KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF AGRICULTURE AND NATURAL RESOURCE

FACULTY OF AGRICULTURE

DEPARTMENT OF AGRICULTURAL ECONOMICS, AGRIBUSINESS AND EXTENSION

ASSESSING GENDER, TENURE RELATIONS AND INCOME DISTRIBUTIONS IN THE SHEA BUSINESS IN THE BOLE DISTRICT.

BY

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A DISSERTATION SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL ECONOMICS, AGRIBUSINESS AND EXTENSION, FACULTY OF AGRICULTURE, COLLEGE OF AGRICULTURE AND NATURAL RESOURCES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PHILOSOPHY AGRICULTURAL ECONOMICS DEGREE

AUGUST, 2015

DECLARATION

I hereby declare that this submission is my own work towards my MPhil. Degree and that, to the best of my knowledge, it contains no material published by another person or material which has been accepted in any other University for any degree except where due acknowledgement has been made in the text.

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(Head of Department) Signature Date

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ABSTRACT

The study assesses gender, tenure relations and income distribution in the shea business in the Bole District of the Northern Region of Ghana. The data employed in the study was obtained from 120 local indigenous shea nut pickers, processors and retailers in Bole and its environs. It was revealed that communal land tenure is generally practiced in the study area with community lands entrusted to the chief and landlords serving as spiritual heads of the land and advisors to the chief on land issues. Women are not traditionally allowed to own farmlands in the study area. Farm lands are owned by their husbands and sons. Women's main form of land acquisition is to plead for land from their husbands or their husband's family members or to rent. Women can also buy some lands although not all communities sell lands. . Men were found not to be main pickers of shea but rather support their wives in shea picking. Majority of the people pick shea from the uncultivated lands followed by leased land. Picking of shea from someone's family or leased land is a problem and not allowed. There exist significant differences in the various activities in the shea business among gender. There are significant differences between income from shea picking, processing and retailing. The income from shea business is unequally distributed among single women, married women and children. The shea business favours women with low income in the study area compare to men. Shea picking favours the women with low income whereas shea processing and retailing favours the rich women, indicated by the positive gini correlation coefficient. The shea income from women leased land and from the bush or uncleared land favours the women with low income in the study area. Individuals' access to family or leased land does not mean they don't operate on the uncultivated lands.

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DEDICATION

I dedicate this piece of work to the Almighty God and to the entire Mogre Family

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LIST OF ABBREVIATIONS

COCOBOD	-	Ghana Cocoa Board
CRIG	-	Cocoa Research Institute of Ghana
DFID	-	Department for International Development
FAO	-	Food and Agriculture Organization
MOFA	-	Ministry of Food and Agriculture
NGO	-	Non Governmental Organization
OXFAM	-	The Oxford Committee for Famine Relief
SNV	-	Stichting Nederlandse Verijwilligers
USAID	-	United States Agency for International Development
WATH	-	West Africa Trade Hub

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Land tenure is the relationship, either legally or customarily defined among people as individuals or groups, with respect to land. Land tenure also indicates the system of holding, which has evoked from the peculiar political and economic circumstances, cultural norms and religious practices of a people regarding land as natural resources, its use and development (Lund, 2003). Land tenure defines rules, regulations and institutional structures both customary and enacted regulations, which influence the holding and appropriation of land and other natural resources.

Communal or cooperate ownership of land continues to be the major features of tenure systems in Ghana particularly in the northern part. In principle, both men and women have rights to land. However, women usually receive smaller portion of land with low soil fertility level and sometimes further away from the village unlike their male counterparts (Baden et al., 1994). Women are not traditionally allowed to own farm lands in northern Ghana but they work on private or farm lands owned by their husbands and sons. There is a difference between ownership of land and access to resources on that land. It is observed that, even though women do not own lands, they are allowed to access to shea nuts and shea trees in any part of the community except in people's farms. Gender differentials in access to natural resources suggest a need for information on possible differences in agricultural productivity by gender (CRIG 2002). However, with increasing economic value of shea nuts and scarcity of land due to population growth, there is more pressure and restrictions to women access to shea

nuts and shea trees. Women and men are restricted from collecting nuts from cultivated lands. In Ghana, men are becoming involved in the picking of shea nut which was traditionally women's activity as in the 1980's; the sale of these nuts has become a highly profitable venture. The shea nuts and butter is marketed mostly in the local markets. Very often these products pass through channels arranged by the monopolistic middlemen (mostly men). Thus, in most cases the local producers who are mostly women are not directly linked to the wholesale or export marketing outlets.

Until recently, picking and processing of shea nuts has been an occupation of rural women and children (Elias and Carney, 2007) but it has changed as men are entering the shea nut sector. In the early 80"s, shea business was largely an opportunistic trade, with little or no organization at community level. Participation of men in gathering shea was very virtual insignificant since it was regarded as women and children's work. The shea business was regarded as an "opportunistic business" activity because no one had ownership rights over the trees and gathering was equally open to everybody. However, the owners of new, old, and abandoned farms maintain the rights to harvest their trees.

The shea fruits contribute greatly to food security in the country, particularly, for the rural poor since their ripening coincides with the lean season of food production (Kletter, 2002). Almost all rural households in northern Ghana depend heavily on shea nuts for their income each year (CRIG, 2002) Shea provides over 60% of annual income of most rural household and this income from the sale of shea nuts and shea butter is one of the very few sources of income for the women. Averagely the women make between GHC500 (USD 156.25) to GHC 1000(USD 312.5) in a season (CRIG,

2002). The women use the income generated from selling the shea nuts and butter to buy food, clothes or pay school fees and medical care. In the years of failed crop harvests, income from shea serves as an extra buffer to be able to buy food. Also, for those who are poor and landless, shea nut picking and selling can be crucial for survival as it is one of the few free natural resources they have access to.

This study takes its inspiration from the Ghanaian Growth and Poverty Reduction strategy (GPRS II 2006-2009) which envisaged the private sector as the engine of growth. Ghana's economy is already led by the agricultural sector which accounts for about 21.5% of GDP and employs 56% of the labour force (Ghana statistical service, 2006) and therefore agro-based activities constitute one of the opportunities to developing the private sector. The study views the activities of the shea industry within the context of the GPRS II framework on the basis that, the industry possesses what is required for the agriculture business sector to contribute significantly to the growth of the Ghanaian economy and to improve upon the lives of people. A sustained women's access to natural resources such as the shea can be a way of creating continuous economic development for rural women in northern Ghana.

1.2. PROBLEM STATEMENT

Shea tree is unique to Africa. It grows across the semi-arid Sahel region from Senegal to Uganda and has probably been used for thousands of years in food, skin balms, soaps and shampoos, traditional medicines and cooking and lamp oils (World Bank, 2007). The use of shea butter has been increasing steadily in recent years as consumers are demanding better quality natural, minimally processed ingredients in personal care items and food (Peterman *et al*., 2010). Shea has long been recognized

for its emollient and healing properties, ideal for soothing skin in the dry climate of the Northern Region. Since the fourth world conference on women in Beijing in the year 1995, donors, policy makers and development practitioners have pointed out the critical role of gender in development programmes (Doss, 2001; World Bank, 2007; Peterman *et al.*, 2010; Quisumbing, and Pandolfelli ,2010; Meinzen- Dick *et al.*, 2010).

