil palm not as competitive as that from South East Asia.

Environmental Issues

From the company's perspective, the plantation has stabilized the forest ecosystem. The fibre and shells are used as fuel for the boilers. Used fruit bunches are applied to the fields, the effluent from the milling process is first centrifuged and then poured into ponds for fermentation to take place which is then applied (sludge) as a fertilizer on the plantation. The palm kernel cake for now is also applied to the fields. Since privatization, GOPDC has been consistently reducing the use of chemicals for the use of organic material such as leftover bunches after milling and the treated effluents and sludge from the effluent pond after the milling process (GOPDC News Letter, 2008). The tendency to go organic is mainly due to GOPDC's effort to increase market share in the European Union market. This market is increasingly becoming sensitive to the effects of chemicals on food. The GOPDC since 2002 has committed a percentage of their turnover to the Okyeman Environmental Fund which was established by the Akyem Abuakwa Traditional Council. In September 2002 the GOPDC received an award at the World Summit for Sustainable Development for its environmental awareness, organic farming practices and the practice of allowing pockets of untouched forest in parts of the concession area.

Other Issues

The estate provides many services for Outgrowers/Smallholders; these include the provision of farm inputs such as: seedlings; fertilizers; chemicals; access roads advice on

sound agronomic practices and fruit collection services. This is a way of maximising returns unencumbered by labour issues. It was reported that the production of fresh fruit bunches by out-growers was not cheaper than on the main plantation. The Outgrowers were apparently not satisfied with the prices they got from the plantation. In addition outgrowers generally were not trustworthy, and were prepared to sell their produce to third parties, other oil millers in competition with GOPDC for the FFB. This was considered to be a very severe problem by the plantation because of the services rendered to them. In particular the estates ensure that outgrowers are accessible by road. Some of these services have also been extended to surrounding communities, for instance, roads, boreholes for tapping underground water, electricity for the milling operation, basic schools and education facilities. The resulting effects have been an improvement of living. It appears that another very important issue for the estate is pilfering by people from neighbouring communities and the issue of tax and labour issues. The major destination for crude palm oil was Europe followed by neighbouring countries Togo, Burkina Faso and Mali, while for palm kernel oil these West African countries were more important. Since 1995 production of CPO has not fallen below 18,000 tonnes while that of palm kernel has risen to over 4,700 tonnes.

3.5.2 Twifo Oil Palm Plantations Limited/Benso Oil Palm Plantations Limited

(Unilever Ghana)

Twifo Oil Palm Plantations Ltd is a special agricultural project initiated by the government of Ghana in 1977 with a loan financing from the European Union (EU),

Commonwealth Development Corporation (CDC), FMO and the Netherlands government, with the object to develop oil palm plantation within the Twifo district of the Central Region of Ghana. The average rainfall pattern is 1,430 millimetres per annum with the wettest period about 228 millimetres in June and driest period of about 26 millimetres occurring in December

The nucleus of the industrial plantation is located at Twifo Ntafrewaso/Twifo Mampong areas of the Twifo Hemang Lower Denkyira District Assembly about 62 kilometres, north of Cape Coast and 212 kilometres from Accra. It has a total concession of 7,500 hectares. When outgrowers and smallholders are included the total area under oil palm is over 9,400 hectares.

The Smallholder project covers about 2,832 hectares and is funded by Central Region Development Corporation (CEREDEC) and the European Union (EU). This started in 1983 and is run by a separate unit in conjunction with TOPP, which also provides support services. The project provides alternative farming opportunities to farm families displaced by the acquisition of the land for TOPP Ltd project. The nucleus Estate currently has 3,381 hectares of mature oil palm which were planted between 1979 and 1980. The average yields of FFB per hectare of own estate is about 16 metric tons. This was complemented with an oil palm mill with a capacity of 20 tons of fresh fruit bunches (FFB) per hour constructed in 1987 and was further expanded to 30 tons per hour in 2002 and can handle 100,000 metric tons of FFB per annum.

The plantation was formerly a state-owned corporation which commenced operations in 1978 but was privatized in 1999, in line with the government divestiture programme,

with Unilever Ghana holding 40 percent of equity and the Government of Ghana 40.47 percent, PS Investments 15.53 percent with National Investment Bank, State Insurance Corporation and PZ Cussions holding the balance of the 4 percent. The total annual production of crude palm oil is about 20,000 metric tons and 5,000 metric tons palm kernel. TOPP Ltd processes fruit from own estate 51 percent, organized smallholder unit 12 percent and outside purchased fruit 37 percent. Outside fruits are purchased from small private farmers in the Central Region.

Benso Oil Palm Plantation Limited (BOPP LTD) commenced in 1976 as Joint Venture between United Africa Corporation International (U.A.C.I) and the Government of Ghana. The Ghana Government shares were divested to the public under the government divesture implementation programme in 2004 and the company got listed in the Ghana Stock Exchange with Unilever Ghana being the majority shareholder. The Estate is located at Adum Bansa which is 42 kilometres north of Takoradi and 267 kilometres from Accra. The average rainfall is 1,705 millimetres per annum with the wettest period about 269 millimetres in June and the driest period about 34 millimetres in January.

It has a total concession of 5,500 hectares. When outgrowers and smallholders are included the total area under oil palm is over 7,200 hectares.

The Smallholder project covers about 1,650 hectares and is funded with Government aid money through the Agence Francaise De Development (AFD) started in 1995. Each farmer is allocated a 4 hectare plot and money in the form of loan for inputs. The AFD is the financial operator whilst BOPP Ltd provides all extension services and grant money.

The scheme is in four phases, from 1995 to 1998. Farmers have been selected from the local communities.

The nucleus Estate currently has 3,866 hectares of mature oil palm which were planted between 1978 and 2006. The average yields of FFB per hectare of own estate is about 11 metric tons with the best areas yielding over 18 metric tons per hectare. This is complemented with an oil palm mill with a capacity of 20 tons of fresh fruit bunches (FFB) per hour constructed in 1981 and is capable of handling 110,500 metric tons of FFB per annum. The distribution of the total annual crop of FFB ranges from 5.3 percent in the trough month to 12.8 percent in the peak month. The total annual production of crude palm oil is about 17,500 metric tons and 4,500 metric tons palm kernel. The company processes fruit from small private farmers numbering more than 6,000 in the Western Region and Central Region.

Environmental Issues

From Unilever Ghana perspective, both TOPP Ltd and BOPP Ltd have stabilized the forest ecosystem. Just like GOPDC, fibre and shells are used as fuel for the boilers and used fruit bunches are applied to the fields, the effluent from the milling process is first centrifuged and then poured into ponds for fermentation to take place which is then applied as a fertilizer on the plantation. In terms of water management, the company has reacted proactively to the adverse climatic conditions the country is currently experiencing by embarking on the construction of moisture conservation pits and close

end trenches to harvest rainwater for the palms. Health, Safety and Environmental management is key to the long term survival of the company and as such maintains high standards of occupational health, safety and environmental protection at the work in order to prevent personal injury or illness, property damage, fires, security laps and environmental pollution. To this end the management of the company has enshrined a policy statement on health, safety and environment which has equal status with all other primary objectives in the company mission statement. Management key responsibilities under the policy are to:

1. Promote employee training awareness in safety/health and environmental issues.
2. Provide suitable protective equipment to its employees.
3. Provide adequate fire fighting/preventive equipment and training.
4. Apply consultative procedures to facilitate the active involvement and commitment of all employees to fulfill their roles and responsibility under the policy.
5. Provide adequate health delivery systems.

Other Issues

BOPP Ltd provides employment to about 328 permanent workers within its catchments area. The Estate contractors employ some 400 workers. About 436 farmers and 1600 dependants benefit from the Smallholder scheme. In effect over 5,700 persons in the community depend directly on BOPP for regular source of income (BOPP Ltd Journal, 2010). Similarly TOPP Ltd employs about 355 employees with about 1,500 immediate dependants. Third party contractors employ some 1,000 workers. The Smallholder

scheme engages 1,016 farmers who have about 4,100 dependants. In effect over 9,000 persons in the community depend on TOPP for their livelihood.

Regarding the operation of the Smallholder scheme for both companies, it is similar to that already discussed under that of the GOPDC. Thus in sum, the Estate provides many services for Outgrowers/Smallholders which include the provision of farm inputs such as: seedlings; fertilizers; chemicals; access roads, advice on sound agronomic practices and fruit collection services. The farmers are in turn under contractual obligation to supply all FFB from their farms to the nucleus estate in return for these services at a price fixed by the company.

3.6 Challenges militating against the development of Outgrower Oil Palm in Ghana

This section of will review in detail the constraints facing the outgrower oil palm development in Ghana to help in providing answer to the research question: what are the constraint facing the development of the outgrower oil palm development?

High cost of Input: Inputs in the form of fertiliser, harvesting knives, chemicals for spraying and others are not produced locally but imported from foreign countries. The fast depreciation of the cedi, the local currency, to the dollar coupled with high levels of inflations in Ghana naturally makes the imported cost of these inputs high to the company and for that matter the farmer. The end result is that inputs that are credited to the farmers in the form of loans tend to worsen their plight and erode their profits (GOPDC Journal, 2007). This, it was suggested could be addressed only if the government subsidies for

these inputs especially fertilisers for the farmers since the companies cannot have the capacity to absorb the added cost from the macro economic shocks.

Another identifiable constraint is the aging farmers. Most of the schemes have been in existence for over twenty five years. The allocation of the farm lands at the time was made out to the old family heads whose lands were affected by the existence of the projects, to the neglect of the young people in the community. Again the youth at the time were not interested in farming thinking that farming was the preserve of the old. After twenty five years of existence of the schemes, most of the farmers are so old and cannot maintain the farms themselves and as such have to rely on external labour at a cost to the farmer. This tends to increase their operational or maintenance cost and their incomes as well. To address this issue it was suggested that farmers can work in communal basis by allowing other family members to help maintain the farms (Outgrower Manager, GOPDC)

Land for expansion of the project; land dispute has also been identified as a constraint facing the companies as well which tends to limit their expansion plans.

In much of the literature on land in Africa, land is viewed as a sacred commodity, which is tied up with people's communal identity. Land is seen as communal property administered by chiefs on behalf of the whole community, including the interests of ancestors and of the unborn. The situation has resulted in fragmentation of the land amongst family heads in the society who are custodians of these lands for the entire clan.

The acquisition of land for any expansion programme would mean going through due legal process to ensure 'clean acquisition'. The acquisition process has always been met with litigation amongst family members as the true ownership of the land.

The common forms of land conflicts in the study area are 'indeterminate boundary' and 'double allocation' of plots. Indeterminate boundary deals with uncertainty of the boundary between neighbours. Double allocation is where the same land is allocated to two or more persons. Whatever forms the conflict, it is the responsibility of the customary tenure institutions to exercise their judicial role through the conflict resolution mechanism to determine the true ownership. Majority of such land disputes normally end up in the country's judicial court system. The undue delay which is characteristic of such judicial process tends to delay or sometime deprive the company of needed land for expansion.

A critical case in point was identified at the Twifo Oil Palm Plantation Ltd where acquisition of about 1000 hectare of land at Buabeng about fifty kilometres north of the nucleus plantation to develop 1000 hectares under their smallholder scheme for the benefit of the indigenous farmers had to be delayed for more than five years due to protracted disputes as the ownership of the land amongst two chiefs (Estate Manager TOPP Ltd).

The proliferation of telecommunication service providers into the Ghanaian economy poses a big treat to the survival of the oil palm industry. There is keen competition for needed skilled labour with the telecommunication sector and the mining sector as well.

The ability of the mining and the telecom sectors to pay high salaries and other lucrative benefits to both the skilled and the unskilled labour results in the oil palm sector losing out potential staff to these sectors. This result in high turnover of labour from the oil palm sector which is incapable of paying high salaries, a situation which was not the case in the early 1980's when the oil palm sector took a centre stage in the Ghanaian economy.

The price of the Crude Palm Oil has witnessed high price fluctuations on the international market for the past decade. The price trend as quoted in the international commodity market for CPO from 2006 to date is as stated (USD\$473, \$754, \$965, \$661, June 2010, \$700) (Palm Oil Professional, 2010). The situation has a negative impact on turnover and the profitability of the oil palm industry in the country. This is further exacerbated by the fast depreciation of the local currency, the cedi to the dollar which averages about 40 percent fall from 1999 to 2009 (2010 National Budget). This result in increased operational cost of the oil palm sector and tend to limit any planned expansion programme.

Another internal problem which affects the programme viability is diversion of FFB by farmers when the time comes for farmers' loan repayment. The company has a stable price fixed for the FFB through out the year for the farmers. During the lean season there tends to be competition from the parallel market for the price of FFB. The parallel market always increase their prices above the corporate prices which influence the farmers to divert their farm produce, though illegal, to the parallel market especially when farmer

are in their loan repayment period. The company normally checks the situation by intensifying their internal security to avert any attempted diversion of FFB.

3.7 Conclusion

The section has reviewed in detail an overview discussion of background information of Ghana highlighting on the location, population and the general overview of the economy and agricultural performance of Ghana. The section then reviewed the poverty and inequality in Ghana, emphasising the poverty trend and other indicators like household assets, access to services and human development in addressing the multi facet definition of poverty. It has again given an indepth review of the evolution of oil palm plantation development in Ghana and it variant outgrower/smallholder system and the challenges facing the development of oil palm plantation system in Ghana. The section then concluded with detailed review of working mechanism of the two institutions selected for the study, that is, GOPDC and TOPP LTD/BOPP LTD.

Chapter Four: Methodology and Data Collection

4.1 Scientific Ideals

While conducting research, researchers have to keep in mind what research philosophy they are using. The research philosophy is also called scientific ideal, which has influence over the study's methodology. Resulting from this, the researcher will show to the reader what ideal have been followed according to the researcher's view and which ideal suits the study best. There are two foremost scientific ideals: interpretivism and positivism. These ideals are the opposite of one another. According to Saunders et al (2007), there are three views about the research process which dominate the literature: Positivism, Interpretivism, and Realism.

Positivism ideals deal with objectivity, which points towards properties of the social world that should not be inferred subjectively but measured through objective methods. The positivistic ideal tries to reproduce the reality in as much objective way as possible. If the research philosophy reflects the philosophy of positivism then the researcher will probably accept the philosophical attitude of the natural scientist. The researcher will prefer working with an observable social reality and that the end product of such research can be law-like generalizations similar to those produced by the physical and natural scientists (Remenyi et al, 1998). The aim of the positivistic scientific ideal is to try to find cause-effect-relation. To be able to simplify is an important goal. The researcher observes

the reality and collects the facts. This makes it possible to see patterns and regularities in the reality and therefore can lead to general conclusions.

On the other hand, Interpretivism is an epistemology that advocates the necessity for the researcher to understand differences between humans, in the role as a social actor. This emphasizes the difference between conducting research among people rather than objects such as trucks and computers (Saunders et al, 2007). Interpretivism views the world and human beings in different ways than just how one can observe, but the fact is that they are not being observed objectively but subjectively (Remenyi et al, 1998). There is a link between observations and interpretations. The subjectivity that is being observed will influence the outcome of the research. Interpretivism can therefore be defined as: “a theoretical point of view that advocates the study of direct experience taken at face value, and one who sees behavior as determined by the phenomena of experience rather than by external, objective and physically describe reality” (Cohen and Manion (1987) cited by Remenyi et al, (1998:34). Another philosophy, called Realism is an epistemological position, which relates to scientific enquiry. The essence of realism is that, what the senses show us as reality is the truth, meaning that objects have an existence independent of the human mind. The theory of realism is that there is a reality quite independent of the human mind.

From the above discussions, the writer stands between the Positivist and Interpretivist researchers. The main goal of the researcher is not only to find out the mechanism of outgrower oil palm, but also to find out how this mechanism helps poor people overcome

poverty improve their living standards and help them to build the required assets. Therefore, in this sense, the researcher is not only working on the subject, but also the object. As a result the researcher considers himself neither Positivist nor Interpretivist researcher, the writer is between these two kinds of research philosophies.

4.2 Scientific Approach

There are usually two approaches used in conducting a scientific research. One is deductive approach and another is inductive approach. All scientific theories involve both induction and deduction and they sometimes differ in the degree to which they emphasize one over the other (Graziano et al, 2004). A researcher examines and then authentically records what is observed, without any prejudice. Some of these statements of inspections are established as true and serve as the basis for theories and laws. In order to establish what is true or false, and to draw conclusions, two ways are applied which are; induction and deduction. The basis of induction is empirical evidence, while that of deduction is logic. If the deductive approach is used, the researchers generate hypothesis from theory. After that, they use empirical research and data collection to test the hypothesis. In a deductive approach, conclusions come from the evidences. The conclusions are true when the evidences are right and reliable. Graziano et al (2004) mentioned that the deductive approach emphasizes on deductions from constructs. The deductions are started as hypotheses and then empirically tested for the research. Deductive approach is commonly used when a positivistic ideal is taken. Here the researcher uses the theory to make the assumptions from the objective point of view.

In an inductive approach, researchers start working with empirical observations. Based on these, the researchers make hypotheses that are used to develop new theories and later these new theories are added to the established ones. Inductive approach emphasizes on induction and stays very close to the empirical data. So an inductive approach focuses on developing new theories, which are then used to elaborate general statements, coming from empirical observations.

Creswell (1994) has suggested number of practical criteria to distinguish between the deductive and the inductive approach. Perhaps the most significant of these criteria, is the nature of the topic of research. That is, a topic on which there is a wealth of literature from which one can define a theoretical framework, and a hypothesis lends itself more readily to deduction. When the topic of research is new, there exists much debate, or on which there is little literature available, it may be more appropriate to work inductively by producing data, analyzing and reflecting on what theoretical themes the data points to. The intention of this research is not to build a new theory, but to investigate the research questions based on empirical research and primary data. Furthermore, in this thesis, the writer will generate hypotheses from theories and then will use empirical research and primary data to test the hypotheses. When conclusions are drawn, the writer will also apply his logic. Therefore based on research question and scientific ideal, the researcher chooses to follow the deductive approach.

4.3 Data Collection

This section examines the methodology used to obtain and analyse data on the impact of the schemes on the livelihood of the poor farmers. The section presents justification for field work in Ghana, secondary and primary data collection, questionnaire design, pre-testing of questionnaire and the main steps of data collection.

Several researchers (Simeh and Tengku, 2000; Mudiyo et al., 1992; Potter and Lee, 1998; Bunyamin et al., 1990; Nawir and Santoso, 2005) on impact assessment of the smallholder oil palm scheme and the outgrower schemes in general support the use of qualitative research methods. Data were collected using the interview based approach which were semi structured interviews and focus group discussions. On the contrary few researchers have used both qualitative and quantitative methods (Warner and Bauer, 2002; Sawit Watch, 2002; Tyynela et al., 2002; Cairns, 2000), thus combining the survey based questionnaire and the semi structured interview base for data collection. Data collected from the survey and the interview process were analysed by comparing the income levels of the farmers in the schemes and those farmers outside the scheme to draw conclusions on the schemes viability as poverty intervention tool (Mudiyo et al., 1992; Bunyamin et al., 1990) In spite of the fact that many researchers on impact assessment have used qualitative methods extensively, with only few using both qualitative and quantitative in one study, the methodology for this study have been designed to comprise the research approach necessary to get information required to achieve the research purpose and objectives.

In reference to the research questions and the purpose of this study, the study employed qualitative and quantitative research. The quantitative method was based on questionnaire-based survey and was backed by personal interviews which were semi-structured and conversational. The questionnaire was administered through a face-to-face interview, where the researcher asked the question in the presence of the respondents, in addition to completing the questionnaire. The use of the face-face interview is seen to be cost effective and convenient in a country like Ghana where the communication systems are not reliable or allow the use of telephone interview or the mailing system. The process of data collection was cross sectional. The main objective of the use of the quantitative method was to help establish the associations between the identifiable variables which are necessary for the assets build up of participating farmers of the scheme and that of the non-participating farmers. The quantitative methods also contributed to determine whether the predictive generalisation of the theory that the corporate-community outgrower oil palm schemes reduce poverty is true in the case of Ghana. This was made possible since the questionnaire based survey was targeted at many respondents and permitted generalisation of results as against the interview based approach for the qualitative which are always directed to few respondents and results cannot be generalised as such. The approach facilitated in testing the impact of the schemes on the treatment group that is farmer participating in the scheme and the control group, the non-participant. With this classification it was possible to assess whether it is the treatment and not the characteristics of the individual farmers in the group that influence the outcome. The sample size for this was 150.

The qualitative method was interview based and was semi-structured. This was conversational. The application of the method helped to capture emerging issues not anticipated by the researcher and also not included in the questionnaire. The use of the qualitative interview based method helped to investigate the farmers perception on the impact of the smallholder oil palm schemes on their livelihood by providing a more detailed view of how the schemes have contributed in the building of their asset base and what problems they are encountering as constraints; and to explore the variables in terms of outcomes and what the farmers are getting from the scheme like inputs such as loans, fertilisers, chemicals, expert advice and the extent of social and cultural impact. The method was also applied on the other respondents who are not members of the scheme and have been classified as Key Informants by the researcher as defined below (4.7.3) to know their detail opinion on the impact of the schemes on the community as a whole. The technique used as indicated above was semi-structured and was a face-to-face interview. The samples did not represent large population, but small purposeful samples representing rich information cases.

The reason for arguing the case of triangulation in outgrower oil palm research is that, the researcher is of the view that, the use of one method will only allow for a partial understanding of such a complex, multi-dimensional concept of the scheme's operation. To achieve a broader and more in depth understanding of the scheme's operation and their potential to build assets for farmers and reduce poverty; and at the same time make use of the complimentary attributes of triangulation in conquering some of the problems

arising in the use of one method, the researcher then approached the research questions from a mixed method perspective. In essence triangulation in outgrower oil palm research would provide a rich understanding of the complex phenomenon. This is because as stated by Greene et al., (1998), there are five possible purposes for using triangulation (1) triangulation seeks convergence in the classic sense of the word; (2) complementarily in the sense that they can be employed to measure overlapping but different facets of a phenomenon (3) development in which the first method is used to help inform the development of the second (4) initiation in which paradox and fresh perspective emerge rather than amount to a planned intent (5) expansion in which a study can expand scope and breadth by including multiple components. Another justification for employing triangulation in this study can be summarized along side the importance of mixed methods to include-the provision of insights to the study that one method could not provide alone; the neutralization of personal bias (Jick, 1979 in Creswell, 1994); enhancing the validity of the study (Greene et al, 1988) and the cancellation of method effect (Saunders et al, 2000).

4.3.1 Secondary Data

The research made use of both primary and secondary data. The secondary data aimed at identifying the poverty profile in Ghana as a whole and the poverty of the regional and the district levels and previous works on impact of oil palm schemes by private companies on poverty reduction.

This information was obtained mainly through the review of relevant literature and analysis of reports of organisations involved in intervention programs for poverty alleviation in Ghana. These organisations include USAID, UNDP, the World Bank, NGOs, Ministry of Agriculture and the various agencies of the government of Ghana charged with the implementation of the various poverty reduction programs in the past and the present time. Also fundamental in this respect will be institutions where reliable data could be collected such as the Ghana Statistical Service (GSS).

Although the result of the research is highly dependent on the primary sources that have been gathered from the structured interview, it also required some secondary sources to understand the concepts, definitions, theories and empirical results. As a result secondary data have been used through a desk review of relevant project files of the corporate organisations involved in the oil palm outgrower schemes such as Unilever Ghana Limited, (Benso Oil Palm Plantations Limited, Twifo Oil Palm Plantations Limited), Ghana Oil Palm Development Corporation. This focused on the review of agreement and negotiations leading to the implementation of the programme and the terms and conditions for the division of the benefits, farmers' financial records, farmers Fresh Fruit Bunches (FFB) delivery statistics and audited accounts for the past five years.

4.3.2 Primary Data

Quantitative Process

The primary data collection was collected through questionnaire-based survey as a principal survey method backed by semi-structured interviews with participants and non-participants in the study area. For the survey, structured questionnaire was prepared and administered to three main groups: farmers who are beneficiaries of the scheme who are referred to as the treatment group; independent oil palm growers and non- oil palm growers both of whom are referred to as the control group. In all about 150 individual respondents participated in the survey.

As indicated in (Sampling Selection Process below) in all cases the sample selection was based on stratified random sampling for the participants and random sampling method for the non-participants. Questions directed to the farmers provided the needed information on the extent to which the programs have helped them build up the required assets to improve their living standard and improving on their poverty levels. The questions therefore addressed the research questions on how the schemes increase the asset base of the farmers, by the building of the required assets.

The Qualitative Process

The interviews process followed a semi-structured interview approach and was conversational. The interviews was targeted at the ‘Key Informants’ as defined (Reference Section: 4.7.3 below) to find responses for issues that were not easily

addressed through the questionnaire based interviews, like company profile, social and culture factors and management of the smallholder schemes (Contract binding the scheme, provision of credit, contract default rate, selection of farmers, production methods). Responses for these were derived from the company officials. In addition, the impact of the scheme on the community in general was also assessed through the interview based approach on some identifiable respondents defined as Key Informants within the communities. This addressed the research question of how the schemes benefit the community as a whole, by addressing the following issues:

(i)The extent, to which the company support community projects like, provision of schools, bore holes, clinic, provision of feeder roads and scholarship scheme for students in community.

(ii)The extent to which the company provide employment to the community and other spin-off employment like, transport contractors, contract weeders, and loose fruits pickers and chain saw operators.

(iii)The extent to which the company's location in the community has influenced the community socially and economically

Owing to the problems with the questionnaire based survey which does not allow respondents to delve much into issues being addressed, semi-structured interview approach was applied on some selected groups of participants and the non-participants of the scheme to address issues like how, and why. This helped the researcher in getting a detailed view of how the schemes have contributed in the building of their asset base as discussed above (Physical, Human and Financial Capitals) and the challenges confronting them. These problems included: land ownership, access to capital; access to more reliable

information on price and pricing policy, markets opportunities, food security and farmers loan default. The responses for these helped to provide answers to how these problems are preventing farmers from turning their lands into the schemes.

This helped to explore the variables in terms of outcomes (financial, physical, and human capitals) and what the farmers are getting for the scheme like inputs in the form of fertilisers, chemicals for spraying, loans and expert advice and others relevant inputs that can collectively be called the working capital of the farmers. The regularity of supply and why there are sometime delays on the supply were determined from the responses. The relevant responses were quoted in verbatim to support the findings.

The data was recorded using the dicta phone during the in-dept face-to-face interview. Where a respondent finds it difficult to go through a question the researcher and the research assistance employed the local language to explain every question in detail. This is because of the high illiteracy rate among the farmers and the community as a whole. Results were then translated into English to enhance the data in put.

4.4 Justification for fieldwork and data collection

The need for field work and data collection is occasioned by the nature of the research work which requires empirical evidence to ascertain the extent of the impact of the outgrower oil palm schemes on the farmers' livelihoods in terms of poverty reduction. The lack of published data in Ghana on primary data collection to find answers to the

research questions and test the hypotheses, called for fieldwork by the researcher to secure first hand information from the respondents identified in the study which are devoid of any doubtful errors and very essential for the analysis. In other words there is no published data on the beneficiary farmers participating in the schemes and how effective the schemes have been supporting them to build up their assets.

To be able to answer the research questions, the researcher had to secure primary data on farmers' asset build-up capacity as a result of participating in the joint schemes, data on how the schemes impacting the community in general and the general constraints facing the development of the scheme from the farmers' perspective and the companies' perspective and the community as a whole. Data was collected and analysed by the researcher to provide evidence to show the poverty levels of participants of the schemes compared to non-participants and also show evidence of how participating farmers have benefited in terms of building their asset base and the impact of the schemes on the community.

4.5 Questionnaire design

The questionnaire for the survey was designed in two parts: the first was a household living standard survey designed to compare the poverty levels of the participants in the scheme and that of the non-participants within the area of the scheme. The questionnaire as indicated was based on the one designed by Henry et al., (2003) of International Food Policy Research Institute (IFPRI) for the Consultative Group to Assist the Poor (CGAP),

this was adapted and localized to suit the operational area of the scheme. The main variables that were examined for the study were family structure, food security and living conditions, possession of assets both tangible and intangible. Structured questions and some dichotomous questions were asked to collect information from respondents. The same context of questions was given to all interviewees and they received exactly the same interview stimulus. Questions were very specific with a fixed range of answers. The structured questionnaire had multiple-choice of questions in which the researcher provided a choice of answers and respondents were asked to select one or more of the alternatives, and dichotomous questions that had only two response alternatives, yes or no.

The second part of the survey questionnaire dealt with the issue of impact assessment of the farmers who participate in the scheme and how the scheme is helping them build up capital assets like, financial capital (rural credit, savings, revenue from farm, operational cost), human capital (health, education and technology transfer) and physical capital (household durables). These variables were derived based on the research questions and the analytical framework identified for the study. The questions for these were equally specific; respondents were asked to indicate the number of capital acquisitions from their farming venture. The questions were amended based on the outcome of the piloting testing exercise on the field which was conducted before the main survey. From this questions that tend to be irrelevant for the occasion were deleted and those difficult to appreciate or comprehend by the respondents were modified as well. The survey

interviews were structured questionnaire from which responses to pre-coded questions were recorded and subjected to statistical analysis.

There was also interview guide used for the semi-structured interview process which was used to interview respondents identified as Key Informants to assess their opinion on the schemes. The technique was also applied on selected groups of participants and non-participants to obtain their detail view about key issues like problems with scheme, and the benefits from the schemes in general. These permitted triangulation and clarify the findings from the survey. They were tape-recorded for subsequent transcription and qualitative analysis.

4.6 Pre-Testing of Questionnaire

The questionnaire was pre-tested in the study area. The intention of the pre-testing exercise was to help the researcher to understand the meaning of the questions to the respondents, and how they arrive at their response. It also afforded the researcher the chance to determine the time taken to complete a questionnaire, the cost of questionnaire administration, relevant and irrelevant questions and finally whether very important questions have not been left out (Remenyi et al., 1998). In this study the pre-testing was carried out by conducting test interviews in selected group of household, after which identified problem areas were discussed and necessary changes effected before the main survey was carried out. This exercise was carried out with the assistance of the research assistants recruited for the purpose.

4.7 Sample selection process

The selection of the farmers for the survey and the interview process was carried out at the study area selected for the study. These are Ghana Oil Palm Development Corporation (GOPDC) and Unilever Ghana (UG), which are located in the Eastern and Western Regions of Ghana respectively. Both companies are involved in the development of oil palm plantation in Ghana based on the smallholder/outgrower concept. GOPDC for example has a total plantation of 18,000 hectares out of which 14000 hectares is operated through the smallholder/outgrower scheme involving about 7000 farmers; this makes it one of the biggest in the West African Sub-region (GOPDC House Journal, 2006). Unilever on the other hand has a total of over 14,000 hectares estate nucleus and about 5,500 hectares cultivated under the smallholder scheme (Unilever Ghana, Annual Report, 2005: 5). The selection of these two institutions for the study is therefore deemed appropriate by the researcher to address the research questions and the overall objective of the study.

Four groups were identified for the sample selection process for the study. These are: 1. Participating farmers of the scheme, 2. Independent oil palm growers, 3. Non-oil palm growers, 4. 'Key Informants' within the operational area. The Key Informants have been defined by the researcher to comprise of: the company, opinion leaders of the community, government officials of the District Assembly, financial institutions connected with the program and ordinary residents within the project area who are not smallholders. The participating farmers and the non-participants formed three sample

groups and 150 farmers were selected as respondents for the survey questionnaire. These are made up of 50 participants of the scheme and 50 each from the two groups of non-participants identified (independent oil palm growers and non oil palm growers). These formed the basis for the questionnaire-based survey. The selection of the 'Key Informants' was based on 20 respondents that formed the basis for the interview process; however, notwithstanding interviews were conducted on selected group, 3 respondents each, from the first, second and third group as above to supplement the survey by seeking their broader opinion on the scheme.

4.7.1 Selection of Farmers participating in the Scheme

The selection of farmers participating in the scheme for the study was based on stratified random sampling technique. According to Robson (2005:262), stratified random sampling involves dividing the population into a number of groups or strata, where members of a group share a particular characteristic. The choice of the technique is guided by the fact that the outgrower oil palm scheme farmers have different characteristics in terms of year of planting which is linked as well to the year of entry into the scheme and the fruit yield. The selection was based on the list of participating farmers with the company which constituted the sample frame from which the population was selected. This list has information on farmers' year of entry into the program and the fruit yield as well. The premise for arguing the case of stratified random sampling based on the farmers year of entry and fruit yield is to enable the population to be more representative which in turn will improve the accuracy of estimation and make the

variables relevant for the occasion (Saunders et al., 2000). At TOPP Ltd, the years of planting and entry used were: 1996, 1997, 1998, 1999 and 2000. Five (5) farmers were then randomly selected from each year of planting to give a total of 25 respondents for the participants of the scheme. The same method was applied to GOPDC with 1989, 1999, 2000, 2001 and 2002 as basis for the stratification and subsequent selection. This also provided 25 respondents for the participant. In sum both TOPP Ltd and GOPDC together provided 50 respondents for the participants.

4.7.2 Selection of non-participants

The non-participants constituted two main groups who together are classified as the control group. These are Oil Palm growers who are not in the scheme (independent oil palm growers) and farmers who are not growers of oil palm within the community.

In all cases the selection of the non-participants of the scheme was based on random sampling. This involved the selection at random from the sample frame of the required number of persons for the sample (Saunders et al., 2007). The list of farmers placed on the waiting list of the company was used as the sample frame for the selection for the oil palm growers who are not in the scheme but sell their produce to the company and waiting to join the scheme. The selection of the second group of the non-participants that is the non oil palm growers was based on the farmers groups in the community such as maize growers, ginger growers, cassava, and plantain growers association within the community with much emphasis on maize growers since this was identified as the main

source of livelihood next to oil palm within the communities. However, due to the problem of getting a list of these farmers from which a sample can be selected, a random walk technique was employed to select the 50 respondents on equal proportion from the group. In all situations, that is participants' selection and non-participants selection, a second list of respondents was made out from which drop outs were replaced to ensure that the number of respondents selected was covered in the survey.