There is a general consensus that gender inequalities in areas such as ownership and access to resources and land tenure systems, have contributed to lower agricultural productivity and higher poverty levels. Pugansoa and Amuah (1991) argued that women's access to shea nuts depends on the existing tenure arrangement. In northern Ghana, men have rights to own land than women. Under the patrilineal system of northern Ghana, land is owned by the family, headed by the man and transferred to the male child after his death. This system means that women are limited to right to own. The only possible way for a woman to own a land in northern Ghana is to purchase land, however, lands are not usually sold. Therefore, access to shea trees on farm lands by women is only limited to lands owned by their husbands or husbands' relatives. The women sometimes seek for shea nut in the bush.

Women are an integral part of households and contribute immensely towards the household wellbeing through their income generating activities, The rights to natural resources therefore, are extremely important, especially for rural women, since women's livelihood crucially depends on it.Their success in meeting daily household needs depends on how well they manage and supplement a limited and delicately balance set of resources: crop plant, pasture and forest. Women need unrestricted

access to natural resources such as shea to empower them to work to their full economic potentials. In the Bole district the collection and processing of shea is primarily considered to be the role of women and children. One important challenge to increasing women's access to natural resources is the unfavourable land tenure system. If the tenure is secured, women can reasonably expect to use land –based resources such as shea to their best advantage.

A three-year programme started in January 2008 by the United Nations Development Programme (UNDP) and Africa 2000 Network, with financial support from the Japanese Government, enabled women to acquire the skills to process shea nuts into butter, soap and other finished products to meet the international standards. The advantages and the uses of shea nut as an industrial raw material have been very well developed in the advanced countries, whilst in developing countries such as Ghana, they are not well developed.

In spite of various advocacy programmes for women's empowerment, women in the Bole district are still relegated and marginalised in terms of ownership and use of natural resources. They bear responsibilities for household and cash security yet they have limited access to resources and opportunities and their productivity remains low relative to their potentials. Women do not play any important role in the overall marketing approach of shea nuts; and preparing the product for the market and promoting product values by making the shea nuts attractive for the general market (Ramani and Heijndermans, 2003). The shea nut industry has expanded in response to the recent increase of shea nuts as a 'cash crop'. The potential to make gain from the industry has brought a lot of men into the industry. Many of the men come from

the business world who wants to take advantage of the rapid growth in the shea nut industry Elias and Carney (2004). Despite the progress made in understanding and engagement with the dynamics of rapidly changing market, women are missing opportunities to leverage the men. Many women who have enjoyed substantial monopoly power earning good profits for the support of family, have eventually resided in isolation with little endorsement or connection to each other. Their incomes have declined eventually due to the entrance of these competitive men into the industry. The way to sustain and increase these women's competitiveness in shea nut market is to ensure proper distribution of income among the actors in the industry, Chalfin (2004).

It is against this background that the study aims to identify the current levels of local supply of shea nut and collection rights by gender, as well as likely profit margins, do men and women benefit optimally in the shea industry now that it has become a cash crop. It is also important to understand how increasing male competition in this industry would affect their women counterpart. The study will also identify the role of gender and the changes in tenure relations as a result of the shift of shea nut from a non-cash crop to a cash crop as well as the effect on income distribution and make implementable recommendations aimed at ensuring sanity in the shea nut industry in Ghana, finally the perception of the actors on the impact of the shea industry on their livelihood will be looked at.

1.3. RESEARCH QUESTIONS

Based on the research problem, the study raises the following issues:

1. 1 .What is the socioeconomic characteristics of the actors in the shea industry?
2. What are the gender relation in the shea industry?
3. What are the tenure relations in the shea industry?
4. What are the perceptions of actors on the impact of the shea industry on their livelihoods?
5. How is income from the shea activities distributed among actors in the industry?

1.4. OBJECTIVES OF THE STUDY

The main objective of the study was to assess gender, tenure relations and income distributions in the shea business at the household level in the Bole district

The specific objectives of the study are as follows:

1. To describe the socioeconomic characteristics of the actors in the shea industry.
2. To analyse the gender relations in the shea industry.
3. To analyse the tenure relations in the shea industry.
4. To analyse the perceptions of actors on the impact of shea industry on their livelihood.
5. To determine the income distribution among actors in the shea industry.

1.5 JUSTIFICATION

Recently, the promotion of shea business has received particular attention from government and non-governmental organizations in Ghana. For instance, women in

shea business have received support from United Nations Development Programme (UNDP) and Japanese Government to enable them to perform efficiently and to meet international standard. However, the gender and land tenure relations and income distribution from the shea business have not received much attention in terms of research. Meanwhile there are fundamental indicators that, these factors significantly influence development of the shea industry in Sub-Saharan Africa (Hilhorst, 2000). Therefore an understanding of the gender and land tenure relations and income distribution in the shea industry is essential for actors and key players along the shea value chain to respond to them for enhancement of marketing performance and profitability.

Ghanaian women in the shea producing regions have been in the shea business for ages yet the promotion of shea butter for export or marketing at the international level is relatively new and emerging. There is therefore the need for studies that will help develop the shea market and shea products locally so that the products can compete on the international market since no such study has been conducted in the study area to the best of the author's knowledge. In particular, issues concerning access to shea tress and channels of marketing that will maximize the income of the women in shea business. Findings on access to shea tress and tenure relations can ultimately guide women or actors in the shea business on where and how to get access to shea fruits, thereby increasing their production and income. Also, identifying the tenure relationships existing in the study area will assist policy makers to design strategies and policies towards enabling access to shea.

Inequality matters for poverty. For a given level of average income, gender and land ownership, increased inequality of these characteristics will almost always imply higher levels of both absolute and relative deprivation in these dimensions (Seguino, 2013b). As long as a large proportion of the women in the study area obtain income from shea business, shea income inequalities must constitute an important source of overall income inequality. Therefore changes in shea income inequalities can have important implications for both social welfare and economic development. To the extent that if shea incomes are lower than incomes in other gender categories, concern for issues of poverty highlight the importance of the component of gender income distribution. Hence, findings on income distribution among the key players in the shea business will provide meaningful information that will assist policy makers in the shea industry in designing equitable and fair income distribution policies.

A focus on the shea income distribution from the various marketing channels and sources of shea is also a prerequisite for understanding which markets and sources, at which segments of the market and source of shea spectrum, would be more profitable. Such findings will guide actors in the shea business on where to sell their shea products and also where to acquire shea fruits. The study has the potential to improve the incomes and livelihoods of women in shea business and other market participants and to be an avenue for the overall development of the shea industry in Ghana.

Generally, the study will provide inputs into the formulation of shea development management plans and programs, particularly on issues relating to gender, tenure relations, marketing and income distribution and other shea development programs. The study will act as a source of information for future research in the shea industry,

given that there is scanty information available on shea business in Ghana and Sub-Saharan Africa, particularly on income distribution and tenure relations.

1.6 STATEMENT OF HYPOTHESES

1. H_0: There is no significant difference between the incomes received by shea pickers, processors and shea retailers.

   H_1: There is a positive significant difference between the incomes received by shea pickers, processors and shea retailers.

2. H_0: Income from shea business is equally distributed among men, married and single women, and children in the shea communities.

   H_1: Income from shea business is unequally distributed among men, married and single women, and children in the shea communities.

3. H_0: Income from shea business is equally distributed according to the tenure right in the shea communities.

   H_1: Income from shea business is not equally distributed according to the tenure right in the shea communities.

1.7 ORGANISATION OF THE STUDY

The study is structured into five main chapters. Relevant literature such as Gender and land rights, Tenure relations in the shea industry, shea nut trading, Promotion of shea in Ghana were reviewed in Chapter two. Chapter three presents the methodology used to address the stated research objectives. The key empirical findings are discussed in Chapter four. Conclusions are provided in chapter five.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews relevant literature on gender and land rights, the shea industry and tenure relations, gender access to resources and gendered control over benefits, shea nut trading, promotion of shea in Ghana, on-going (non) governmental activities to enhance land and tree tenure security and the income distributions as shea has now become a cash crop. The industry is examined from its historical perspective to the constraints faced by the actors involved in the shea business.

2.1. GENDER AND LAND RIGHTS

While several researchers have drawn attention to gender inequalities in land tenure systems, others have insisted that there is no problem of gender inequalities in land tenure (Bonye and Kpieta, 2012). The majority perceive that women's access to land is improving as a result of factors such as migration, education and economic change in rural communities (Bonye and Kpieta, 2012). Also, it is argued that though men appear to dominate, in some communities, there is no discrimination or restriction to the right to control access to land and land use based on gender for any purpose, whether for agriculture or for building houses due to education and economic change in those rural communities. However, certain customary practices deprive women of their rights to land.

In Northern Ghana, when you are born a man you have more access to land than born a woman. The mere fact that you are limited under the patrilineal system of Northern Ghana and land is owned by the family, headed by the man and transferred to the male child after his death, women therefore have no ownership rights on family lands

and these have to be changed (FAO 1995). One of the studies on gender and land rights in Ghana is the (IFAD 1998). The study considered women's access to land in the Northern Region of Ghana. The (IFAD 1998) showed the difficulty in enhancing women's land rights in the region. It observed that, although women supply 80% of labour in farm activities, women have limited access to and control over resources such as land. Decision making on the right to control access to land and land use are left to male village chiefs and elders as well as heads of clans at the community level. Women obtain temporary use of plots from their husbands. Widows tend to lose access to land unless they have male children. Unmarried women seldom have access to land. Women who gain access to land get the least productive plots that are farthest away.

Another relevant study by Duncan and Brants (2004) investigated men and women's access to and control of land in seven districts of the Volta Region (VR) of Ghana. Duncan and Brants (2004) employed both primary and secondary data in their study to obtain greater insight into women's perceptions of access land, and to assess both past and current developments with regard to men and women's access to and control over land in the Region. Sixty percent (60%) of the respondents interviewed were women and 40% of them were men. When interviewed initially, most respondents answered that both men and women had equal access to land in their communities since land use rights of lineage, clan and stool land were open to both sexes. However, their findings showed significant differences with regard to men and women's rights to control access to land and land use in the region, whilst men have full access right to land, women often had partial or conditional access right. Duncan and Brants (2004) further stated that ownership of land was largely vested in lineages,

clans and family units and control over land was generally ascribed to men by lineage or clan heads. Some of the factors they identified to affect men and women's access to and control over land in the Volta region include gender, land ownership, the patrilineal inheritance system, local traditions and customs, decision-making powers, perceptions and marital status, among others. They expected factors such as knowledge of land legislations and education to have a positive impact on men and women's access to and control over land, but these factors could not be proven by the study. They also noted in their study that land ownership has evolved from family ownership (e.g. acquired through allocation and inheritance) to individual ownership (e.g. through purchase and gifts).

2.2. TENURE RELATIONS IN THE SHEA INDUSTRY

Although rights to trees are generally connected to the rights to the land on which they grow, it is quite common, especially in the African context, to have the rights to trees governed by a tree tenure regime, which is often distinct from land tenure (Fortmann, L., 1985; Fortmann and Bruce, 1988). Furthermore, it is not only that the land tenure regime affects the trees on the land; the reverse is often true in many instances, such as when trees are used to claim and secure rights to land (Fortmann,L., 1985; Berry,S. 1988). Fortmann's (1985) study on the tree tenure in agro-forestry, and Fortmann and Bruce's (1988) edited volume on tree tenure issues stand out as probably the most comprehensive works. Fortmann (1985), Fortmann and Bruce (1988) identify four main classes of rights. Making up the "bundle of rights" of tree tenure:

(i) The right to own or inherit.

(ii) The right to plant

(iii) The right to use; and

(iv) The right of disposal.

All these classes of rights, in some way, are influenced by the prevailing system of land rights. Moreover, characteristics and use of the trees as well as the features of the land tenure system in practice affect how and what rights are distributed and to whom, with regards to trees. Whether the tree in question is planted or has grown wild determines whether it is a private or a common property resource in a number of countries. The former is generally considered the property of the planter or the land owner, and the latter is considered as the community property (Fortmann, 1985). Another factor that affects how and to whom tree rights are distributed is the nature of the use, which is directly related to the tree type. Trees that provide subsistence products, such as fruits and other non-timber products, are generally considered "common resource" open to all member of the community, especially when they are on common land (Fortmann, 1985; Akinnifesi *et al*., 2006).Whereas access to and use of commercial trees are usually restricted to the landowner on whose land the tree is growing.

Despite being considered distinct, land and tree tenures usually affect one another in a variety of ways. The strength of the impact of land tenure regimes on tree tenure and how trees are managed is usually strong, compared to the impact of tree tenure alone. Tree rights are usually stronger in places where the land tenure is communal, favouring the tree planters (Fortmann, 1985). Although it is generally accepted that the tree planters are the tree owners, the strength of their rights over trees could be curtailed by the strength of their rights over land, especially in places with strong private rights to land. Furthermore, if trees on the land are for subsistence use, such as

perennial fruit trees, the landowner (or the tree owner for that matter) might not be able to restrict the access to and the use of trees by other members of the community (Fortmann, 1985; Boffa, 1999; Howard and Nabanoga, 2007). In addition, ownership of certain indigenous fruit trees often belongs to certain individuals in the community, such as the ownership of locust bean trees by the chief or the original landowners, regardless of their current tenure rights over the land (Schreckenberg, 1996; Boffa, 1999). Such cases could create disincentives for preservation and planting of these trees as Bruce and Fortmann , (1988) argued.