4.7.3 Selection of 'Key Informants'

The 'Key Informants' as defined by the researcher comprise of: (the company, opinion leaders of the community, government officials of the District Assembly, financial institutions connected with the program and ordinary residents within the project area). The selection of Key Informants was based on purposive sampling. The technique allowed the researcher to use his judgement to select cases that best enable the researcher to answer his research question and to meet the research objective (Robson, 2005). The main objective of interviewing this group was to gain responses from people outside the scheme to help in assessing the impact of the scheme on the community in general and also gain management's views on the schemes operation and the problems being encountered.

4.8 Recruitment and training of research assistance

To help in the administration of the questionnaire, three research assistants from the University of Cape Coast, who have rich experience in interviewing and data collection and do understand the local language of the study area were hired and trained to assist in the data collection for the study. The training section covered a period of three days and included one day for the pre-testing exercise. The training covered the background, purpose and methodology of the survey; the content of the questionnaire, standardise translation of questionnaire into local language, practicing of interviewing in local language and the pre-testing of the questionnaire.

Chapter Five- Data Analysis

5.1 Introduction

This chapter provides the empirical findings gleaned from the collection of the data. Using the final set of indicators and the data collected, the scheme participants and non-participants were analysed to assess evidence for differences in respondents' poverty levels and the assets build up of both groups to assess the schemes impact on the participants' livelihood as against the non-participants. The analysis provides demographic information of the respondents and the statistical analysis of the information collected from them. As indicated in Chapter 4 (4.3.2), the analysis was based on three main groups who constitute the total respondents. Farmers who are beneficiaries or participants of the scheme and referred to as the treatment group constitute Group1. The independent oil palm growers who grow oil palm on their private land and sell their Fresh Fruits Bunches (FFB) to the companies constitute Group 2 and finally, the maize growers who are non-oil palm growers form Group 3. Both Group 2 and 3 are referred to as the control group or the non participants of the scheme.

5.2 Demographic information of the respondents

Table 1 provides the information about the gender distribution of the respondents. It shows that 48 percent of the respondents were male and whereas 52 percent were female. The great numbers of the respondents were female that testify to the fact that most of the beneficiaries of the scheme are female because the selection of respondents were made randomly without any bias towards the gender. Extending the analysis further to examine

the differences between the groups, cross-tabulation was used to examine the gender disparity between the groups and the results show that there are no significant differences between Group 1 compared to Groups 2 and 3 as proven by the chi-square test for the test of significance ($p = 0.218$) Table 2. For the group differences; Group 1 has 27 males representing 37.5 percent of total respondents of males, 23 females representing 29.5 percent for total female respondents while Group 2 has 19 males representing 26.4 percent of males and 31 female representing 39.7 percent of female with Group 3 having 26 male and 24 female representing 36.1 percent and 30.8 percent respectively (Appendix 1). This shows the gender sensitive nature of the scheme and farming in general. This situation is in compliance with the principle of poverty alleviation which the project seeks to achieve:

There are good reasons to target women by such project or being gender balanced, because gender discrimination is one of the major causes of poverty, slower economic growth, weaker governance and lower standard of living and women are poorer and more disadvantaged than men. However, women contribute decisively to the well being of their family comparatively more than men (Kuhn 2002).

In probing further by interview to find out why the female dominance especially for Group 1, it was revealed that though most of the farms were allocated to the men, they ended up registering them in their wives name to avoid any dispute between the wife and the man's family over the rightful ownership of the farms on the man's death.

Variable	Measuring Group	Frequency	Percentage
Gender	Male	72	48
	Female	78	52
	Total	150	100
Age	<25	10	6.67
	25-45	50	33.33
	>45	90	60.00
	Total	150	100
Marital status	Married	130	86.67
	Single	13	8.67
	Widow/Widower	2	1.33
	No response	5	3.33
	Total	150	100

Table 1: Demographic distribution of respondents

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.045 ^a	2	.218
Likelihood Ratio	3.069	2	.216
Linear-by-Linear Association	.040	1	.842
N of Valid Cases	150		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.00.

Table 2: Chi-square test for test of significance for gender

In terms of age, 33.33 percent of the respondents were in the ages of 25 to 45 years, 6.67 percent were less than 25 years of age and the remaining 60 percent were 45 years and above. Trying to extend the age analyses over the whole household, the variable average age was created, consisting of all the sum of all the ages of the household members divided by the number of household members which gave the variable mean age as 49.3 years for the total respondents. However, the group analysis for the age showed different results, the mean age for Group 1 is 53.5 years, Group 2, 46.8 years and Group 3, 47.6 years (Table 3). The age difference for Group 1 compared to all the groups is statistically significant as shown in the ANOVA test of significant (Table 3.1) (F ratio = 3.495, probability level = .033).

Descriptive

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Age	Group 1	50	53.5000	13.66994	1.93322	49.6150	57.380
	Group 2	50	46.8600	12.92523	1.82790	43.1867	50.533
	Group 3	50	47.6200	14.59087	2.06346	43.4733	51.767
	Total	150	49.3267	13.97385	1.14096	47.0721	51.582

Table 3: General Descriptive statistics for Age analysis

ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Age Between Groups	1320.693	2	660.347	3.495	.033
Within Groups	27774.300	147	188.941		
Total	29094.993	149			

Table 3.1: ANOVA test of significance for Age

The analysis of the marital status of the respondents showed statistical difference in favour of Group 1. Table 1 provides information about the marital status of the respondents as well. It shows that 86.67 percent of the total respondents are married with their spouses permanently present in the household, while only 8.67 percent are single, with 1.33 percent being widow or widower and 3.33 percent staying neutral to the question without responding. This shows that all the farmers, both participants and non-participants are all married one way or the other. The analysis was extended to examine the marital status between the groups since as farmers' marital status is very important for the successful management of the venture. The marital status among the groups shows significant difference. From the cross-tabulation results (Appendix 2), out of the 147 respondents, 49 representing 37.7 percent from Group 1, 45 representing 34.6 percent from Group 2 and 36 representing 27.7 percent from Group 3 responded that they are married with their spouses permanently present in the households and this is statistically significant as shown in the chi-square tests for test of significance ($p = .046$), Table 4.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.808 ^a	6	.046
Likelihood Ratio	14.221	6	.027
Linear-by-Linear Association	4.642	1	.031
N of Valid Cases	147		

a. 9 cells (75.0%) have expected count less than 5. The minimum expected count is .64.

Table 4: Chi-square test for marital status of respondents

Similarly, there is statistically significant difference between Group 1 farmers and the other groups regarding the number of children (less than 15 years old), this might be related to the fact that household heads in Group 1 are relatively and significantly older, a mean of 53.5 years with 49 of them married, whereas for Group 2, the mean age is 46.86 with 45 of them married and Group 3 having a mean age of 47.62 years with only 36 of them married. Stretching the analysis to its logical conclusion, it is not surprising as shown in Table 5, that Group 1 household members have more children with a mean of 6.54 children per household compared to Group 2 mean of 6.36 children and Group 3 mean of 5.39 children per household and this difference is statistically significant (F ratio = 6.355, probability level = .002) per the ANOVA test of significant in Table 5.1. However, there is no statistical significant difference between Group 1 and Group 2, the mean difference is 0.18 and this is not significant per the multiple comparison results in Appendix 3 (p = .861).

Descriptive

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Number of children	Group 1	50	6.54	1.474	.208	6.12	6.96
	Group 2	50	6.36	1.735	.245	5.87	6.85
	Group 3	49	5.39	1.945	.278	4.83	5.95
	Total	149	6.10	1.789	.147	5.81	6.39

Table 5: General Descriptive statistics for number of children

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
<i>Number of children</i>	<i>Between Groups</i>	<i>37.917</i>	<i>2</i>	<i>18.959</i>	<i>6.35</i>	<i>.002</i>
	<i>Within Groups</i>	<i>435.573</i>	<i>146</i>	<i>2.983</i>		
	<i>Total</i>	<i>473.490</i>	<i>148</i>			

Table 5.1: ANOVA test for test of significance for number of children

5.3 Multi-dimensional nature of poverty (differences in poverty levels between participants and non-participants of the scheme)

As indicated in Chapter 4 under (4.5), questionnaire design, that the questionnaire for the survey will be in two parts; with the first part looking at household living standard survey designed to compare the poverty levels of the participants and the non-participants of the scheme while the second part of the survey questionnaire will be directed to address the impact assessment of the scheme on participants and non-participants livelihood in helping them build capital assets: financial capital, human capital and physical capital..

The first part of the questionnaire was based on the one designed by Henry et al (2003) of International Food Policy Research Institute (IFPRI) for the Consultation Group to Assist the Poor (CGAP) as already stated in Chapter 4 under (4.5); this was adapted to suit local circumstances. This will address the multi-dimensional nature of poverty. To achieve this; the following indicators as established by CGAP were used for the study: human resources, food security and vulnerability, dwelling and related indicators as well as the ownership of household assets. For ease of analysis the study has chosen the per capita expenditure on clothing and footwear for the household as the poverty benchmark indicator; per capita on clothing and footwear was chosen as the benchmark indicator because it bears a stable and highly linear relationship to total consumption expenditure, which is a comprehensive and widely accepted measure of poverty (Henry et al 2003). The choice of the above indicators was based on a number of criteria, including the ease and accuracy with which information on the indicators could be obtained in the household survey.

The indicators used for the analysis of relative poverty levels of participants and non participants are based on the four key poverty dimension variables listed in Box 1. These are: human resource, food security and vulnerability, dwelling and related indicators and ownership of household assets.

Human Resource	
Sex of household	Number of children
Age	Marital status
Food security and vulnerability	
Number of days fruits were served	Number of days meat were served
Number of days staples were served	Number of days without enough food to eat
Number of days diary, eggs were served	
Dwelling and related indicators	
Type of flooring of household	The type of electricity supply
Type of roofing material	Type of cooking-fuel used
Number of rooms for household	Source of drinking water
Material for exterior wall	Availability and quality of latrine
Ownership of household assets	
Number of refrigerators	Number of electric/gas cookers
Number of television sets	
Number of sewing machines	

Box 1: Variables used as poverty indicator

The analysis of the data for significant differences with respect to the socio-economic characteristics between the scheme participants and non-participants would improve the understanding of why the groups differ or otherwise in terms of poverty levels. The differences between the groups have been tested using the ANOVA tests of differences between multiple means and the chi-square tests for cross-tabulations. Chi-square tests

were applied to variables that are measured on either nominal or ordinal scale while the ANOVA tests were applied on the interval and ratio data.

The human resource dimension indicators have been used by the researcher to examine the characteristics of the farmers as detailed in 5.2 above.

Food security and vulnerability dimension analysis as shown in Table 6; shows significant differences between the groups with the difference between Group 1, compared to Group 2 and 3 being so pronounced at the significant level of 0.000 for all the variables selected for the analysis (Table 6; ANOVA test for test of significance) except number of days that staple food were served; these are number of days fruits and vegetables were served during past seven days, number of days diary, eggs were served in the past seven days, number of days meat were served in the past seven days and the number of days without enough food for the past thirty days. The number of days on which staple food were served in the household did not show any statistical significant difference between the three groups, the ANOVA result as in Table 6 for test of significant indicate that this is not significant ($p = .541$). The reasons for these results are not far fetched in that staple food is basically normal food consumed by all the respondents irrespective on ones poverty level or status. However, with regard to the other variables, number of days diary and eggs are serve, number of days meat are served, number of days fruits and vegetables are served; the consumption of these food category are considered in the Ghanaian context as or classified as luxury food. These differences clearly distinguish the very poor from the less poor or the non poor, since it is

the less poor that takes those luxury meals and again has enough stocks of food for the last 30 days as well.

		ANOVA				
		Sum of Squares	Df	Mean Square	F	Sig.
Number of days fruits and vegetables were served during the last 7day	Between Groups	465.293	2	232.647	305.676	.000
	Within Groups	111.880	147	.761		
	Total	577.173	149			
Number of days staples only served during the last 7 days	Between Groups	.693	2	.347	.617	.541
	Within Groups	82.640	147	.562		
	Total	83.333	149			
Number of days diary, eggs were served in the last 7 days	Between Groups	169.213	2	84.607	111.664	.000
	Within Groups	111.380	147	.758		
	Total	280.593	149			
Number of days meat served during past 2 days	Between Groups	250.813	2	125.407	57.415	.000
	Within Groups	321.080	147	2.184		
	Total	571.893	149			
Number of days without enough food for 30 days	Between Groups	32.653	2	16.327	19.163	.000
	Within Groups	125.240	147	.852		
	Total	157.893	149			

Table 6: ANOVA test for test of significance for food security and vulnerability

Under dwelling and related indicators, five of the variables comprising, the number of rooms, type of electricity supply for the dwelling, type of cooking fuel used, main source of drinking water and type of toilet facility in use showed significant difference between Group 1, the participants of the scheme compared to Group 2 and 3 the non-participants. The Chi-square test for level of significant for the difference between participants and the

non-participants reveal the following results per Table 7 below: Number of rooms ($X^2 = 41.162$, $p = .030$), Type of electricity supply ($X^2 = 100.606$, $p = .000$), Type of cooking fuel ($X^2 = 58.936$, $p = .000$), Main source of drinking water ($X^2 = 60.208$, $p = .000$), Type of toilet facility ($X^2 = 49.510$, $p = .000$). The differences then suggest that the scheme participants are well-off and we can conclude that the scheme is impacting positively on participants standard of living in terms being able to have access to portable drinking water on own compound, standard toilet facility in own household and usage of gas cookers for cooking which is more hygienic as against the collected wood and charcoal, having more rooms and own connection of electricity. The other three variables do not show any statistical significant difference and this is not so surprising since both scheme participants and non-participants live in the same community and that most of the houses within the communities have similar characteristics in terms of external walls, roofing materials which is mostly iron sheet and the type of floor for the households which is mostly made with cement and are common to all the groups within the township. The results are shown in Table 7 below for these three variables: Type of roofing materials ($X^2 = 13.606$, $p = .093$), Type of exterior walls ($X^2 = 21.703$, $p = .051$), Type of flooring for the dwelling ($X^2 = 9.283$, $p = .319$).

Test of significance between participants (Group1) and non-participants (Groups 2 and 3) of the scheme (Chi-square test)

Variable	Value	Df	Asymp. Sig. (2-sided)
Number of rooms for dwelling	41.162	26	.030
Type of roofing material	13.606	8	.930
Type of exterior wall	21.703	12	.051
Type of flooring	9.283	8	.319
Type of electricity supply	100.606	6	.000
Type of cooking fuel	58.936	10	.000
Main source of drinking water	60.208	10	.000
Type of toilet facility	49.510	12	.000

Table 7: Chi-square test for test of significance for variables selected for dwelling and related indicators

The asset based dimension of poverty analysis used four variables made up of number of television sets, number of sewing machines, number of refrigerators and number of gas cookers owned for the analysis. The result showed significant difference in the number of ownership of television sets, refrigerator and gas cookers between Group 1 compared to all the groups and they are significant as revealed in Table 8 and 8.1. The mean score for Group 1 television set owned, refrigerator owned, and electric or gas cookers owned are (means = 1.60, 1.12, 1.96) respectively and these are higher than the mean values for the

other groups and is statistically significant per the ANOVA test of significance ($p = .000$, $p = .000$, $p = .0010$) respectively.

However, ownership of television sets, refrigerators and gas cookers between Group 2 and 3, the non-participants, do not show any statistical significant difference per the results in Appendix 4, the multiple comparison analysis ($p = .113$, $p = .373$, $p = .661$) respectively. Again the results do not show any statistical significance difference in the ownership of sewing machines for Group 1 compared to all the other two groups. This is as reported in Table 8.1 ($p = .180$). This result shows the scheme effect on the participants which is positively impacting on their standard of living and helping them acquire and hold more assets than the non-participants which eventually will contribute to reducing their poverty levels. However, ownership of sewing machines and refrigerators are classified as productive assets which are capable of being used by the poor to generate further income to support the household. This explains why there was no significant difference between Group 1 compared to all the groups in the acquisition of sewing machines.