In contrast to landowners, tenants and borrowers of the land have mostly restricted rights to trees. For example, tenants could harvest non-timber products from economic trees for personal use but not for sale, they could not cut trees growing on the land, plant trees without owners consent, and even where they could plant trees, they generally have to share benefits with the owner(Fortmann,1985). Based on a study on tree biodiversity on farmlands and farmers' strategies in Burkina Faso, Augusseau *et al*. (2006) report that migrant farmers often get rights to farm on a land without any rights over the trees therein, although traditionally products from trees such as shea and locust been used to be shared between the landowners and the tenant farmers. However, the study also reports migrant farmers starting to plant cashew on rented land, which could increase their tenure security on the land in addition to providing cash income. Borrowers generally face even more stringent restrictions than the tenants where tree plantation is concerned – they are not normally allowed to plant trees on the owner's land at all (Fortmann, 1985). However, the use rights of the borrowers could be less restrictive as they are likely to help protect trees on the lands they borrow (Boffa 1999). Furthermore, (Boffa 1999) cites examples where the

borrowers are given a share or all of the wild fruit crops, such as shea nuts. Like borrowers, the pledges or mortgagees have restricted rights to the land. Although the restrictions are very context specific, they are generally not allowed to plant trees without the owner's consent (Fortmann, 1985). In terms of gender, rights to trees generally seem to reflect the rights to land. In most African societies, where women are not permitted to own land, their rights to land, and the resources therein, such as the trees, are restricted – typically to use rights – on the husband's land or those of the relatives (Rocheleau and Edmunds, 1997; Gray and Kevane, 1999; Hilhorst, 2000). However, women as the primary gatherers of tree products, especially non-timber products, can exercise substantial rights over the tree resources on their husband's land and those of other male relatives as Rocheleau and Edmunds (1997) demonstrate. Furthermore, through their study of rights to plant species in Uganda, Howard and Nabanoga (2007) demonstrate that rights to a particular species are often gender-specific, and under the customary systems, women often have as strong a right to plant resources as men. Moreover, through the cash income women earn from these tree resources, they can not only contribute substantially to their household's livelihoods but also exert a great deal of influence on how their husbands manage the land and the trees.

It is clear that both land and tree tenure regimes have significant implications for agro-forestry, due to the very nature of this land use practice. However, despite a considerable number of studies of land tenure, investment incentives and agricultural productivity, very few contributions have focused on the impact of tree tenure on similar incentives, such as to plant and protect trees on agro-forestry parklands. Those that have tried to assess the determinants of tree planting on agro-forestry systems

have usually focused on economic determinants such as output prices (eg. Godoy, 1992; Shively, 1999). However, Godoy (1992) does recognize tenure as the "next most important determinant" after prices. The costs to the farmers in establishing trees in agro-forestry are also seen as a major determinant to protecting and planting trees in agro-forestry (Dewees, 1995). Moreover, studies on tree planting in Malawi suggest that customary tenure systems related to marriage (uxorilocal) and inheritance (matrilineal) are creating disincentives to plant trees, especially by men (Hansen *et al*., 2005; German *et al*., 2009). All these studies recognise the importance of tenure in the management of trees on the farmlands, especially by changing the behaviour of the individuals and households managing these lands and the trees therein. The understanding of the impact of tenure and other socioeconomic factors on the management behaviour as well as the subsequent impact on the ecology of parkland species becomes crucial, especially for economically valuable multipurpose species such as shea. For they provide a significant contribution to the livelihoods of the poor rural households in the agro-forestry parklands in Northern Ghana and throughout the West Africa, in addition to contributing to the national economy through their exports (Chalfin, 2004; Teklehaimanot, 2004; Elias and Carney, 2007).

2.3. GENDER ACCESS TO RESOURCES AND GENDERED CONTROL OVER BENEFITS

Men and women do not have the same access to or control over productive resources or benefits accruing from the resources (Baden *et al.*, 1994). This gender-based inequality can have implications for the design and implementation of development interventions. In undertaking gender analysis, planners therefore need to obtain

information about the gender based patterns of access to and control over resources and benefits in the given community.

Access to resources means the possibility of using specific resources, whether they are natural, economic, productive, political, social, or related to time and space, including healthcare services, education, information, etc.

Control over benefits means the possibility for men and women to access benefits accruing from use of resources and to benefit from outcomes (material resources/advantages) generated by the activity/development intervention. They can include income, employment, skills, political power, status and many more.

2.4 GENDER AND TENURE RELATION IN AGRICULTURE

Natural resource based assets, including soils, home sites, crops, grazing and forestland, and water are important everywhere. But in countries where agriculture dominates, ownership of resources is politically significant and directly associated with power. Command over resources is arguable, the most severe form of inequality between men and women today. Systematic differences in resource tenure rights between men and women contribute to structural inequality and to poverty for women. Access to resource and control over its use are the basis for food and income production in rural areas, and more broadly, for household wellbeing. Access to productive resources such as land and the resources found on it are tied to tenure as well (Meizen-Dick et al. 1997). Women who become heads of households are particularly vulnerable: when their access to resources is through their husbands and fathers, they often lose their right to access after widowhood, divorce, desertion, or male migration. Differences in resource rights of women and men, and lack of direct

access to and control of resource, may place constraints on women's productive roles as well as their power and influence in the household and the community. In many societies, resource rights reflect, if not determine, a person's citizenship status or degree of inclusion in the society. Often denial of resource rights is used as an exclusionary mechanism for certain ethnic or racial minority groups. Rural women also claim that secure resource rights increase their social, economic, and politicaI status, and improve their sense of self-esteem, confidence, security, and dignity. By diminishing the threat of eviction or economic destitution, direct and secure rights to resources can increase women's bargaining power in their families and participation in public dialogue and local political institutions.The Ghana Household Survey (2010) revealed that one's marital status had a significant impact on access and control over agricultural land. This is also confirmed by Duncan (2001) also revealed that one's marital status had a significant impact on access to and control over land. Apart from land, The issue of land tenure is gendered with women having less access to land and other productive resources. Studies cited in Deere and Doss (2006) indicate that women held land in only 10% of Ghanaian households whiles men held land in 16-23% in Ghana. In many parts of Ghana, pressure on land has resulted in reduction or even abandoning of fallow periods due to land scarcity thus compounding problems of deteriorating soil fertility. Women have been more severely affected by this due to their lower access to land (Awumbila, 1997). Kotey and Tsikata (1998) suggest that depending on what crops are cultivated on farms and what they are used for, farms can become a maleor female domain. For example, in Northern Ghana, the compound farms located around homesteads, have become associated with women's farming, as against commercial tree crop agriculture in Southern Ghana which is largely a male domain. Also of significance are gender inequalities in farm sizes operated by women

relative to men. Most women cultivate relatively small farm sizes. It is estimated that in the Upper East Region, women's private average farm sizes was estimated at less than one acre (Awumbila and Momsen, 1995). Kotey and Tsikata (1998) suggest that depending on what crops are cultivated on farms and what they are used for, farms can become a male or female domain.

2.5 ON-GOING (NON) GOVERNMENTAL ACTIVITIES TO ENHANCE LAND AND TREE TENURE SECURITY IN NORTHERN GHANA

2.5.1 ON-GOING NON-GOVERNMENTAL ACTIVITIES

A wide range of NGOs have shown interest in promoting shea nut and shea butter production and marketing in Ghana. Their support to shea processors includes linkages to markets, assistance with obtaining technology and training in business skills (Asante-Dartey *et al*., 2009). As indicated by Lovett (2004) a number of initiatives have been introduced by a number of organizations in the shea producing areas due to the potential of the industry to provide increased benefits to the rural poor; tackle dry land environment concerns and promote development. The USAID, Techno-Serve (TNS)-Ghana, Centre Canadien d'Étude et de Coopération Internationale (CECI), OXFAM, Christian Mothers Association and SNV Netherlands development Africa have various forms of support for shea producers. These include business skills, improved resource management, trade facilitation and increased in shea activities.

The role played by NGOs is commendable in their effort to alleviate poverty among shea pickers and shea butter processors who are mainly women. It is however worth noting that the NGO‟s level of achievement in developing the shea industry depends

on major Government policies and programmes, as they will pave the way and indicate the general direction as well as give a platform for others to follow.

2.6. MEASURES OF INEQUALITY

Income inequality is detrimental to economic growth and development and as a result several studies have considered income inequality in both rural and urban areas worldwide. Various studies have employed different methods of measuring inequality among households, individuals, gender, and communities. The various measures adopted by each author have some intuitive application (Litchfield, 1999). However, many apparently sensible measures behave in perverse fashions. One of the important things to note is that the assumptions or axioms about the inequality measure to use must be outlined. Cowell (1999) outlined five key axioms which must be met in measuring inequality. Following the *axiomatic approach*, the following must be met;

1. The *Pigou-Dalton Transfer Principle* proposed by Dalton (1920) and Pigou (1912). This axiom requires the inequality measure to rise (or at least not fall) in response to a mean-preserving spread: an income transfer from a poorer person to a richer person should register as a rise (or at least not as a fall) in inequality and an income transfer from a richer to a poorer person should register as a fall (or at least not as an increase) in inequality (Litchfield, 1999). Cowell (1995) revealed that measures like Generalized Entropy class, the Atkinson class and the Gini coefficient, fulfil this principle, with the main exception of the logarithmic variance and the variance of logarithms.
2. *Income Scale Independence*. This principle necessitates the inequality measure to be invariant to uniform proportional changes: if each individual's income changes by the same proportion then inequality should not change (Cowell, 1999).

3. *Principle of Population*. The population principle according to Dalton (1920) requires inequality measures to be invariant to replications of the population: merging two identical distributions should not alter inequality.
4. *Anonymity*. This axiom is sometimes called 'Symmetry'- it requires that the inequality measure be independent of any characteristic of individuals other than their income (or the welfare indicator whose distribution is being measured).
5. *Decomposability*. The requirement for this is that, overall inequality should be related consistently to constituent parts of the distribution, such as population sub-groups. For example if inequality is seen to rise amongst each sub-group of the population then it is expected overall inequality should increase. Some measures, such as the Generalised Entropy class of measures, are easily decomposed and into intuitively appealingly components of within-group inequality and between-group inequality. Measures such as the Atkinson set of inequality measures can be used for decomposing but the two components of within- and between-group inequality do not sum to total inequality. However, the Gini coefficient is only decomposable if the partitions are non-overlapping, that is the sub-groups of the population do not overlap in the vector of incomes (Litchfield, 1999).

Based on this, Bernardin (2011) in examining the effect of non-farm income on income inequality in rural Ghana employed the Gini-decomposition technique and that aggregate non-farm income increased income inequality among rural households in Ghana. He found that in terms of components, non-farm self-employment income reduced income inequality whereas non-farm wage income increased income inequality. The author further found education as a single most important variable contributing to inequality-increasing nature of non-farm income (Bernardin, 2011).

He concluded that the effect of education on inequality is more pronounced for non-farm wage income. The micro-level distributional effects of horticultural export value chains among smallholders in southern Ghana was analysed by Afari-Sefa (2007). The author employed Gini coefficient approach to estimate the determinants of household food availability and income distribution. It was revealed that households which engage in export horticulture appear better-off than those that do not, the sole adoption of either staple or export crop is not sufficient for improving food availability. However, linkages which allow simultaneous and reliable access to equitable distribution of resources and services were critical for household survival in competitive global food markets.

Akram, Naz and Ali (2011) in an empirical analysis of household income in rural Pakistan used the Lorenz curve, Gini coefficient and coefficient of variation. The authors found that the distribution of land was skewed as compared to income and livestock. Rural income was chiefly from farm and non-farm sources. It was found that among farm source of income, land and livestock were positively related whereas dependence on only farm occupation was negatively related with household income. Among non-farm source, borrowed income was positively related and dependence on only non-farm source was negatively related with household income (Akram, Naz and Ali, 2011).

In an empirical analysis to determine how economic crisis affect income inequality of farm households in Taiwan, Hung-Hao and Chun-Yen (2011) used the decomposition method on a national household survey and found that farm and nonfarm income have different implications for full-time and part-time farm households. Income inequality

was found to decline significantly among full-time farm households. Lopez-Feldman (2006) further emphasized that, Gini-decomposition helps to decompose Gini coefficient by income source and allows the calculation of the impact that a marginal change in a particular income source will have on inequality. Therefore Gini-decomposition approach is adopted for this study to assess income inequality among shea actors.

CHAPTER THREE

METHODOLOGY OF THE STUDY

This chapter discusses the methodology used for the study. The chapter consists of seven sub-sections. The first section discusses the study area, which comprises of the location, climate and vegetation, topography and drainage. Also discussed under section one is the socioeconomic characteristics and economic activities in the study area. The second section presents the conceptual framework followed by the theoretical framework. In the fourth section, the statements of hypothesis are presented. The next section presents the data collection followed by sampling approach and finally, the data analysis is presented.

3.1. THE STUDY AREA

The Bole district is chosen for the study area because of the abundance of shea trees in the district. The district also hosts the only governmental institution dealing with shea in Ghana CRIG (Cocoa Research Institute of Ghana) which was established in 1976. This research station, aims at developing appropriate technologies that offers solutions to farmers problems.

3.1.1. LOCATION OF THE STUDY AREA

Bole district covers an area of about 4800 km^2 which is 6.8% of the total landmark of the northern region. The Bole district is located at the extreme western part of the northern region of Ghana. The district is bordered to the North by Sawla/Tuna Kalba District, to the West by the Republic of Ivory Coast, to the East by West Gonja District and to the South by Wenchi and Kintampo Districts of Brong-Ahafo Region. The District stretches from Bodi in the North to Bamboi in the South (MoFA, 2013).

3.1.2. CLIMATE AND VEGETATION

The district experienced a unimodal rainfall pattern which ranges between 800mm to 1200mm per annum and somewhat erratic in nature,(Bole District Assembly, 2006). The rains begin around May and ends in October. The rainfall is seasonal and is characterized by a single maximum. The mean annual rainfall is very small; June, July and August generally record the heaviest rainfall and also the greatest number of raining days. (Bole District Assembly, 2006). The vegetation of the district consists of savannah woodland, with trees such as shea nut, dawadawa, teak, kapok and mango. At a few places, flood plain, pond and clay, flat vegetation's are found (Bole District Assembly, 2006).