Descriptive

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Televisions	Group 1	50	1.60	1.414	.200	1.20	2.00
	Group 2	50	1.04	.699	.099	.84	1.24
	Group 3	50	.64	.693	.098	.44	.84
	Total	150	1.09	1.064	.087	.92	1.27
Refrigerators	Group 1	50	1.12	.799	.113	.89	1.35
	Group 2	50	.62	.697	.099	.42	.82
	Group 3	50	.42	.731	.103	.21	.63
	Total	150	.72	.795	.065	.59	.85
Sewing machines	Group 1	41	1.39	.586	.092	1.21	1.58
	Group 2	28	1.57	.504	.095	1.38	1.77
	Group 3	40	1.33	.526	.083	1.16	1.49
	Total	109	1.41	.548	.052	1.31	1.52
Electric or gas cookers	Group 1	50	1.96	1.726	.244	1.47	2.45
	Group 2	50	1.30	.763	.108	1.08	1.52
	Group 3	50	1.10	.647	.091	.92	1.28
	Total	150	1.45	1.202	.098	1.26	1.65

Table 8: Descriptive statistics for number of television sets, refrigerators, sewing machines and electric/gas cookers owned

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Televisions	Between Groups	23.253	2	11.627	11.751	.000
	Within Groups	145.440	147	.989		
	Total	168.693	149			
Refrigerators	Between Groups	13.000	2	6.500	11.761	.000
	Within Groups	81.240	147	.553		
	Total	94.240	149			
Sewing machines	Between Groups	1.034	2	.517	1.746	.180
	Within Groups	31.388	106	.296		
	Total	32.422	108			
Electrical or gas cookers	Between Groups	20.253	2	10.127	7.637	.001
	Within Groups	194.920	147	1.326		
	Total	215.173	149			

Table 8.1: ANOVA test of significance

The analysis of the of expenditure on clothing and footwear which is used as the poverty benchmark for the assessment of the relative poverty levels of the respondents shows significant difference between the groups. The scheme participants spent more on these items than the other non-participants. The descriptive analysis for the mean differences on this expenditure item between groups (Table 9) shows that Group 1 has 796.1600; Group 2; 96.9200; Group 3; 180.200; and the difference is statistically significant per the ANOVA tests of significance ($p < 0.05$) Table 9.1. However, the multiple comparison analysis, Appendix 5, shows that the expenditure difference between Groups 2 and 3 is not statistical significant though Group 3 has a higher mean than Group 2 ($p = .422$). This implies that Group 1 spends more on this expenditure item than all the groups and Group 3 also spends more than Group 2 but the difference is not significant.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Group 1	50	796.1600	523.16339	73.98648	647.4786	944.8414
Group 2	50	96.9200	133.64098	18.89969	58.9397	134.9003
Group 3	50	180.2000	193.70175	27.39356	125.1506	235.2494
Total	150	357.7600	454.01203	37.06993	284.5093	431.0107

Table 9: Descriptive statistics for expenditure on clothing and footwear

ANOVA

Clothing/footwear expenses for last 12 months in local currency

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.459	2	7293990.480	66.494	.000
Within Groups	1.612	147	109693.404		
Total	3.071	149			

Table 9.1: ANOVA test for test of significance

5.4 Analysis of programme impact assessment

This section presents and analyses the programme impact to examine how participation in the scheme has assisted participants being the treatment group to build their asset base financial, human and physical capitals, relative to the non-participants, the control group. Any changes in the asset base of the control group represent those that would have occurred among the participants (treatment group) if they had not participated in the scheme. This is on the big assumption that they did not have any other source of income

apart from economic activity financed with the income from the scheme or farms. When the differences between the treatment group and the control are statistically significant, it will imply that the differences are unlikely to be due to chance. Hence, the changes among the treatment group would be attributed to participation in the scheme and these suggest the effects of the scheme on the treatment group, thus the participants of the scheme. The analysis of the asset build up would concentrate on financial capital, human capital and physical capital.

5.4.1 Financial Capital

Financial capital denotes the financial resources that people use to achieve their livelihood objectives. There are two main sources of financial capital: available stocks, which can be held in several forms such as cash, bank deposits, liquid assets such as livestock and jewellery, or resources obtained through credit-providing institutions; and regular inflows of money, including earned income, pensions, other transfers from the state, and remittances.

The analysis of financial capital would be based on four main variables identified within the survey. These are; income of household from the farm, farm operating cost, financial assistance received either through scheme or elsewhere and farm gross margins; crop yield would be used as additional indicator to support the influence of income from the farms. The use of the crop yield however throws more light on the power behind the income generating capacity of the various groups.

5.4.1.1 Household Income

The use of income from the farms was considered to be readily available and serves as a component in determining the financial viability of the project and readily suggest to policy makers of the impact potential of the projects at a snap short.

The group statistics table (Table 10) below shows the number of respondent in each category and the mean value, from which the mean score for Group 1, who are the treatment group is 3,731.43 compared to 1,264.40 for Group 2 and 788.60 for Group 3 who together are the control group. The results show that the mean score for Group 1 is higher than that of the Group 2 and Group 3 as well. The table also provides the standard deviation of the three groups in terms of increase in income. From the analysis the standard deviation is as follows: Group 1 2357.028 Group 2 620.432 and Group 3 1,129.578. It can then be concluded that increase in income from the farms were higher for Group 1 than the other groups and this is statistically significant as shown in the ANOVA test in Table 10.1 (P= .000). The results as revealed by the multiple comparisons table Appendix 6 shows that, the mean difference between Group 2 compared to Group 3 is not significant (p= .275). This suggest that in terms of income Group 1 has a higher income than all groups and is significant but when comparing Group 2 to 3, though there are differences in mean score for income the difference is not significant.

Table 10 also shows the mean values for the crop yield for the three groups. From the table the mean value for Group 1 crop yield is 65.16 which is higher than that of Group 2 of 16.34 and Group 3 of 5.67. It also shows the standard deviation of the crop yield of each group. This is the average deviation from the mean. The standard deviation for the crop yield is 39.335 for Group 1, 7.607 for Group 2 and 7.195 for Group 3. This indicates that in terms of crop yield Group 1 is better off and the difference is significant as shown in the ANOVA test Table 10.1 ($p < 0.05$). This suggests why the income levels of Group 1 are higher as shown in the mean level in same table. This again strongly suggests or affirms the fact that farmers income levels are linked with the crop yield. It can therefore be concluded that Group 1 farmers' who are participants of the scheme have high income levels and higher crop yield than all the groups. Again though there are differences in terms of crop yield mean values between Group 2 and 3, these differences are not significant ($p = .061$) Appendix 6.

From the above analysis it is obvious that crop yield from the farms and income have a relationship since the income is influence by the crop yield at any point in time. The analysis therefore examined the statistical relationship between these two variables to establish this fact.

Descriptive statistics

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Average annual household Income	Group 1	49	3731.43	2357.028	336.718	3054.41	4408.45
	Group 2	50	1264.40	620.432	87.742	1088.08	1440.72
	Group 3	50	788.60	1129.578	159.746	467.58	1109.62
	Total	149	1916.04	2003.924	164.168	1591.62	2240.46
Last year's crop yield	Group 1	49	65.16	39.335	5.619	53.86	76.46
	Group 2	50	16.34	7.607	1.076	14.18	18.50
	Group 3	50	5.67	7.195	1.018	3.63	7.71
	Total	149	28.82	34.772	2.849	23.19	34.44
Financial assistance received through scheme/self	Group 1	49	672.45	288.325	41.189	589.63	755.27
	Group 2	50	176.20	91.068	12.879	150.32	202.08
	Group 3	50	85.80	100.124	14.160	57.35	114.25
	Total	149	309.06	315.514	25.848	257.98	360.14
Farm operating cost per annum	Group 1	49	1602.04	1092.491	156.070	1288.24	1915.84
	Group 2	50	648.90	335.944	47.510	553.43	744.37
	Group 3	50	339.20	294.631	41.667	255.47	422.93
	Total	149	858.42	861.502	70.577	718.95	997.89

Table 10: General Descriptive Statistics

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Average annual household income	Between Groups	2.463	2	1.231E8	51.653	.000
	Within Groups	3.481	146	2383912.562		
	Total	5.943	148			
Last year's crop yield	Between Groups	99304.456	2	49652.228	91.024	.000
	Within Groups	79640.719	146	545.484		
	Total	178945.174	148			
Financial assistance received through scheme/self	Between Groups	9845366.334	2	4922683.167	147.039	.000
	Within Groups	4887902.122	146	33478.782		
	Total	1.473	148			
Farm operating cost per annum	Between Groups	4.277	2	2.139E7	46.549	.000
	Within Groups	6.707	146	459407.044		
	Total	1.098	148			

Table 10.1 ANOVA for test of significance

5.4.1.2 Relationship between increase in income and crop yield

Generally farmers' incomes improve only if they have high crop yield. The improved income would help them change their economic condition by operating other business or investing in other activities. After maintaining expenditure, they try their best to save since savings would be their future hope to improve their future financial status as well as improve their living standard. Therefore the researcher tried to find out the relationship between increase in income and increase in crop yield using the Pearson correlation test. This is because the crop yield is the determining factor for any meaningful income by the farmers. Computation of a Pearson correlation test between the two variables; increase in income and increase in crop yield for all the groups is as shown in Table 11 below. The table shows that there is a strong positive correlation between the two variables ($r = .741$,

$p = .000$) for Group 1. Group 2 also has equal strong positive correlation ($r = .822$, $p = .000$), while Group 3 has a weak positive correlation ($r = .215$, $p = .133$). We can conclude that farmers who were able to increase their income was as a result of the improved crop yield. This explains why Group 1 farmers' have increase in income and increase in crop yield than the other groups. The reason for the positive relation between income and the crop yield for Group 2 who are the independent oil palm growers could be attributed to the agronomic assistance in the form of fertiliser and chemical supplies received from the company for application on their private farms. These services are not available to Group 3 members hence the weak positive relation.

Table 11: Pearson correlations between increase in income and crop yield
Correlations

Group			Average annual household income	Last year's crop yield
Group 1	Average annual household income	Pearson Correlation	1	.741**
		Sig. (2-tailed)		.000
		N	49	49
	Last year's crop yield	Pearson Correlation	.741**	1
		Sig. (2-tailed)	.000	
		N	49	49
Group 2	Average annual household income	Pearson Correlation	1	.822**
		Sig. (2-tailed)		.000
		N	50	50
	Last year's crop yield	Pearson Correlation	.822**	1
		Sig. (2-tailed)	.000	
		N	50	50
Group 3	Average annual household income	Pearson Correlation	1	.215
		Sig. (2-tailed)		.133
		N	50	50
	Last year's crop yield	Pearson Correlation	.215	1
		Sig. (2-tailed)	.133	
		N	50	50

Group			Average annual household income	Last year's crop yield
Group 1	Average annual household income	Pearson Correlation	1	.741**
		Sig. (2-tailed)		.000
		N	49	49
	Last year's crop yield	Pearson Correlation	.741**	1
		Sig. (2-tailed)	.000	
		N	49	49
Group 2	Average annual household income	Pearson Correlation	1	.822**
		Sig. (2-tailed)		.000
		N	50	50
	Last year's crop yield	Pearson Correlation	.822**	1
		Sig. (2-tailed)	.000	
		N	50	50
Group 3	Average annual household income	Pearson Correlation	1	.215
		Sig. (2-tailed)		.133
		N	50	50
	Last year's crop yield	Pearson Correlation	.215	1
		Sig. (2-tailed)	.133	
		N	50	50

** . Correlation is significant at the 0.01 level (2-tailed).

5.4.1.3 Farm Operating Cost

The analysis uses the notion of 'operational costs' (Carmo and Magalhaes 1999), which includes all the expenditures incurred by production. It includes all the variable cost and does not include any fixed cost and amortisation/depreciation. The variable costs include the following costs items: fertilise, chemicals, pruning, weeding and labour. In this regard as depicted in Table 10 the mean score for Group 1 in terms of operating cost is 1,602.04 compared to Group 2 of 648.90 and Group 3 of 339.20. The standard deviation is 1092.491, 335.944, 294.631 for Group1, 2 and 3 respectively and is statistically

significant at 0.00. These results are not surprising because Group 1 members who are participants of the scheme practice modern and acceptable plantation practises which are at a higher cost than the ordinary farmer who relies on traditional method of farming which is always at lower cost. The price for the best plantation practices and the higher cost is seen in the improved crop yield and increased revenues.

The analysis can further be done to see the profitability of the farm by comparing the revenues from the farm and the operating cost.

5.4.1.4 Farm Revenues and Margins

The Farm Gross Margin represents the balance of total farm revenue after deduction of production costs. Although this farm income is not savings as it is still required to meet household expenditure, it represents the financial surplus, or deficit, generated by the farming systems from one year to another. The selection of farm gross margin as an indicator has its policy relevance in terms of the financial viability of small-scale farming of this sort and therefore can be used to suggest possible interventions.

The gross margins from the farms for all the groups show significant differences as the means are quite different from each other. From Table 12, the mean gross margins for Group 1 is higher than that of Group 2 and 3 (mean margins for group: 2,129.39, 615.50, 449.40 for Group 1, 2 and 3 respectively) and is statistically significant ($p = < 0.05$). One good thing about the results is that there are no negative gross margins among the groups.

It can be concluded that good plantation practices results in high operating cost or maintenance cost but yields the required dividends in terms of higher margins/profit than the traditional method of farming which is associated with low maintenance cost, lower yields and lower margins.

Table 12: Farm Revenues and Margins

Group Statistics					
	N	Mean Income	Farm operating cost	Gross margin	Std. Deviation
Group 1	49	3731.43	1603.04	2129.39	1264.53
Group 2	50	1264.40	648.90	615.50	284.48
Group 3	50	788.60	339.20	449.40	834.94

Table 12: Group Statistics for Farm revenues and margins

5.4.1.5 Financial Assistance

Table 10 shows Financial Assistance available to all the category of farmers. The result shows the mean score for all the groups. The results showed that Group 1 has a higher (mean = 672.45; standard deviation = 288.32) than Group 2 (mean = 176.20; standard deviation = 91.08) and that of Group 3 of (mean = 85.80; standard deviation =10.124).

The results as revealed by the ANOVA test for significance (Table 10.1) shows that the mean difference between Group 1 compared to Group 2 and Group 3 is statistically significant at 0.00 which is less than 0.05. Thus access to financial services is more

pronounced for participants of the scheme followed by the independent oil palm grower and less for the non-palm growers.

The reason for this trend is not far searched; being a member of the scheme alone gives the banks the comfort in giving out such loans. During semi-structured interview with the Agricultural Development Bank (ADB) Manager, he indicated that the loans for the funding of the projects are co financed with Foreign Direct Investment and ADB as such every farmer of the scheme as part of the deal has to operate an accounts with ADB where their weekly earnings are paid through and all necessary deductions done at the bank towards the repayment of the investment and all loans taken by farmers as well. Such a facility is not readily available to all the non participants of the scheme. Such assistance according to the farmers serves as an additional avenue for them in getting financial assistance and income for that matter. The banks use the regular income from the farmers which is paid through the banks on weekly basis as collateral for the granting of such loans.

The only requirement from the banks perspective is to be a member of the scheme and bring an application letter stating the purpose of the loan and counter signed by the leader of the farmers. The loan attracts a commercial interest rate of 21% per annum and repayment spread over two to three year or more depending on the quantum of the amount. The respondents indicated that such loans serve various purposes to them, majority of them give them to their wives as start-up capital for other retail businesses which are popular within the community like, soap making, selling food stuffs, hair

dressing and dress making and many others. These are used to support the family upkeep and maintenance; some use these loans to pay their children's school fees during the lean season when the crop yield is low and affecting their income, meeting funeral expenses which are an emergency need, marriages and other meaningful social activities which are above their financial capabilities. It is worthy to note that such business set up provide a basis to enhance their income opportunities and reduce poverty if it is well managed. This section is outside the scope of this research, that is, the management of these loans. Again the scheme members have a welfare scheme where each member contributes on monthly basis and these are deducted at source before payment is credited to the individual bank account. Such a scheme serves as additional avenue for financial assistance to the scheme members.

5.4.2 Human Capital

One main objective of the outgrower oil palm schemes is to bring participants direct participation in the poverty alleviation of their own community. The schemes seek to reduce widespread features of poverty including malnutrition, poor health care, and lack of education, unsafe housing, and social instability. These features of poverty are considered social factors, in that they are not quantified in monetary terms.

Social wealth can be measured by lack of, or reduction in social poverty factors. In the analysis social wealth is hypothesized to increase among the treatment group. The treatment group is composed of those clients participating in the scheme, whilst the

control group is the non-participants. In the analysis of Human Capital, three variables have been identified: expenditure on children's education, expenditure on health care and technology transfer received.

Human capital is the labour available to the households in terms of its level of education, skills and health status. It is the primary asset possessed by the poor, and can only be increased by investment in education and training as well as skills acquired through pursuing one or more occupation (Moser 2006). The health status of the people on the other hand determines their quality of life, level of productivity and the longevity. Education on the other hand has been identified as the most important tool in providing people with the basic knowledge, skills and the needed competencies to improve on their quality of life at all level of development. To this end respondents were asked whether they contribute towards the health care of their household members and the education of their children or not and if they do, by how much in monetary terms. The variable health care refers to the ability of participants and their dependants to access health services either by themselves or with the support of their partners. On the other hand, the variable education refers to the ability of participants to support their children's education either on their own or with the support of their partners.

5.4.2.1 Expenditure on Children's Education

The results from Table 13 shows that in terms of expenditure on children education the rating for Group 1 were higher (Mean =843.60; standard deviation =218.303; $p = .000$) compared to Group 2 of (Mean =474.70; standard deviation = 189.275) and Group 3 of (Mean = 316; standard deviation = 124.720). These results show that Group 1 clients spent more on their children education than all the groups and is statistically significant ($p = .000$, Table 13.1). It is quite revealing also that Group 2 also spent more than Group 3 clients and is statistically significant between these two groups ($p = .000$) (Appendix 7). These results are not surprising since the scheme members have regular source of income from the scheme which is paid through their bank accounts every fortnight according to the laid down arrangements. Group 2 clients who are private oil palm growers and sell their FFB to the company also have regular income but this is erratic compared to group 1. These results corroborate the outcomes from increase in income in the financial capital analysis which indicated that the scheme participants have higher income than the entire group and it is not surprising that they have more money to spend on their children's education. These results suggest that the oil palm schemes by the companies are providing the opportunity for more clients to provide education for their children. The schemes are impacting on participants' ability to invest in the future through human capital. Thus the scheme is increasing social wealth by reducing social factors of poverty including a lack of education. The increase in human capital in this way is crucial factor in economic growth. It is also important to infer from the results that the higher expenditure on education indicate that most people prefer sending their children to the

private schools at very high cost compared to public schools in order for their children to get better education because the private schools are deemed to be better and well equipped than the public schools.