3.1.3. TOPOGRAPY AND DRAINAGE

The district is drained by streams, rivers, dams and dugouts which serve the numerous needs of human beings and animals. The district topography is low undulating with the altitude ranging between 600 to 1200 feet above sea-level. The main drainage system in the district is surface water. Surface water sources in the district comprise many small streams and the Black Volta, 38 dugouts and 6 dams, which are used for livestock, domestic and subsistence irrigation activities. The district is characterized by a good potential groundwater, which is being tapped for human consumption (MoFA, 2013).

Soils in the district are fair. The soils types are savannah ochrosols, which develop under rainfall between 82mm and 103.2mm. These are predominantly medium sandy loams in the upland and valley respectively. There are also patches of gravel to stony land. Along the river banks can be found alluvial sand very good for rice cultivation.

The soils are important agriculturally and are suited for a variety of cereals and other cash crops (MoFA, 2013).

3.1.4. DEMOGRAPHIC CHARACTERISTIC

The Bole district covers an area of about 4800km2 which is 6.8% of the total landmark of the Northern Region with a population of about 87,656 (based on 2000 population census) and a growth rate is about 3.1% per annum. The population is sparse with a density of about 14 persons per km^2. The district capital is the only urban centre in the district. Other semi – urban centres include Bamboi, Maluwe, Tinga, and Banda-Nkwanta. There are 148 communities, and five area councils. The households are predominantly male headed (MOFA, 2013).. The district has a heterogeneous population. The major tribe is Gonja. Other tribal groups are Vagla, Brifor, Safalba, Mo, Dagaaba, Grunshie and the Pantras. Settlement creation in the district is largely on adhoc basis and usually near and around farm. It is also controlled mainly by the desire of people to stay on ethnic/clan basis which has resulted in the scattered communities dotted all over the district . Most of the residents in Bole are mainly Gonjas. However, there is a marked presence of other ethnic groups such as Akans, Brifoos etc. In Bamboi and Jaman, the residents are mainly Moos and are predominantly Christians. Table 3.1 presents a summary of some of the features of the five (5) research villages.

Table 3. 1. Key features of the research villages-

Variable	Jaman	Bamboi	Bole	Kakiese	Mandari
Population Density	10 people per km^2	18people per km^2	22people Per km2	15people Per km^2	12people per km^2
Number of Households	154	200	300	180	180
Major Ethnic group	Moos	Moos	Gonjas	Brifoos	
Predominant Religion	Christian	Christian	Islamic	Islamic	Islamic

Source: Field Survey June, 2014

3.1.5. ECONOMIC ACTIVITIES

Agriculture is the main economic activity which predominates in the district with over 75% of the working force engaged in agriculture. Administratively, the district has three (3) agricultural zones and fourteen (14) operational areas. Agriculture in the district covers food crops (maize, millet, sorghum, rice, groundnuts, cowpea, bambara bean, yam, and cassava), cash crops (cashew, shea, mango, and dawadawa), livestock (cattle, sheep, goats, pigs, guinea fowl, local and exotic fowls), fisheries and bee keeping with emphasis on mechanization, value addition and organized marketing. Land in the district is owned by natives. The average farm size per holder is about 0.8 hectare. Land is used for crops / livestock farming, tree planting (afforestation), game /forest reserves (Wildlife), road and building construction. Farmers in the district generally practice shifting cultivation and mixed cropping with a few of them adopting mono cropping and crop rotation. Similarly, livestock and poultry keeping are on extensive system (free range) with a margin keeping to the semi–intensive and intensive system CRIG , 2002).

The road network in Bole is well distributed. In the rainy season some of the roads become muddy making it difficult to travel on it. There is major road linking Kumasi to Wa in the Upper West Region. Very often vehicles normally ply this stretch of road. The major roads connecting the communities to the farm especially in Kakiese and Mandari are in extremely poor condition and may only be accessible by foot track. In the rainy season, these routes are often washed out by flooding, and become unmotorable.

Motorcycles and tricycles are the primary mode of transport for a number of the villages. Most of the residents have their own motorcycles and sometimes bicycles. Other modes of transport include buses, and cars. Some of the residents use privately-owned taxis and buses and tricycles in order to go to market. The majority of produce that is to be sold is generally transported by truck from the villages to the market centers at Banda Nkwanta and Bole. Cargo trucks come to the villages to transport food crops and sellers to markets. In Kakiese, before some produce reaches a truck for transportation it must first be conveyed either by head loads or tricycles to the truck. In terms of water facility, the town of Bamboi has boreholes but some of the residents also use the Black Volta as their main water supply. All the five research villages have been connected to the national grid. Apart from the district capital, Bole and Kakiese, a lot of the households do not have access to electricity. Approximately one third of households have access to electricity from the national grid.

3.2. CONCEPTUAL FRAMEWORK

The conceptual framework is premised on the basis which identified key actors in the shea industry system, their respective interests and contributions towards the

development of the entire industry. Figure 3.1 explains the shea industry when it was not a cash crop, the actors that were involved in its activities and how income was being distributed along the actors in the sector and now that it has become a cash crop who is the actors in the industry. Until recently, picking and processing of shea nuts has been an occupation of rural women and children (Elias and Carney, 2007) they were allowed to pick shea from cultivated and uncultivated lands with no restrictions and the money made from the shea business were clearly for the women and children, this money was used to take care of their households.

In the early 80's, shea business was largely an opportunistic trade, with little or no organization at community level. Participation of men in gathering shea was virtual insignificant since it was regarded as women and children's work , but husbands sometimes assist their wives by gathering nuts on the farm and sometimes carrying nuts back to the compound and with cracking. This involvement increases men's involvement on nut incomes spending decisions. The shea business was regarded as an "opportunistic business" activity because no one had ownership rights over the trees and gathering was equally open to everybody. However, the owners of new, old, and abandoned farms maintain the right to harvest their trees. This trend has changed due to an increased economic value for shea. There are more men involved in the shea activities than in the past due to the rise in the price offered for the nuts.

Women traditionally do not own land but they have access to shea nuts if there are shea nuts growing on fallow land or bush land on walking distance. In present days, income obtained from the shea activity is distributed among men, women and children, since they are the main actors in the industry with each of them obtaining their income from either one, two or three of the shea activities.(i.e picking, processing and retailing).

CONCEPTUAL FRAMEWORK

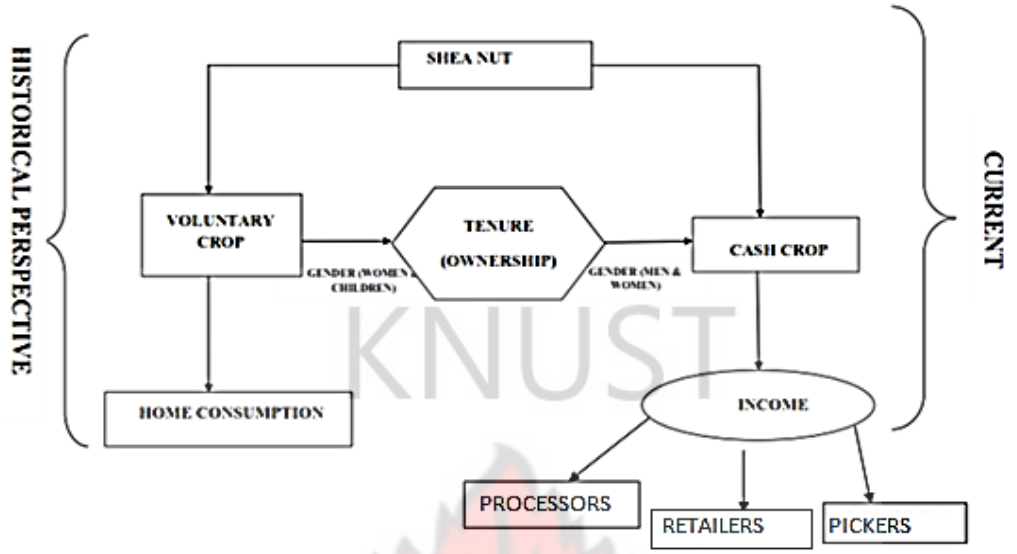

Figure 3 .1: Gender, tenure and income dynamics in the shea nut industry.
Source: Authors Construct, 2014.

3.3 THEORETICAL MODEL

Conceptual framework for decomposing income inequality

The fifth objective which is determining the income distribution among the actors in the shea industry, the Gini coefficient decomposition approach by Lopez Feldman (2006) was adopted. The Gini coefficient measures inequality in the distribution of income, consumption, and other welfare proxies. Notably the Gini decomposition of shea income by activity, source of shea, channel of marketing and gender were examined which captures the impact that a marginal change in a particular variable on inequality among actors in the shea business. Decomposing the Gini coefficient increases our understanding on the determinants of inequality. The technique is used more often to decompose inequality either by subpopulations or by income source.

Assuming that G,is the total income inequality from shea, than the Gini coefficient for total income inequality can be represented as

$$G = \sum_{k-1}^{K} S_k G_k R_k \tag{1}$$

where S_k represents the share of source k in total income, G_k is the source Gini corresponding to the distribution of income from source k, and R_k is the Gini correlation of income from source k with the distribution of total income $R_k = \text{Cov}\{yk, F(y)\} / Cov\{yk, F(yk)\}$, where $F(y)$ and $F(yk)$ are the cumulative distributions of total income and of income from source k). According to Stark Taylor and Yitzhaki (1986), the relation among these three terms has a clear and intuitive interpretation; the influence of any income component upon total income inequality depends on

• How important the income source is with respect to total income (S_k);

• How equally or unequally distributed the income source is (G_k); and

• How the income source and the distribution of total income are correlated (R_k).

If an income source represents a large share of total income, it may potentially have a large impact on inequality. However, if income is equally distributed ($G_k = 0$), it cannot influence inequality, even if its magnitude is large. On the other hand, if this income source is large and unequally distributed (S_k and G_k are large), it may either increase or decrease inequality, depending on which households (individuals), at which points in the income distribution, earn it. If the income source is unequally distributed and flows disproportionately toward those at the top of the income distribution (R_k is positive and large), its contribution to inequality will be positive

(Lopez-Feldman, 2006). However, if it is unequally distributed but targets poor households (individuals), the income source may have an equalizing effect on the income distribution.

Lerman and Yitzhaki (1985) showed that by using this particular method of Gini decomposition, you can estimate the effect of small changes in a specific income source on inequality, holding income from all other sources constant. Consider a small change in income from source k equal to ey_k, where e is close to 1 and y_k represents income from source k. The partial derivative of the Gini coefficient with respect to a percent change e in source k is equal to

$$\frac{\partial G}{\partial e} = S_k(G_k R_k - G) \qquad (2)$$

where G is the Gini coefficient of total income inequality prior to the income change. The per cent change in inequality resulting from a small per cent change in income from source k equals the original contribution of source k to income inequality minus source k's share of total income:

$$\frac{\partial G / \partial e}{G} = \frac{S_k G_k R_k}{G} - S_k \qquad (3)$$

3.4. DATA COLLECTION

3.4.1 Data Types

Both primary data and secondary source of information have been used for this study. The primary data collected consisted of in-depth interview and discussion with a sample of shea nut pickers, processors, and retailers. Focus Group Discussions were also held with the groups and dealers in shea to obtain information on shea activities, ownership, tenure rights etc. A structured questionnaire was designed and used in the data collection. The questioning was done on a face-to-face interaction basis during

the meeting with the members of the women groups. The entire interview guide for the focus group discussions was read individually to ensure that the questions received the attention of respondents and was appropriately answered. The research assistants assisted in the recording of the responses from the respondents. This was necessary because the respondents were largely illiterates, and also to ensure that the responses came from the respondents themselves.

The questionnaire solicited information from three main key players in the shea nut industry namely, pickers, processors and retailers. The questionnaire comprises of both open-ended questions which required more thought and more than a simple one-word answer and close-ended questions which were to be answered by a simple yes or no. The socioeconomic characteristics of the processors such as age, marital status, education, ethnicity and household size are captured in the questionnaire. The questionnaire regarding the processors captured the information on shea processing, productivity of shea processing, technology, labour and storage facilities employed in processing of shea nut. Regarding the pickers, relevant information on picking and rights to shea trees, land tenure, trading of shea, sources of funds for shea business, and constraints associated with shea business among others are included in the questionnaire. For the retailers, information on type of product they trade in, source of shea supply, source of funds, value addition and sales are captured in the questionnaire. Perception concerning the expansion of the shea industry is also included in the questionnaire. Secondary information on the shea industry was sourced from the internet, journals and books.

3.4.2 Survey Design

The study employs the mixed method approach which involves the combination of both quantitative and qualitative analytical tools. The combination of the two approaches provides a better understanding of research problems than either approach alone, Creswell (2003). Qualitative approach makes provision for these weaknesses, Creswell (1999). However, qualitative approach is seen as deficient because of the personal interpretations made by the researcher, the ensuing bias created by this and the difficulty in generalizing findings to a large group because of the limited number of participant participated. As a result, the quantitative approach was added in this study. The qualitative approaches used in the study involved the use of the focus group interview with shea pickers, retailers and processors. Secondly, key informant interview was held with stakeholders within the shea communities as well as personal observations. Quantitatively a structured questionnaire was developed for quantitative data collection. The quantitative data collected consisted of shea quantities from the various sources, income from different shea activities, income distribution among different gender categories, income from different tenure rights and supply channels.

3.4.3 Sampling Approach

A multi-stage sampling technique was employed for the purpose of this research data needs. The first stage of the sampling involved purposive selection of a district from the Northern Region where the survey was conducted. The region was selected because it is one of the regions where shea grows very well and also there are many people in the shea business. The second stage involved the purposive selection of the Bole district; the Bole district was selected based on its shea nut potentials and accessibility. This is followed by the purposive selection of five communities from

the district for the study this was based on the understanding that, shea activities were similar among the communities. The sample consisted of pickers, processors and retailers for the quantitative analysis. Table 3.1 shows sample size and the communities that were sampled for the study. However in-depth interviews were granted to those who could not have the opportunity to answer the structured questionnaires. The final segment of the sample involved a snowball sampling of stakeholders from the MOFA office, assemblymen from the five communities NGOs in the district and Chiefs from the five communities, where one stakeholder leads or directed us to the next stakeholder in the shea business. A good response rate was received and this was reflected across all communities.