5.4.2.2 Expenditure on Health Care

Poor health is clearly aligned to poverty in Ghana. The health status of a people generally determines their quality of life, level of productivity and life expectancy (Ghana Statistical Service 1998: 32).

An attempt to use as indicator possible quantitative measure such as expenditure for treatment, showed significant difference between Group 1, Group 2 and Group 3 households. The apparent large differences in the cost of expenditure on health care ; 511.80, 243.69 and 188.40 for Group 1, 2 and 3 respectively which are significant possibly due to the uneven distribution of revenues among the households, which gives Group 1 the capacity in terms of revenues to spend on such expenditure item to secure good health for the household. The results as shown in Table 13 are as follows: Group 1 (Mean= 511.80; standard deviation = 145.387) Group 2 (Mean =243.69; standard deviation = 94.808), Group 3 (Mean = 188.40; standard deviation = 104.693). The above indicate that Group 1 spends more on health care for the household than the other groups and the difference is statistically significant ($p = .000$) as shown in the ANOVA analysis for test of significant in Table 13.1. The Multiple Comparison table, Appendix 7 shows the significant differences between the three groups. It shows that there is significant

difference between Group 1, 2 and 3; but when one considers Group 2 as the base of comparison there is no statistical significant difference between Group 2 and 3 ($p = .053$). These results are not surprising since the introduction of the National Health Insurance Scheme (NHIS) has made health care affordable to majority of Ghanaians.

Descriptive

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
						Lower Bound	Upper Bound
Expenditure on Children Education	Group 1	50	843.60	218.303	30.873	781.56	905.64
	Group 2	50	474.70	189.275	26.767	420.91	528.49
	Group 3	50	316.00	124.720	17.638	280.55	351.45
	Total	150	544.77	285.911	23.345	498.64	590.90
Expenditure on healthcare	Group 1	50	511.80	145.387	20.561	470.48	553.12
	Group 2	49	243.69	94.808	13.544	216.46	270.93
	Group 3	50	188.40	104.693	14.806	158.65	218.15
	Total	149	315.11	183.644	15.045	285.38	344.84

Table 13: General Descriptive Statistics

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Expenditure on Children Education	Between Groups	7327244.333	2	3663622.167	110.978	.000
	Within Groups	4852772.500	147	33012.058		
	Total	1.218	149			
Expenditure on healthcare	Between Groups	2987031.874	2	1493515.937	108.795	.000
	Within Groups	2004262.408	146	13727.825		
	Total	4991294.282	148			

Table 13.1: ANOVA for test of significance

5.4.2.3 Technology Transfer

The companies mostly provide additional services to the scheme participants in the form of ‘best plantation practices’ which are in the form of weeding, manuring in the form of application of fertilizer, spraying and skills in the use of chemicals, harvesting techniques and many others. These onsite training on ‘best plantation practices’ and advice in silviculture and proper land management offered to the farmers provide additional capacity building. The knowledge gained on the scheme is normally transferred to their individual private farms outside the core project which is an added advantage to recipients in terms of human capital. Respondents were then asked to know whether they receive such services with a simple YES/NO answer and if yes, to indicate the type of training received.

To this end cross tabulation was used to examine the relationship between the variables for the groups. This was further tested for their significance by way of chi-square. From the result as in Table 14, all the 50 respondents of the treatment group representing 70.4% of the total respondents responded in the affirmative, meaning they receive all the above mentioned silviculture services from the companies, while 21 respondents of Group 2 representing 29.6% of the total respondents responded YES with all respondents in Group 3 responding NO. It can then be concluded that the cross-tabulation results showed that greater proportion of the treatment group 70.4% had such silviculture service compared to Group 2 of 29.6% and 0% for Group 3. These results from the chi-square (Table 14.1) show that they are statistically significant: $X^2 = 103.107$, $p = .000$. The results go to confirm why the treatment group have improved crop yield which positively

impact on their income, investment in their children's education and good access to health care than the control group.

Do the schemes/independent farms offer you any kind of training in good plantation practices?

Cross tabulation

		Answer within Categories			Total
		No Response	Yes	No	
Group1	Count	0	50	0	50
	% within	.0%	70.4%	.0%	33.3%
Group 2	Count	14	21	15	50
	% within	31.1%	29.6%	44.1%	33.3%
Group 3	Count	31	0	19	50
	%within	68.9%	0%	55.9%	33.3%
Total	Count	45	71	34	150
	% within	100.0%	100.0%	100.0%	100.0%

Table 14: Cross tabulation in good plantation practices (Note: %within question)

Chi-square tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	103.107 ^a	4	.000
Likelihood Ratio	140.894	4	.000
Linear-by-Linear Association	2.744	1	.098
N of Valid Cases	150		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.33.

Table 14.1: Chi-square tests

5.4.3 Physical Capital

Physical capital is derived from the resources created by people, such as buildings, roads, transport, drinking water, electricity, communications systems etc., as well as equipment and machinery for producing further capital. It thus comprises producer goods and services, and also consumer goods available for people to use. Physical capital is important not only for meeting people's needs directly, but also for providing access to other capital.

Poverty is examined in terms of ownership of household durables; this can be seen as an alternative measure of poverty such as income-based and consumption-based measure. One advantage of these asset-based indicators is the ease with which they can be measured compared to indicators on consumption expenditures and income levels. Respondents were asked about the purchases they have made solely or jointly with their partners; these were then valued at the market value basis of valuation because it is of the view of the researcher that market value is the current value of those assets and this is consistent with accounting basis of valuing assets. For the purposes of the analysis ownership of four assets were selected: Television Sets, Refrigerators, Electric/Gas Cookers and Sewing Machines. The acquisition and ownership of these assets are considered as benchmark in determining household well being (Ghana Statistical Services 2007).

The results revealed that participation in the scheme is strongly associated with increased expenditure for the acquisition of household durables.

Table 15 shows that in terms of television sets acquisition almost 76 percent of respondents indicated that they contributed towards their acquisition. The results indicate that Group 1 members have higher mean score than the other groups (Mean = 538.2979; standard deviation = 263.79603), Group 2 (Mean = 292.6829; standard deviation = 110.43153), Group 3 (Mean = 268.5185; standard deviation = 66.72006). These differences in mean are significant for Group 1 compared to Group 2 and 3 as shown by the ANOVA test of significance (0.000) in Table 15.1 and the multiple comparisons table in Appendix 8. However, there is no statistical significant difference between Group 2 and Group 3 ($p = .857$) as shown in Appendix 8. These results are not surprising since the ownership of television set in Ghana is considered as basic necessity hence the balanced acquisition of these assets but skewed towards the scheme participants who virtually all respondents own one.

The ownership of a refrigerator is associated with a better standard of living. Refrigerators are used for either domestic or commercial purposes or both. In terms of acquisition of refrigerators, about 55 percent of the respondents had this asset in their household compared to the national level of 24 percent (Ghana Statistical Services 2007).

The results as shown on Table 15 indicate that programme participants acquisition of refrigerators is more than all the groups and this is significant (.000) per the ANOVA analysis of Table 15.1. The results are as shown; Group 1 (Mean = 671.9512; standard

deviation = 263.40292), Group 2 (Mean = 490.0000; standard deviation = 206.65995), Group 3 (Mean = 391.1765; standard deviation = 116.23685). Results per the multiple comparison table (Appendix 8) shows that there is no significant difference ($p = .344$) between Group 2 and 3.

It is not surprising that the scheme participants who have improved income as identified in financial capital analysis tend to be more economical and therefore acquire items such as refrigerators in order to save money by purchasing goods in bulk for storage. In the semi-structured interviews respondents indicated that the ownership of refrigerator is seen as an economic asset which is used in the generation of additional income to support the household. Respondents indicated that their wives and children use this asset to sell ice water and frozen food to the neighbours within the community. This explains why most of the respondents in Groups 2 and 3 also have invested in this asset category which shows no differences.

Almost 66 percent of respondents indicated that they contribute towards the acquisition of sewing machines for their household compared to the national average of 21 percent (Ghana Statistical Service 2007). Table 15 results reveal the following: Group 1 (Mean 103.4483; standard deviation = 76.68469), Group 2 (Mean = 82.6087; standard deviation = 54.99231), Group 3 (Mean = 90.6250; standard deviation = 85.60741). The test for significance for these result by way of ANOVA (Table 15.1) shows that there is no significant difference between Group 1 compared to the other groups ($p = .470$). In between the groups as shown in the multiple comparisons analysis in Appendix 8 also

does not show any significant difference between the groups. The situation is not surprising within the Ghanaian cultural context where most women especially acquire this particular asset to generate income for living, or to use to mend their torn cloths and dresses within the household. They also preserve this for their daughters to be used in learning sewing as a trade.

Ownership of gas/electric cooker also serves as a proxy for improved standard of living. Households that possess these items no longer have to go to the bush in search of firewood for cooking. From the results about 35 percent of the respondents indicated that they have contributed towards the acquisition of gas/electric cooker in their household compared to the national average of 20 percent (Ghana Statistical Service 2007). Table 15 reveals the following results; Group 1 (Mean = 170.5882; standard deviation = 110.48024), Group 2 (Mean = 126.0870; standard deviation = 61.91924), Group 3 (Mean = 100.000; standard deviation = .0000). The results indicate that Group 1 members who are the treatment group acquire more electric/gas cookers than all the groups and this is statistically significant ($p = .038$) per the ANOVA test of significance (Table 15.1). Comparisons between groups per the multiple comparisons table (Appendix 8) shows that there is no significant difference between Group 2 and 3 in the acquisition of this asset ($p = .161$). The result could be attributed to the fact that the Group 1 members who are programme participants have higher incomes as revealed in financial capital analysis and can afford to acquire these assets to improve their standard of living. The result for group 2 and 3 is not surprising; it could be attributed to the national campaign against the use of firewood

by promoting the use of Liquefied Petroleum Gas (LPG) to preserve the forest from depletion.

Descriptive statistics (values of television, refrigerators, electric/gas cookers and sewing machines)

	Group	N	Mean	Standard Deviation	Standard Error
Value of Television	Group 1	47	538.2979	263.79603	38.47861
	Group 2	41	292.6829	110.43153	17.24651
	Group 3	27	268.5183	66.72006	12.84028
	Total	115	387.3913	222.11538	20.71237
Value of refrigerator	Group 1	41	671.9512	263.40292	41.13662
	Group 2	25	490.0000	206.65995	41.33199
	Group 3	17	391.1765	116.23695	28.1960
	Total	83	559.6386	250.29956	27.47395
value of Electric or gas cookers	Group 1	17	170.5882	110.48024	26.79539
	Group 2	23	126.0870	61.91924	12.91105
	Group 3	13	100.0000	.0000	.00000
	Total	53	133.9623	78.30757	10.75637
value of Sewing machines	Group 1	29	103.4483	76.68469	14.23999
	Group 2	46	82.6087	54.99231	8.10817
	Group 3	32	90.6250	85.60741	15.13340
	Total	107	90.6542	71.08686	6.87223

Table 15: General Descriptive Statistics

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Value of Television	Between Groups	1819607.943	2	909803.971	26.783	.000
	Within Groups	3804609.449	112	33969.727		
	Total	5624217.391	114			
Value of refrigerator	Between Groups	1120868.784	2	560434.392	11.163	.000
	Within Groups	4016420.373	80	50205.255		
	Total	5137289.157	82			
value of Electric or gas cookers	Between Groups	39225.981	2	19612.990	3.507	.038
	Within Groups	279641.944	50	5592.839		
	Total	318867.925	52			
value of Sewing machines	Between Groups	7724.577	2	3862.288	.761	.470
	Within Groups	527929.629	104	5076.246		
	Total	535654.206	106			

Table 15.1: ANOVA test for test of significance

5.5 Semi-structured interview on Key Informants

Semi-structured interviews conducted on key informants to assess the impact of the scheme on the community as a whole and the problems militating against the development of the scheme revealed interesting results from both the farmers and the companies' perspective.

5.5.1 From the Smallholder perspective:

In the interview the farmers recognized that the 'development of oil palm plantations has played a significant role in improving their incomes' and their livelihood in general but that these benefits have come with a number of serious and growing problems, including the following:

1. Land acquisition for oil palm development has not recognized the customary rights of the indigenous people and the rights of local communities since most of the lands for the projects were acquired by the government through an executive instrument.
2. Oil palm small-holdings plots have been allocated in an unfair and un-transparent manner, accompanied by falsified promises, infringed agreements by the company management.
3. Compensation, if any, paid for land has been insufficient or nil.
4. Credit has been decided without involving farmers in a participatory manner.
5. Farmers are not involved in the setting of the FFB prices.
6. There is a lack of maintenance, by both the companies and the government, of roads linking smallholder farms to mills.
7. There is serious environmental pollution by mill effluents and chemicals used in the oil palm plantations on downstream river waters, soils and the air.

The farmers announced their intention to push for reform of oil palm policies so that they really bring benefit to the people. They seek the restitution of lands acquired by the companies without respect for the customary rights of indigenous peoples. They want effective, transparent and systematic participation of farmers in the pricing of FFB. They call for the elimination of smallholders' debts, which they feel were unilaterally and unfairly imposed on them when the estates were established on their own lands while extinguishing their rights (Smallholder Chairman-TOPP Ltd).

5.5.2 From the companies' perspective:

It was revealed that land for expansion of the project is a major problem to the company. The Estate Manger of TOPP Ltd noted that in 2004 the company attempted to acquire 1000 hectares of land at Buabeng, north of TOPP Ltd project to develop this into the nucleus outgrower system to serve over two hundred and fifty farmers within the community. This acquisition was unfortunately met with serious litigation as to the rightful owner of the land between two chiefs within the community each claiming ownership. The end result of this litigation was that the project implementation had to be delayed for over five years until the litigation was finally resolved at a cost to the company in 2009 before the grounds became ripe for the implementation (Estate Manager-TOPP Ltd).

He further indicated that farmers are not loyal to the company when the time becomes due for repayment of the loan to the company through the weekly FFB deliveries. Farmers many a time resort to diversion of the FFB to the parallel market especially during the lean session when the parallel market price is normally higher than the company's price which is fixed to last for a period.

At GOPDC it was revealed that the proliferation of the telecommunication service provider into the Ghanaian market poses a challenge to the future sustainability of the oil palm industry. It was noted that the telecommunication and mining companies are paying huge salaries and other benefits to their skilled and unskilled personnel that the oil palm companies do not have the capacity to compete for the required skilled labour on the labour market (Human Resource Manager, GOPDC). The result is a high labour turnover from the oil palm sector.

In addressing the research question, how does the scheme benefit the community as a whole? And to test the hypothesis: Outgrower oil palm schemes tend to benefit the rural communities where they are implemented. The underlying results were revealed:

In the semi-structured interview to find answers to the above issue the Estate Manager (TOPP Ltd) summed it as follows:

“When you talk about the influence on the community you are talking about a movement from Health Centre to a District Hospital, one Post Office as against three high profile commercial banks; Ecobank Ghana Ltd, Ghana Commercial Bank, Barclays Bank with a Twifo Rural Bank. Dirt road to sealed road from Jukwa to Twifo Praso and beyond. A struggling second cycle institution to model senior high school, a health assistance training school with a host of good private schools offering good tuition which members of the community are able to access. Improved standard of living with teachers now riding in their own private cars and living in their own homes”

The companies provide employment and spin-off economic opportunities to both formal partners and the local community. Apart from the provision of permanent employment to the local people; there have always been some spin-offs of company-community deal in terms of new income-generating opportunities locally. Local people have become self employed, individually or in small groups, as farm labour contractors, transport contractors, weeders, sprayers, prunners, chainsaw operators, carriers and others. The company’s investment in local human capital is a useful route to development for their

operational areas. The onsite training on best plantation practices and advice in silviculture and proper land management offered to most farmers provide additional capacity building. The knowledge gained on the scheme is normally transferred to their individual private farms outside the core project.

The companies contribute to better physical assets with little cost or risk to the community partners. Investment in local infrastructure is a feature of corporate responsibility agreements, where communities gain social amenities like electricity poles, school classroom blocks, boreholes for good drinking water, clinic and construction of feeder roads to link the farms to ease carting of FFB from the farms, and many others. In situations where conflict between community and the company are so pronounced, social spending as above can be an essential tool for companies to manage social risk. These initiatives are in no way a route for local empowerment.

It was revealed that almost all the companies operating the outgrower scheme have established schools within the nucleus estate to cater for the educational needs of their workers and the community in general. Most of their schools according to the District Education Director of Twifo Praso and Kwae, are classified as Grade A type of schools in the country. TOPP Ltd school for example has received the Presidential Special Award which is awarded to students for high academic excellence at the Junior High School level three times. From the District Education Director, the presence of the TOPP Ltd School has impacted positively on the school attendance rate of the children within the district. School attendance rate at the Kindergarten level has increased by 209 percent

since 1990, while the Primary level has increased by 107 percent with the Junior High School recording an increase in attendance of 102 percent from 1990 (District Education Director, Twifo Praso).

5.6 Conclusion

The chapter has examined the poverty levels of the scheme participants and the non-participants with the analysis of the four poverty dimensions selected for the study which was based on questionnaire developed by Henry et al (2003) of International Food Policy Research Institute for the Consultation Group to Assist the Poor. The selection of these indicators addressed the multi-dimensional nature of poverty. The section further examined the programme impact on the participants as against the non-participants by carefully analysing the data collected from the survey and complemented this with the results from the interviews to assess how the scheme has helped the participant to build up the required assets, financial, human and physical capital needed to escape poverty. The chapter then ended by looking at the constraints militating against the development of the schemes and the impact of the schemes on the communities that they are implemented through the results of the interviews from the key informants.

Chapter Six: Findings, Conclusion and Recommendations

“Limited access to finance is likely to contribute to persistent poverty since it limits the potential for the household to exercise their own entrepreneurial abilities to escape poverty. Likewise, limited access to finance is likely to affect small entrepreneur’s ability to bring their ideas of creating small businesses into realization. Greater access to finance therefore can help poor household escape poverty and tap the talents of the less privileged”

World Bank (2001)

6.1 Introduction

This section examines the main findings of the study and draws conclusion from the entire study results. The section then examines important areas that came up in the study which further research might be usefully directed to improving outgrower oil palm by private companies as poverty alleviation intervention tool in the rural communities in Ghana and the developing world as a whole.

6.2 Discussion of Main Findings

Firstly, the study aimed at examining the effectiveness of oil palm schemes as poverty alleviation tool. The research study examined how the schemes implementation in the rural communities have assisted the participants to improve on their livelihood through access to and accumulation of financial, physical and human capital which are

ingredients for escaping poverty. This assessment focused on the potential of the schemes in achieving this for the participating farmers and the impact of these schemes on the communities that they operate and finally assessed the constraints that militates against their efficient development.

The thesis drew three main conclusions from the assessment. First the schemes implementation has generally contributed to the participants' accumulation of financial, physical and human capitals which are useful tool to come out of the poverty trap. Secondly, the schemes have impacted positively on the communities within which they are developed and are seen as partner for development in their operational area.

Thirdly, the schemes are saddled with constraints which ought to be addressed to make them more vibrant as poverty intervention mechanism. Specifically, the study found that:

6.2.1 Poverty levels between participants and non-participants

The poverty levels of the participants of the scheme are well improved than the non-participants as revealed by the analysis for all the four poverty dimensions selected for the study. However, the group analysis suggests that Group 2 who are the private oil palm growers and sell their produce to the company and sometimes receive silvicultural advice from the company have improved standard of living than Group 3 who are maize growers within the community. This suggests the strong positive impact on the scheme participants as well as the private oil palm growers than the non oil palm growers who are virtually on their own and depend totally on traditional method of farming which is characterized by low yield, low income, price fluctuations which impact negatively on their livelihood.

The differences in the improvement in the standard of living using the four poverty dimensions showed that the participants of the scheme have a general improvement in their living standard than the non-participants in the area of food security and vulnerability, dwelling and related indicators and ownership of assets.

The human resource indicators which were basically used to analyze the respondents' characteristics showed divergence significant differences for the entire variables used for the analysis. The analysis demonstrate that almost 52 percent of the respondents are female compared to 42 percent male. However, analysis of group differences did not show any significant difference but fairly balanced allocation of smallholder plots amongst participants, that is, 27 males as against 23 females. This demonstrated the gender sensitive of the scheme and which is consonant with the objective of any poverty alleviation programme which abhors gender discrimination because it is believed to be one of the major causes of poverty, slower economic growth, weaker governance and lower standard of living. Kuhn (2002) argued that women contribute decisively to the well being of their family comparatively than men, it is therefore appropriate as a poverty alleviation tool to target women in this direction. Trying to find reasons behind such result revealed that most of the men allocated with the smallholder plots registered the farms in the name of their wives to avoid future disputes with the men's family as to the rightful ownership upon the man's death.

The age analysis of the farmers revealed interesting results which needs to be commented on. The average age of the respondents was identified to be 49.3 years which shows that

the schemes and farming in general are in the hands of the aged to the neglect of the youth who could be used effectively on such a programme to address rural unemployment. The mean age of the scheme participants of 53.5 years needs much to be desired. This has a policy implication for the government to address the disparity in the allocation of smallholder plots against the youth. The trend also affects the maintenance cost of the farms since the aged farmers have to rely on contract workers at a cost. This naturally becomes an added cost which affects their income.

Marital status of the respondents revealed that almost 87 percent of the total respondents are married with their spouses permanently resident in their household, however, this result is not surprising since farmers in general are associated with more marriages and this explains why they have more children to carter for recording an average number of 6.54 children per household for Group 1, 6.36 for Group 2 and 5.39 for Group 3. Farmers have a general cultural believe that large family sizes are prerequisite for any successful farming venture since more wives and children can be used on the farmers as helping hands.

For food security and vulnerability indicators, the participants were able to have improvement in the number of days served with fruits and vegetables, number of days served with diary and eggs, number of days meat served and days without enough food in the household. However, staple food served was common to all the respondents since it is the basic food that is consumed by all. It is the other food group which are considered luxury and taken by people identified as the 'well-off' within the society that

distinguishes the poor from the non poor, in other words the consumption of such food are akin to improved standard of living and reduction in ones poverty level and since these are affordable by the participants then one can safely conclude that their poverty level is far improved or lower than the non-participant. Such trend can easily be attributed to the positive impact the programme outreach is having on the participants.

Regarding the dwelling and related indicators, the participants of the schemes were found to have improved toilets facilities, drinking water and type of cooking fuel used, good electricity supply to their dwellings and have more rooms in their household. The quality of such facilities in ones household determines ones well being and improved standard of living, since the normal trend for the ordinary man associated with poverty is to rely on the public use of such facilities provided to the whole community which are not always kept to acceptable hygienic level owing to the pressure on their usage.

The trends in access to physical services have been positive, with increased access to potable water and adequate toilet facilities, cooking fuel and electricity supply for the participants of the scheme than the non-participants. Increases in access to such facilities are identified amongst the higher income or wealth groups in the society (Ghana Statistical Service 1999). These differences suggest that the programme reaches the well-off households even though the dwelling type variables depict living conditions that are related to the level of poverty in communities. This situation places the participants in the middle income level of the society. For the poor in particular, accessing such physical services such as fuel wood for cooking and lighting, water for cooking and drinking are

time and energy burdensome activities, predominantly carried out by women. This is a particular facet and cause of rural poverty, with women engaged in lengthy trips to access these resources, taking time away from agriculturally productive activities (Ardayfio-Schandorf and Sowa 1996). The possession of these facilities in the participants' household help them to escape this menace which is poverty driven.

The asset base dimension of poverty revealed that programme participants are able to acquire more economic assets than the non-participants. The differences were seen in the acquisition of refrigerator, gas cookers and television which are synonymous to improved standard of living. The acquisition of refrigerators is considered as productive assets that contribute in the generation of household income. The only assets that did not show any significant difference in the number of acquisition was sewing machine where the acquisition was fairly balanced amongst all the groups.

It was also noted that in terms of expenditure on clothing and footwear for household which was used as benchmark for poverty, programme participants spend more than all the groups followed by group 3 members. This suggest that participants are more wealthy than all the non-participants and can afford the high cost of clothing and footwear for their household thereby ensuring that the household are not dressed in ragged clothing which are associated with poverty (Hanmer et al 1997).

There are generally significant differences between scheme participants and the non-participants with respect to the various poverty related dimensions selected for the study, including the poverty benchmark of per capita expenditure on clothing and footwear. The

differences were however, more pronounced in respect of variables for which the individual household had little or no control over their acquisition. These differences suggest the programme impact on participants in helping them improve their standard of living and improve their poverty levels. The differences again provide evidence of the level of relative poverty between the groups with the programme participant being less poor than all the groups, the non-participants.

6.2.2 Impact of scheme on participants

In terms of the programme impact on the asset build up of participants, the findings revealed that the schemes have impacted positively on the livelihood of scheme participants who are the treatment group. The results indicate that participants of the scheme are able to accumulate or acquire more assets, financial, human and physical capital than the non-participants. The participants therefore are able to manage to diversify their assets holdings which provide protection against risk and vulnerability.

In terms of financial capital, participants are able to increase their income, have increased gross margins from the scheme, and have access to financial assistance by virtue of being a member of the scheme which members of the control group are not privy to. Being a member of the scheme guarantees access for the loan from the sponsoring bank which uses ones participation of the scheme as collateral for the needed financial assistance. The loans or financial assistance for the farmers have their positive implications on the farmers, they serve as micro-credit to the loanees and help them to experience the need for banking and saving towards the future. Payment of scheme

members weekly FFB through the banks is a way of introducing the farmer to the business of banking and savings for the future since not all the monies are withdrawn from the account.

Participants in the scheme reduce their vulnerability to crisis such as emergency illness and sale of assets to repay debts by subscribing to the Smallholder Welfare Scheme where monthly subscription are deducted at source from FFB supplies. This practice enabled them to cultivate the habit of savings. The importance of savings cannot be over emphasised. As indicated by Robinson (2001), deposit services are more valuable than credit for poorer households. With savings, the individual household can build up assets to use as collateral and again smoothed seasonal consumption needs, like meeting school fees of their children, emergency expenditures as funeral expenses and marriage expenses. Probing the welfare scheme further by way of semi-structured interview, participants indicated that they use the loans to build a combination of financial and social assets. Loans indirectly helped participants join rotating savings and credit association and such loans are used sometimes to lend to their immediate family members, like brothers and sisters, thereby maintaining an important family relationship and social asset.

It was also identified that though in terms of farm operation cost, participants of the scheme have higher cost due to their practice of 'best plantation practices' which is internationally accepted. This pays the required dividend in the form of higher crop yield and increased income for the programme participants than the non-participants. In other

words participants' household incomes were higher than the non-participants and the power behind this trend is the crop yield which has a strong positive correlation with the improved income which is also influenced by 'best plantation practices' which is not available to most of the non-participants who rely on traditional method of farming. Extending the discussions further, the correlation analysis states that income and crop yield are positively correlated which implies that if crop yield increases, participants' ability to generate income also increases. If income increases savings of the household will increase and there will be a positive impact on financial situation of the family. Such a situation, increase in income and savings is mostly associated with the establishment of economic empowerment of the household because income, savings and employment opportunities are interrelated.

These findings are consistent with the findings of Warner and Bauer (2000) who reported in their studies in Papua New Guinea that total household income for the smallholder oil palm participants increased to K2167 which was far above the poverty line of K646 set by the World Bank for the country in 2001 resulting from high crop yield. The findings are also consistent with researchers who argue that programmes that have attained financial sustainability provide the most impact on participants (Hulme and Mosley, 1996; Morduch, 1999). This provides an important lesson to governments and policy makers to examine the possibility of waiving off the taxes on imported inputs for the farmers like fertiliser, chemical for spraying to enable them operate at lower cost and reduce the burden on farmers in terms of loan repayment from these input supplies. This

will in no small means be government contribution or commitment to reducing poverty in the rural settings.

Human capital concentrated on expenditures on children's education, health care and technology transfer received. The findings suggest that participants of the scheme spent much on their children's education and health care than the non-participants of the programme; however, the difference between the private oil palm growers and the non oil palm growers was not significant for expenditure on health care. This is possibly attributed to the introduction of the National Health Insurance Scheme (NHIS) in Ghana some five year ago making health care affordable to the ordinary Ghanaian.

By increasing expenditures in the category of education for their household means the treatment group are investing in the long-term for their family. If the scheme participants are more inclined to invest in the long term they are hypothesised also to be more inclined to save. The above hypothesis it must be noted is outside the scope of this research and could be researched in more depth. It is quite evident that it is the treatment that has been the catalyst for the results in favour of scheme participants. The increase in the mean expenditures for Group 2 members over Group 3 is equally attributable to their partial involvement in the scheme by selling their FFB to the companies at the company's fixed price throughout the year as against the third group whose produce are exposed to price shocks especially during peak seasons where supply far outweighs the demand in the country which naturally affect their spending ability. The results are consistent with the studies carried out by Warner and Bauer (2001) in Papua New Guinea; they reported

that participants of the oil palm scheme in the Papua New Guinea spent much money through the improved income on their children education and hence resulted in increase in school attendant rate among children of participants of the scheme. This was confirmed in a semi-structured interview with the District Education Officer of Twifo Praso that the school attendant rate of most children of the oil palm growers has increased generally.

Participants of the scheme receive silviculture services in the form of ‘best plantation practices’, like application of fertiliser, weeding, chemical for spraying and harvesting techniques that are internationally accepted and impact positively on the crop yield. These services provided by the companies to scheme participants explain why they have more crop yield, higher incomes, increase expenditure on education of the children and better access to health care. The training received for such best practices can contribute in acquisition of business skills which can easily be transferred unto their private farms to secure more yields and income and to be competitive as well. These services are equally available to Group 2 members, the private oil palm growers and explain why they have higher crop yield and increased income than Group 3 members who do not have access to these services and rely heavily on traditional farming method which is associated with low yield, low income and lower real income.

It became obvious that the schemes enable families to allocate labour efficiently between wage and farm employment. The opportunity cost of being a member of the scheme is low. An individual may easily become a member and simultaneously seek employment,

hence enabling the individual use their time on profitable ventures that will improve their standard of living.

The various facets that constitute human capital have been highlighted in the analysis to play a valuable role in determining people's well-being. The poor in Ghana are defined by various socio-economic groups as often of ill-health, or lacking access to health services, with little formal or non-formal education and in some cases without what may be considered the personal attributes to improve their livelihoods.

“The hypothesis that having ‘high’ human capital increases individuals’ opportunities to seek alternative income generating activities seems to hold true for the data and results generated by the study. There seemed to be strong association between people’s access to human capital and their actual well-being and this is evident in their expenditure on health care. Access and opportunities to combine additional assets, individual attitudes and specific circumstances, are of greater relevance to succeeding in improving one’s livelihood. The analysis seems to suggest that opportunities for training in the form of sivilcultural advice do not seem to be limiting factors but rather can become socio-cultural and economic tools for future improvement in the household livelihood”.

Accumulation and ownership of physical capital was more pronounced with programme participants than the non-participants. The result showed that programme participants acquired more of the four variables used for the survey; television sets, refrigerator, electric/gas cookers and sewing machines. Apart from sewing that did not show any

significant difference among the groups, all other asset showed pronounced significant difference in favour of the scheme participants. This was attributed to the cultural behaviour of the Ghanaian women who only acquire the sewing machine for their girl child to learn sewing should they fall out of school. In respect of television sets and refrigerators, the private oil palm growers were better off than the non oil palm growers. This shows the impact effect of the oil palm scheme on the livelihood of participants.

The accumulation of physical capital assets, such as housing type, television, refrigerators, gas cooker and sewing machines are often used as proxy indicators of household well-being. Improvements in physical assets measured over time are considered to be a sign of increasing wellbeing, with for example, the replacement of thatched by aluminum roofing defined in one rural community ('Consultations With The Poor' exercise) as a characteristic of those 'on the way to becoming rich' (Kunfaa 1999:80).

A possible interpretation as to why participants of the scheme are economically better-off than the non-participants could be due to investment decisions, as shown in research conducted by Helms (2003) on micro entrepreneurial women. His study indicates that in many cases, the purpose of a micro entrepreneurial woman's business is not to grow, capitalise, or create employment. Instead, the small business allows the woman to invest her earnings, not in her business, but in other 'asset-building activities such as children's education, fixing a leak roof, better nutrition, and health care, dealing with emergencies and the like. Such situations hold truth for the scheme participants as well.

The study provides observational evidence on the important role that poverty lending can play in international development. By conducting interviews with the management of the companies, it was revealed that most of the financing requirement for these schemes is donor funded and has contributed in increasing the socioeconomic and economic levels of participants. The schemes therefore are viewed as a hand-up instead of hand-out policy, and as such, it is becoming more popular among developers and donors who are eager to inject more capital into it. The schemes which are akin to microcredit appears to improve the lives of those who are poor by increasing their buying and investing capability, thus lifting them onto a higher economic plane. Accordingly, the schemes generally seem to positively affect poverty by creating entrepreneurship and greater self-reliance among the poor farmers.

Widely held stereotypes about the global poor are that they do not work hard, that they have too many children and that they overrun natural resources. Ridgeway and Jacques (2002) argued that such views generate and perpetuate myths that, in essence end up 'blaming the poor for poverty'. The schemes impact therefore suggests another perspective: That the poor do, in fact, labour to survive; that a key problem in explaining their poverty is lack of working capital; and that empowered by micro loans in the form of the schemes, many are able to improve their quality of life.

In conclusion, the results of the study places a responsibility on us to reflect on the idea promoted by Professor William Foote Whyte (1982) of Cornell in his presidential address

to the American Sociological Association. He argued that the social sciences ought not to merely study what is, but what ought to be. His was a clarion call for new 'social interventions' to solve human problems. Global poverty is one of the most crushing problems of the modern world. It is obvious from the study that the schemes as intervention for the very poor may come to be one of the most promising social interventions in this new 21st Century.

6.2.3 Impact of the scheme on the rural communities where they are implemented

The companies provide employment for the rural communities where they operate and the nation as a whole. Employment statistics received from the documentary review of the companies revealed that the companies provide employment opportunities direct and indirect to a total of 37,000 people within their operational area. This indicates that the companies are in no small way contributing to solving the high unemployment rate in Ghana and at the same time solving a social menace within the society by stemming the drift of the youth to the cities in search for non existing jobs.

Employment statistics received from the documentary review of the companies revealed the following:

Employment Statistics

Employment Statistics	TOPP Ltd/BOPP Ltd	GOPDC	TOTAL
Permanent Employees	328	355	683
Smallholder Farmers	1,452	7,500	8,952
Estate Contractors	1,400	2,500	3,900
Dependants(Indirect)	8,600	15,000	23,600
Total	11,780	25,355	37,135

Source: 1.Interview with Human Resource Manager (TOPP Ltd & GOPDC)
2. TOPP Ltd/ GOPDC Journal

In terms of health delivery all the companies have clinics in their operational areas manned by qualified medical officers. These clinics are accessible to all the community members within the operational area. The presence TOPP Ltd clinic for instance has contributed to reduction of river blindness within the area. Interview with the medical officer (Dr. Cryll Kwame Krah) indicates that the success rate for the control of this disease which had a prevalence rate of 84.1 percent amongst the TOPP Ltd employees has been reduced to 7 percent as at date, and most of the surrounding villages with prevalence rate of 100 percent have been reduced to 20 percent.

The companies as part of accomplishing their social responsibilities tend to undertake the construction of school buildings, provision of boreholes for portable water supply to the communities within their operational area. BOPP Ltd for example has provided a 3 unit classroom block for Benso and 6 unit classroom block for Adum Bansa which are all within their catchment's area at a total cost of GHC70,000 (USD50,000); it has again assisted the Benso Senior High School in the rehabilitation of the school's science

laboratory at a cost of GHC 10,000 (USD 7,142). In addition the communities also have a quota for intake of their children into their schools which are classified as Grade ‘A’ schools in the country. It was indicated that Twifo Praso for example can boast of over 20 university graduates who have studied various disciplines from the country’s universities who were products of TOPP Ltd Junior High School (District Director of Education).

It was revealed by the Human Resource Manager of TOPP Ltd that as part of the companies social responsibility, TOPP Ltd has instituted educational scholarship scheme dabbed Community Scholarship Scheme for the brilliant but needy students for the community of which every year three student in the Senior High School benefit.

The companies contribute to better physical assets with little cost or risk to the community partners. Investment in local infrastructure is a feature of corporate responsibility agreements, where communities gain social amenities like electricity poles, and construction of feeder roads to link the farms to ease carting of FFB from the farms, in addition to the ones mentioned above. In situations where conflict between community and the company are so pronounced, social spending as above can be an essential tool for companies to manage social risk. These initiatives are in no way a route for local empowerment.

6.2.4 Constraints militating against the development of the schemes

Following the analysis of data collected and the responses from the interview, the study concluded that despite the positive role the scheme is playing on the livelihood of participants, it is faced with a lot of challenges which when addressed would make the

schemes a good developmental intervention agent in alleviating poverty in Ghana and the developing countries as a whole. These constraints were highlighted during interviews with Key Informants and would be quoted verbatim to support the findings:

Land for expansion of the project was identified as a constraint facing the companies which tends to limit their expansion plans. The fragmentation of the land system among family heads who hold these in trust for the entire family coupled with the land tenure system in Ghana make the land acquisition for any planned expansion difficult. These acquisitions normally end up in long protracted disputes which end up in a legal battle sometimes at high cost to the company. The unfortunate situation has put BOPP Ltd and TOPP Ltd planned expansion programme of almost 1000 hectares each to affect 500 farmers livelihood in total on hold.

The fast depreciation of the local currency, the Ghana Cedi, against the dollar makes the imported inputs like fertilizer, chemicals for spraying and harvesting knives very expensive. The Ghana Cedi for example has depreciated about 40 percent against the United States Dollar from 2008 to 2010 (National Budget 2010). This uncontrollable cost tends to affect the companies operational cost and their planned profits by almost same margin and as well impact negatively on farmers loans in the form of these input supplies to the farmers. This has been a source of farmers' agitation against the high cost of these inputs debited to their loan accounts after every fertilizer application. This tends to increase their loan repayment periods and erode their incomes.

The aging of the farmers was identified as problem that affects the efficient and effective maintenance of the farms by the farmers. Most of the schemes have been in existence for over twenty years. The allocation of the farm lands at the time was made out to the old family heads whose lands were affected by the existence of the projects, to the neglect of the young people in the community. It could also be inferred that, the youth at the time were not interested in farming thinking that farming was the preserve of the old. After twenty years of existence of the schemes, most of the farmers are so old and cannot maintain the farms themselves and as such have to rely on external labour at a cost to the farmer. This tends to increase their operational or maintenance cost and their incomes as well. To address this issue it was suggested that farmers can work in communal basis by allowing other family members to help maintain the farms (Outgrower Manager, GOPDC)

It was reported that the proliferation of telecommunication service providers into the Ghanaian economy poses a big treat to the survival of the oil palm industry in terms of competition for the skilled staff that are attracted with high salary packages and other benefits that the oil palm companies which are agro based cannot afford. This has resulted in most of oil palm companies loosing out their trained staff to these newly telecommunication and mining industry.

The interviews with some of the farmers' leaders to find out their problems also revealed the following:

1. Land acquisition for oil palm development has not recognized the customary rights of indigenous peoples and the rights of local communities since most of the lands for the projects were acquired by the government through an executive instrument.
2. Oil palm small-holdings have been allocated in an unfair and un-transparent way, accompanied by falsified promises, infringed agreements.
3. Compensation, if any, paid for land has been insufficient' or nil.
4. Credit has been decided without involving farmers in a participatory manner.
5. Farmers are not involved in the setting of the FFB prices.
6. There is a lack of maintenance, by both the companies and the government, of roads linking smallholder farms to mills.
7. There is serious environmental pollution by mill effluents and chemicals used in the oil palm plantations on downstream river waters, soils and the air.

The farmers announced their intention to push for reform of oil palm policies so that they really bring benefit to the people. They seek the restitution of lands acquired by the companies without respect for the customary rights of indigenous peoples. They want effective, transparent and systematic participation of farmers in the pricing of FFB. They call for the elimination of smallholders' debts, which they feel were unilaterally and unfairly imposed on them when the estates were established on their own lands while extinguishing their rights (Smallholder Chairman-TOPP Ltd).

6.3 Conclusion

There is little doubt that the schemes are the lifeblood of the rural communities where they are implemented due to their ability to create jobs, raise the incomes and increase the assets build up levels in the environments where economic opportunities are otherwise scarce. The oil palm schemes are considered to be a vital resource not only for the contribution they make to poverty reduction and job creation, but also represent a groundswell of entrepreneurial endeavour and the potential for new business development. In Ghana and for that matter in most developing countries, the level of unfavourable economic conditions where the majority of the population is still rural and poor makes the oil palm schemes as poverty alleviation tool very crucial in this direction.

Although several studies have been undertaken over the last decade in relation to oil palm scheme as poverty alleviation tool; most if not all, focused on the impact evaluation of the level of increase in income of participant as against that of the non-participants. Outcome from most of these studies indicate that although incomes of the farmers participating in the scheme have improved, the scheme have not lived up to the full expectation as poverty alleviation tool. These findings led to the almost inevitable conclusion that further investigation on how the scheme can improve the other aspects of capital accumulation; physical capital, human capital, is necessary. This study, motivated by these findings and the need to contribute to the ongoing debate on what policy option could be useful in improving the schemes viability in the country and the developing

countries as a whole, has come out with policy recommendations that aims at improving the oil palm schemes by private companies as poverty reduction tool.

The methodology and methods employed in this study were designed to address the concerns noted above. The study took a positivist and interpretive research methodology approach and focused on quantitative social research using survey as its main method of collecting data and complemented with interviews to find out the mechanism of the outgrower oil palm scheme and again to find out how this mechanism helps poor people overcome poverty, improve their living standard and help them to build the required assets. This approach aimed at examining various relationships by carefully analysing the collected statistics. With this methodology approach in mind, the study attempted to link the participation in the scheme and their asset build up ability as being members of the scheme.

This was achieved by examining the collected evidence, which in turn formed an empirical foundation for the initially assumed general relationships. The field survey, which focused on obtaining answers to the research questions, covered a sample of the participants of the scheme, the non participants, key informants like the management of the companies, opinion leader in the community where the schemes are implemented.

The field survey also involved an extensive review of documentary evidence from various government departments involved in poverty alleviation programme like the Ghana Statistical Service, Ministry of Agriculture and other organisation involved in

intervention programme for poverty alleviation in Ghana. The thrust of the survey was targeted on collecting data from the research population through the use of questionnaire and interviews. Responses obtained from the survey formed the largest part of the empirical data. This was complemented by data obtained through interviews and documentary reviews. In most cases, these data were used to clarify the various answers that were obtained from the field.

Data used in this study were collected on a field visit to the institutions selected for the study in Ghana, These institutions are Ghana Oil Palm Development Corporation (GOPDC), Twifo Oil Palm Plantations Ltd (TOPP Ltd)/Benso Oil Palm Plantations Ltd (BOPP Ltd) over a four month period from May to August 2010. The field visit comprised three principal activities, namely documentary review, interviews and questionnaire distribution and collection of responses for the same. The documents review came from the companies (GOPDC, TOPP Ltd and BOPP Ltd), the Ghana Statistical Services, Ministry of Agriculture and other organisations involved in poverty intervention programmes. Using face-to face interviews, data were also obtained from twenty Key Informants connected with the implementation of the scheme. Finally, the researcher administered questionnaire to 150 farmers made up of 50 participants of the schemes who are the treatment group, 50 private oil palm growers and 50 non oil palm growers who together are the control group. Further to the collection of data from the farmers, brief interviews with five farmers' leaders were undertaken to find their detailed opinion on the impact of the scheme and also find out their problems as scheme participants.

6.4 Recommendations of the Study

The above study finding and thesis conclusions lead to several policy implications. This study then provides support to the need for a new approach to policy. Currently, the issue is no longer on whether we should have policy interventions in improving the viability of the schemes as poverty alleviation tool, but rather it is on what should be the nature and approach to these interventions.

Based on empirical results from the field, this study confirmed that participation in the scheme increase the accumulation of financial, physical and human capital of the participants which are ingredients for escaping poverty than the non-participant. Similarly, the study confirmed that the schemes play a very vital role in the economic development of the rural communities where they are implemented by assisting communities with schools, boreholes, employment and spin-off employment, health delivery and infrastructure development like provision and maintenance of feeder roads to ensure easy access for the farmers and their farm produce. Finally the study also found that despite the positive developmental role the schemes play as poverty intervention tool it is beset with some form of constraints that affect the realisation of the schemes full potential as poverty alleviation tool.

Given the above, it is necessary to promote policies that will allow the good people of Ghana and the developing countries as a whole to continue to benefit from further oil

palm schemes development. The following proposed recommendations would address these diverging goals:

Estate companies should be encouraged to be more environmentally sensitive in site selection and preparation. The government may be able to facilitate this by putting in place a system of taxes, fines and other incentives that will lead to environmentally and socially acceptable plantation management. This should be accompanied by procedures for independent monitoring and enforcement.

One of the identified challenges facing the development of the schemes was high cost of inputs to the farmers that tends to erode their profit. The government should factor this in their poverty alleviation strategy to subsidize such inputs like; fertilizer, chemicals and harvesting knives. However, such a policy will tend to reduce revenues to the government, it has other positive implications; it would ease the pressure on farmers and at the same time enhancing their income since this cannot be borne by the companies who are in to maximize profit; such a move by the government can be incorporated in the government poverty alleviation strategy as a direct intervention policy for the rural poor. Such a policy will certainly encourage further investment in the sector. If further development benefits the local people then this could be a good thing.

The government should as a matter of urgency revisit the tax incentives for the agricultural sector which is aimed at encouraging investment into that sector. The fragility of oil palm sector in terms of revenue generation calls for support from the

government. Such support could be in the form of tax incentives on their imported inputs and exports of their final product CPO/KPO. This can contribute to reducing their operational cost and make them competitive internationally. Its multiple impacts would be the expansion of the schemes for the benefit of the poor which eventually would reduce their poverty levels.

The youth of the country should be encouraged to go into active farming especially the outgrower oil palm. The youth policy which is currently on the drawing board in the country can incorporate this. As a way to bait them into the programme, they could be organized into co-operatives and given the needed assistance from the government either in cash or in kind. The group formation of this sort would serve as group liability or collateral for the loans to be granted or for accessing credit from any financial institution.

The government should assist companies engaged in the oil palm scheme in their land acquisition effort to help the companies to avoid the problem associated with land acquisition. The government can then turn the acquired lands as the government contribution towards equity as is being done in Indonesia. Zen et al (2005) in their study on solution to land disputes in Indonesia smallholder oil palm, reported that most companies in addressing the land dispute have developed a joint venture model scheme that gives the local people share certificate for their 2 hectare land rather than allocating an actual block of land.

Though the results from the study revealed that all the two categories of respondents; the participants' and the non participants receive income from their respective ventures that help in meeting their household expenditures it is quite evident that the participants get

more income than the non participants, more so within the non participants' category the private oil palm grower income is far above the non oil palm growers. The explanation can be that the maize growers are not organized and do not get any other complementary services in the form of input supplies, advisory services on 'best plantation practices'. These services are available to the organized palm growers and this from the results of the study contributes in enhancing crop yield and income.

It is then recommended that the maize farmers should be organized into outgrower system by the government to provide sivilcultural advice to enhance their production. Such a move would be seen as building their human capital through the technology transfer they might receive from the farm extension officers which can easily be transferred on to their private farming to boost productivity.

The outgrower schemes should be encouraged in other agricultural sectors of the economy since it has proven to be a poverty alleviation tool to some extent. In Ghana the Ghana Rubber Plantation Limited in the Western Region is undertaking a similar venture within its catchments area of operation to assist the poor communities to undertake rubber plantation on their private lands.

6.5 Direction for Future Research

Tyynela et al (2000) argued that a livelihood framework identifies five core assets categories, natural, social, financial, physical and human capital upon which livelihood are built; they noted that most impact studies on outgrower oil palm schemes have

seldom examined these livelihood structure but rather concentrate on income (financial capital) in their impact assessment. The study has gone a step further by heading to the call for researchers to examine all the five core assets by examining in dept impact assessment by using financial, human and physical capital. It is therefore imperative that future researchers should go a further milestone by examining natural and social capital in their impact assessment to fulfill Tyynela et al assertion.

It was revealed from the results of the studies that almost all the farmers participating in the scheme have accessed loans or financial assistance from the Commercial Banks especially Agricultural Development Bank which is the co-sponsoring bank for the scheme by using proceeds from FFB credited to the bank fortnightly as collateral security for the granting of the loan. Farmers through the interview revealed that these loans are used as start-up business capital for their wives, it is therefore necessary to conduct further research to examine the effective use of such loans by the farmers in further improving their income and household livelihood in general.

The results from the study revealed that participants of the scheme spent much on their children's education than the non-participants. Such investment in education is a long term investment and since they are more inclined to invest in the long term they are hypothesized to be more inclined to save. Such hypothesis is a subject of further research to be tested to prove among programme participants inclination to invest in the human capital of their children.

Similarly, there is the need for further research that will go beyond the findings of this study in the process of improving oil palm outgrower schemes as poverty alleviation intervention tool in the rural communities.

6.5 Limitation of the Study

Although the data collection was undertaken in communities that have well established outgrower oil palm scheme in Ghana, TOPP Ltd/BOPP Ltd and GOPDC, the researcher feel this places a limitation on the scope of the study since the survey could have been extended to cover the small companies in the country like NORPALM Ghana Limited, and Ayiem Oil Palm Plantation which undertake similar venture to assist the poor communities. The mining sectors as part of their corporate social responsibility are undertaking the outgrower oil palm concept as alternative livelihood for the communities whose lands have been affected by the mining operations which are all areas that could have been covered if time and resources were available.

However, notwithstanding the scope limitation, it is the opinion of the researcher that the institutions selected for the study are classified as the model companies in the country that have practiced the outgrower concept for over twenty years and considered as good models for the study as oppose to the small companies and the mining sectors which most of them are in their fifth year of operation. The data collection then was restricted to these institutions as above which may fail to represent the actual scenario of the whole country. While interviewing the respondents, it became obvious that there was a problem in explaining the questions as most of the respondents in the scheme and outside the scheme are illiterate and living in rural settings. Therefore it was difficult appreciating some technical terms like; household income/revenues, savings and operating cost.

The researcher was confronted with financial constraints which places limitation on the study. For example the researcher was made to undertake personal accident policies for all the research assistance engaged in the data collection exercise in compliance with the safety guidelines of the institution selected for the study before entering the company premises to collect data. This cost and other identifiable cost like transport, hotel and feeding cost for the whole four months of the data collection exercise increased the financial burden of the researcher.

Appendices

		Sex		Total	
		Male	Female		
Group	Group 1	Count	27	23	50
		% within Group	54.0%	46.0%	100.0%
		% within Sex	37.5%	29.5%	33.3%
		% of Total	18.0%	15.3%	33.3%
	Group 2	Count	19	31	50
		% within Group	38.0%	62.0%	100.0%
		% within Sex	26.4%	39.7%	33.3%
		% of Total	12.7%	20.7%	33.3%
	Group 3	Count	26	24	50
		% within Group	52.0%	48.0%	100.0%
		% within Sex	36.1%	30.8%	33.3%
		% of Total	17.3%	16.0%	33.3%
Total	Count	72	78	150	
	% within Group	48.0%	52.0%	100.0%	
	% within Sex	100.0%	100.0%	100.0%	
	% of Total	48.0%	52.0%	100.0%	

Appendix 1: Cross-tabulation for gender distribution for groups.

Status of head of household: Cross tabulation

		Status of head of household					
		No response	Single	Married, with spouse permanently present in the household	Widow or widower	Total	
Group	Group 1	Count	0	1	49	0	50
		% within Group	.0%	2.0%	98.0%	.0%	100.0%
		% within Status of head of household	.0%	7.7%	37.7%	.0%	34.0%
		% of Total	.0%	.7%	33.3%	.0%	34.0%
	Group 2	Count	0	4	45	1	50
		% within Group	.0%	8.0%	90.0%	2.0%	100.0%
		% within Status of head of household	.0%	30.8%	34.6%	50.0%	34.0%
		% of Total	.0%	2.7%	30.6%	.7%	34.0%
	Group 3	Count	2	8	36	1	47
		% within Group	4.3%	17.0%	76.6%	2.1%	100.0%
		% within Status of head of household	100.0%	61.5%	27.7%	50.0%	32.0%
		% of Total	1.4%	5.4%	24.5%	.7%	32.0%
Total	Count	2	13	130	2	147	
	% within Group	1.4%	8.8%	88.4%	1.4%	100.0%	
	% within Status of head of household	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	1.4%	8.8%	88.4%	1.4%	100.0%	

Appendix 2: Marital status of respondents

Multiple comparisons

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Number of children	Group 1	Group 2	.180	.345	.861	-.64	1.00
		Group 3	1.152*	.347	.003	.33	1.97
	Group 2	Group 1	-.180	.345	.861	-1.00	.64
		Group 3	.972*	.347	.016	.15	1.79
	Group 3	Group 1	-1.152*	.347	.003	-1.97	-.33
		Group 2	-.972*	.347	.016	-1.79	-.15

*. The mean difference is significant at the 0.05 level.

Appendix 3: Number of children of respondents

Multiple Comparisons

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
E2.10.Televisions	Group 1	Group 2	.560*	.199	.015	.09	1.03
		Group 3	.960*	.199	.000	.49	1.43
	Group 2	Group 1	-.560*	.199	.015	-1.03	-.09
		Group 3	.400	.199	.113	-.07	.87
	Group 3	Group 1	-.960*	.199	.000	-1.43	-.49
		Group 2	-.400	.199	.113	-.87	.07
E2.12.Refrigerators	Group 1	Group 2	.500*	.149	.003	.15	.85
		Group 3	.700*	.149	.000	.35	1.05
	Group 2	Group 1	-.500*	.149	.003	-.85	-.15
		Group 3	.200	.149	.373	-.15	.55
	Group 3	Group 1	-.700*	.149	.000	-1.05	-.35
		Group 2	-.200	.149	.373	-.55	.15
E2.14.Sewing machines	Group 1	Group 2	-.181	.133	.367	-.50	.14
		Group 3	.065	.121	.852	-.22	.35
	Group 2	Group 1	.181	.133	.367	-.14	.50
		Group 3	.246	.134	.162	-.07	.57
	Group 3	Group 1	-.065	.121	.852	-.35	.22
		Group 2	-.246	.134	.162	-.57	.07
Electric or gas cookers	Group 1	Group 2	.660*	.230	.013	.11	1.21
		Group 3	.860*	.230	.001	.31	1.41
	Group 2	Group 1	-.660*	.230	.013	-1.21	-.11
		Group 3	.200	.230	.661	-.35	.75
	Group 3	Group 1	-.860*	.230	.001	-1.41	-.31
		Group 2	-.200	.230	.661	-.75	.35

*. The mean difference is significant at the 0.05 level.

Appendix 4: Multiple comparisons for assets owned

Multiple Comparisons

Clothing/footwear expenses for last 12 months in local currency

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Group 1	Group 2	699.24000 [*]	66.23999	.000	542.4040	856.0760
	Group 3	615.96000 [*]	66.23999	.000	459.1240	772.7960
Group 2	Group 1	-699.24000 [*]	66.23999	.000	-856.0760	-542.4040
	Group 3	-83.28000	66.23999	.422	-240.1160	73.5560
Group 3	Group 1	-615.96000 [*]	66.23999	.000	-772.7960	-459.1240
	Group 2	83.28000	66.23999	.422	-73.5560	240.1160

*. The mean difference is significant at the 0.05 level.

Appendix 5: Multiple comparisons for expenditure of clothing and footwear

Multiple Comparisons

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Average annual household income	Group 1	Group 2	2467.029 [*]	310.370	.000	1732.12	3201.94
		Group 3	2942.829 [*]	310.370	.000	2207.92	3677.74
	Group 2	Group 1	-2467.029 [*]	310.370	.000	-3201.94	-1732.12
		Group 3	475.800	308.798	.275	-255.39	1206.99
	Group 3	Group 1	-2942.829 [*]	310.370	.000	-3677.74	-2207.92
		Group 2	-475.800	308.798	.275	-1206.99	255.39
.Last year's crop yield	Group 1	Group 2	48.823 [*]	4.695	.000	37.71	59.94
		Group 3	59.493 [*]	4.695	.000	48.38	70.61
	Group 2	Group 1	-48.823 [*]	4.695	.000	-59.94	-37.71
		Group 3	10.670	4.671	.061	-.39	21.73
	Group 3	Group 1	-59.493 [*]	4.695	.000	-70.61	-48.38
		Group 2	-10.670	4.671	.061	-21.73	.39
Financial assistance received through scheme/self	Group 1	Group 2	496.249 [*]	36.781	.000	409.16	583.34
		Group 3	586.649 [*]	36.781	.000	499.56	673.74
	Group 2	Group 1	-496.249 [*]	36.781	.000	-583.34	-409.16
		Group 3	90.400 [*]	36.594	.039	3.75	177.05
	Group 3	Group 1	-586.649 [*]	36.781	.000	-673.74	-499.56
		Group 2	-90.400 [*]	36.594	.039	-177.05	-3.75
Farm operating cost per month/annum	Group 1	Group 2	953.141 [*]	136.249	.000	630.52	1275.76
		Group 3	1262.841 [*]	136.249	.000	940.22	1585.46
	Group 2	Group 1	-953.141 [*]	136.249	.000	-1275.76	-630.52
		Group 3	309.700	135.559	.061	-11.28	630.68
	Group 3	Group 1	-1262.841 [*]	136.249	.000	-1585.46	-940.22
		Group 2	-309.700	135.559	.061	-630.68	11.28

*. The mean difference is significant at the 0.05 level.

Appendix 6: Multiple comparisons for income, crop yield, financial assistance and farm operating cost.

Multiple Comparisons

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Expenditure on Children Education	Group 1	Group 2	368.900 [*]	36.338	.000	282.86	454.94
		Group 3	527.600 [*]	36.338	.000	441.56	613.64
	Group 2	Group 1	-368.900 [*]	36.338	.000	-454.94	-282.86
		Group 3	158.700 [*]	36.338	.000	72.66	244.74
	Group 3	Group 1	-527.600 [*]	36.338	.000	-613.64	-441.56
		Group 2	-158.700 [*]	36.338	.000	-244.74	-72.66
Expenditure on healthcare	Group 1	Group 2	268.106 [*]	23.552	.000	212.34	323.87
		Group 3	323.400 [*]	23.433	.000	267.91	378.89
	Group 2	Group 1	-268.106 [*]	23.552	.000	-323.87	-212.34
		Group 3	55.294	23.552	.053	-.47	111.06
	Group 3	Group 1	-323.400 [*]	23.433	.000	-378.89	-267.91
		Group 2	-55.294	23.552	.053	-111.06	.47

*. The mean difference is significant at the 0.05 level.

Appendix 7: Multiple comparisons for expenditure on child education and health care

Multiple comparisons

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
value of Television	Group 1	Group 2	245.61495 [*]	39.38642	.000	152.0614	339.1685
		Group 3	269.77935 [*]	44.50728	.000	164.0623	375.4964
	Group 2	Group 1	-245.61495 [*]	39.38642	.000	-339.1685	-152.0614
		Group 3	24.16441	45.68006	.857	-84.3383	132.6671
	Group 3	Group 1	-269.77935 [*]	44.50728	.000	-375.4964	-164.0623
		Group 2	-24.16441	45.68006	.857	-132.6671	84.3383
value of refrigerator	Group 1	Group 2	181.95122 [*]	56.85709	.006	46.1706	317.7319
		Group 3	280.77475 [*]	64.63566	.000	126.4181	435.1314
	Group 2	Group 1	-181.95122 [*]	56.85709	.006	-317.7319	-46.1706
		Group 3	98.82353	70.43764	.344	-69.3889	267.0359
	Group 3	Group 1	-280.77475 [*]	64.63566	.000	-435.1314	-126.4181
		Group 2	-98.82353	70.43764	.344	-267.0359	69.3889
value of Electric or gas cookers	Group 1	Group 2	-44.50128	23.91981	.161	-102.2777	13.2751
		Group 3	26.08696	25.94967	.577	-36.5924	88.7663
	Group 2	Group 1	44.50128	23.91981	.161	-13.2751	102.2777
		Group 3	70.58824 [*]	27.55375	.035	4.0344	137.1421
	Group 3	Group 1	-26.08696	25.94967	.577	-88.7663	36.5924
		Group 2	-70.58824 [*]	27.55375	.035	-137.1421	-4.0344
value of Sewing machines	Group 1	Group 2	-20.83958	16.89367	.436	-61.0082	19.3291
		Group 3	-8.01630	16.40079	.877	-47.0130	30.9804
	Group 2	Group 1	20.83958	16.89367	.436	-19.3291	61.0082
		Group 3	12.82328	18.26679	.763	-30.6103	56.2568
	Group 3	Group 1	8.01630	16.40079	.877	-30.9804	47.0130
		Group 2	-12.82328	18.26679	.763	-56.2568	30.6103

*. The mean difference is significant at the 0.05 level.

Appendix 8: Multiple comparisons for value of assets owned

Appendices Nine: Questionnaire

St Clements University Questionnaire

Topic: Outgrower Oil Palm Plantation Scheme by Private Companies and Poverty Reduction in Ghana

This survey is undertaken by a Doctoral student of the above University. The underlying questionnaire for the study has been designed to provide relevant data on the impact of the outgrower oil palm scheme by private companies on participating farmers and non-participants in reducing their poverty levels. It would be highly appreciated if you could fill in this **six page** questionnaire to enable the researcher accomplish his objective. Your cooperation would be appreciated.

PART A

Survey Questionnaire to Assess the Poverty Level of Participants of the Scheme and Non-Participants

Assessing Living Standards of Households

SECTION A: HOUSEHOLD IDENTIFICATION

A1. Date (mm/dd/yyyy): ____| ____| ____

A2. Outgrower unit code:

A3. Group code:

A4. Group name:

A5. Household code:

A6. Household chosen: (1) client of scheme (2) non-client of scheme?

A7. Name of respondent:

Name of the household head:

Address of the household:

A8. Interviewer code:

A9. Date checked by supervisor (mm/dd/yyyy): ____| ____| ____

A10. Supervisor signature: _____

SECTION B: FAMILY STRUCTURE

B1. Members of Household (HH)

ID Code	Name	Status of head of HH (A)	Relation to head of HH (B)	Sex (C)	Age	Max. level of schooling (D)	Can write (E)	Main occupation current year (F)	Current member of study scheme (G)	Number of Children (from 0-14 years)	Clothing/ Footwear expenses for last 12 mos. In local currency (H)
1	(HH Head)										
2											
3											
4											
5											
6											
7											
8											

- (A) 1-single, 2-married, with the spouse permanently present in the household, 3-married with the spouse migrant, 4-widow or widower, 5-divorced or separated
- (B) 1-spouse, 2-son or daughter, 3-father or mother, 4-grandchild, 5-grandparents, 6-other relative, 7-other non relative
- (c) 1-male, 2-female
- (D) 1-less than primary 6, 2-some primary, 3-completed primary 6, 4-attended technical school, 5-attended secondary, 6-completed secondary, 7-attended college or university
- (E) 0-no, 1-yes
- (F) 1-self-employed in agriculture, 2-self-employed in non-farm enterprise, 3-student, 4-casual worker, 5-salaried worker, 6-domestic worker, 7-unemployed, looking for a job, 8-unwilling to work or retired, 9-not able to work (handicapped)
- (G) 0-no, 1-yes
- (H) In order to get an accurate figure, one should preferably ask about clothing and footwear expenses for each adult/child in the presence of the spouse of the head of household. If the clothes were sewn at home, provide costs of all materials (thread, fabric, buttons, and needle).

SECTION C: FOOD-RELATED INDICATORS

C1. During the last seven days, for how many days were fruits and vegetables meals served in a main meal eaten by the household?

C2. During the last seven days, for how many days were dairy and eggs served in a main meal eaten by the household?

C3. During the last seven days, for how many days were staples food served in a main meal eaten by the household?

C4. During the last seven days, for how many days were meat served in a main meal eaten by household?

C5. During the last 30 days, for how many days did your household not have enough to eat everyday?

SECTION D. DWELLING-RELATED INDICATORS

(Information should be collected about the dwelling in which the family currently resides).

D1. How many rooms does the dwelling have? (Include detached rooms in same compound of same household)

D2. What type of roofing material is used in the main house? (1) Tarpaulin, plastic sheets, or Branches and twigs (2) grass (3) stone or slate (4) iron sheets (5) brick tiles (6) concrete

D3. What type of exterior walls does the dwelling have? (1) Tarpaulin, Plastic sheets, or branches and twigs (2) mud walls (3) iron sheets (4) timber (5) brick or stone with mud (6) brick or stone with cement plaster

- D4. What type of flooring does the dwelling have? (1) Dirt (2) wood (3) cement (4) cement with additional covering.
- D5. What is the electricity supply? (1) No connection (2) shared connection (3) own connection
- D6. What type of cooking-fuel source primarily is used? (1) Dung (2) collected wood (3) purchased wood (4) Charcoal (5) kerosene (6) gas (7) electricity
- D7. What is the source of drinking water? (1) Rainwater, dam, pond, lake or river (2) spring (3) public well, open (4) public well, sealed with pump (5) well in residence yard (6) piped public water (7) bore hole in residence.
- D8. What type of toilet facility is available? (1) bush, field, or no facility (2) shared pit toilet (3) own pit toilet (4) shared, ventilated, improved pit latrine (5) own improved latrine (6) flush toilet, Own, or shared

Adopted: Consultative Group to Assist the Poor (Building Financial Services for the Poor) Henry et al, (2003)

PART B

Survey Questionnaire for Participants of the scheme and Non-Participants to Assess the Impact of the scheme on Asset Build up to Reduce Poverty (Human, Financial and Physical Capitals)

Physical Capital

E1. Area of land owned: Agricultural _____ Non-agricultural _____

Value of land owned: Agricultural _____ Non-agricultural _____

E2. Number and value of selected assets owned by household: (Ask household to identify any assets purchased with Scheme/farm proceeds)

Asset type and code	Number owned	Resale value at current market price
Appliances and electronics		
1. Televisions		
2. Refrigerators		
3. Electric or gas cookers		
4. Sewing machines		

Human Capital

F1. Ask household for answers to the underlying questions:

Asset type and code	State as applicable
Education	
1. Expenditure on children education	
Health	
1. Expenditure on Health Care for last 12 months	
Technology Transfer	

Technology Transfer

Do the scheme/ (Independent farms) offer you any kind of training in good plantation practices? YES/NO

If 'Yes' what type of skills:

- a. Manuring practices like fertiliser application
- b. Weeding
- c. Spraying and the skills to the use of the chemicals
- d. Harvesting techniques

Financial Capital

G1. Ask household for answers to the underlying questions:

Asset type and code	State as applicable
Agriculture Income	
1. Average monthly/annual household income	
2. Source of agricultural income (scheme, food/cash crop)	
3. Membership of Welfare Scheme (Yes/No)	
4. Last year's crop yield	
5. Financial assistance received through scheme/self	
6. Farm operating cost per month/annum	

Adopted: Consultative Group to Assist the Poor (Building Financial Services for the Poor) Henry et al, (2003)

Questions for Interviews to Key Informants

1. Could you please tell me the extent to which the company supports community projects like, provision of schools, boreholes, clinic, feeder roads and scholarship scheme for students in the community?
2. Could you please tell me the extent to which the company provides employment to the community and other spin-off employment?

3. Could you please tell me the extent to which the company's location in the community has influenced the community socially and economically?
4. What problems in your opinion are militating against the successful implementation of the schemes and their possible solutions?
5. As a participating farmer of the scheme, what is your candid opinion on the overall benefits of the scheme and the peculiar problems farmers are confronting with?

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