Table 3.2 Sample size of the study area

Region	District	Communities	No. of pickers	No. of processors	No. of Retailers
Northern Region	Bole	Jaman	7	6	4
		Mandari	20	10	5
		Bole	15	5	2
		Kakiase	14	5	2
		Bamboi	15	7	3
			71	33	16
Total sample size			120		

3.4.4 Data Collection Procedure

The researcher with the help of five enumerators administered the questionnaires. The enumerators were trained over a two-days period to expose them to the importance of the questionnaires with respect to the objectives of the research. A time table was drawn for the meetings between the researcher and the respondents from the selected households in consultation with the agricultural extension agents in the various operational areas. Each respondent was to be interviewed according to the scheduled time table. The data collection started in June 2014, and ended in July, 2014. There were occasions that rescheduling of meetings between the researcher and some of the

communities were done due to difficulties in informing and gathering group members. The interview was interpreted into the local languages (Gonja, Moo and Brifoo) to enable respondents give appropriate answers to the questions asked them. The questioning was done on a face-to-face interaction basis during the meeting. The enumerators assisted in the recording of the responses from the respondents. This was necessary because the respondents were largely illiterates, and also to ensure that the responses came from the respondents themselves. The questionnaire for the stakeholders was self-administered. According to Sarantakos (1993), the self-administered questionnaire method of data collection allows respondents to consult their files at their own convenience, and help them avoid bias and errors by the presence or attitudes of the interviewer. This was the main reason why the questionnaire for the stakeholders were self-administered.

3.5. DATA ANALYSES

The study employed both descriptive and inferential statistics. Descriptive statistics such as frequencies and percentages were used to describe the socioeconomic characteristics of the actors in the shea industry. To analyse the gender and tenure relations in the shea industry, frequencies and percentages were used. To assess the gender roles in the management of shea trees, frequencies and percentages were also used in the analysis. Perception index was used to analyse the perceptions of actors on the impact of shea industry on their livelihood. Gini decomposition was used to determine the income distribution among actors in the shea industry. The Gini decomposition was further used to examine the income inequality among actors in the shea industry.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

This chapter comprises of two sections. The first section presents the descriptive results which consist of the socioeconomic characteristics of respondents such as age, marital status, and level of education, household size and ethnicity. Included in this section are gender and tree tenure relations, gender role in the management of shea trees. Gender and tree tenure security relations, land and tenure security relations. Perception on the impact of promotion or expansion of shea on the livelihood of the actors in the shea industry is also discussed under this section. The second section presents the empirical results of the study. This comprises of income distribution in the shea industry, decomposition of shea income by shea activity, decomposition of shea income by gender, decomposition of income by tenure/tree right, supply channels.

4.1. DESCRIPTIVE RESULTS

This section first discusses the socio-economic characteristics of the respondents using the house level data, focus group discussions and stakeholder interventions. The socio-economic characteristics include personal and household characteristics, economic activities undertaken by actors in the shea industry. This is followed by discussions on gender and tenure relations in the shea industry, gender roles in the management of shea trees and perceptions of actors in the shea industry on the impact of shea business on their livelihood.

4.1 SOCIOECONOMIC CHARACTERISTICS OF RESPONDENTS

4.1.1 Personal and household characteristics

This section presents findings on relevant socio-economic characteristics of respondents. Socio-economic characteristics have impact on people's assets, access to resources and the options that are open to them in pursuing beneficial livelihood outcomes (DFID, 1999). In support, Lowe (1994) points out that the way individuals are organized in society significantly affects not only how they alter their lifestyle in response to characteristics of people, but also helps to determine who is vulnerable and who may become more self-sufficient and productive with appropriate interventions. Socio-demographic characteristics of the respondents included are age, education, marital status, household heads and household size of respondents. Table 4.1 presents the descriptive statistics of the personal and household characteristics of the respondents. The results show that majority of the respondents had age ranging from 31-40 years. 33.3% of this falls within the economically active age group as defined by the 2000 population and housing census (which is 15-64 years) followed by age range of 21-30 years which had 27.50%. This suggests that most of the respondents were in their middle age category and its' in line with the profile characteristics of Bole District (Ghana Statistical Service, 2010). Marital status of the respondents was recorded as a relevant demographic information since marriage in Ghana is considered as an important institution in the society. Most of the respondents (70.83%) were married, this is especially significant among shea pickers because women primarily collect the fruits from fields cultivated by their husbands and 6.67% were widow while only 22.5% were single. This is supported by Lovett (2004) in an analysis of shea butter value chain in West Africa.

Table 4.1.Distribution of personal and household characteristics

Variable	Category	Frequency	Percentage
Age	11-17yrs	15	12.50
	18-30yrs	33	27.5
	31-40yrs	40	33.3
	40-50yrs	11	9.2
	Above 50yrs	21	17.5
Marital status	Married	85	70.83
	Singled	27	22.5
	Widowed	8	6.67
Educational level	No formal education	83	69.2
	Primary	3	2.5
	JHS/Middle	22	18.3
	SHS	12	10.0
Ethnicity	Indigene	52	43.3
	Migrant	29	24.2
	Others	39	32.5
Household head	Male	97	80.8
	Female	23	19.2
Household size	1-5	32	26.7
	6-10	65	54.2
	11-15	19	15.8
	16-20	4	3.3

Source: Field survey June, 2014

The results indicate that most of the respondents did not attend any formal education while 18.3% had junior high education, 10% attended senior high education and only 2.5% got primary education. This results indicates that literacy rate in the region is quite high. This is supported by the findings of Fobil (2007).The Survey data indicates that majority of the respondents were of Indigene tribe while 24.2% were migrants who are living in the locality. Among the respondents interviewed 80.8% were male headed households while the remaining 19.2% were female headed household. 54.2% of the respondents had household size ranging from 6-10 people. 26.7% had household size of 1-5 people while only 3.3% had household size of 16-20 people.

4.1.2 ECONOMIC ACTIVITIES OF ACTORS IN THE SHEA INDUSTRY

The predominant activities undertaken by actors in the shea industry in Northern Ghana are shea picking, processing and retailing. Shea is therefore an important source of income for women and this income is used by the women to educate their children or pay for medication. The Children also earn an income through the gathering of shea nuts and selling the nuts at the market.The children use the funds made through sales of shea to buy their clothes. The money made through shea sales is also used for joint family purchases. Men are involved in wholesaling the nuts as they have sufficient capital to purchase bulk loads of the commodity and also rent stores in the local markets or in the main towns to store their nuts and then either retail or wholesale the nuts back to the village markets.

SHEA PICKING

The focus group discussions revealed that women, children, grandmothers and all household members are still the main pickers of shea fruits. They normally wake up as early as 4:00am to get onto farms and bushes to pick shea nuts which are usually windfalls from shea trees. The windfalls are ripe fruits from tree tops and nuts after birds have eaten up the fruit pulps. The results in Table 4.2 indicate that majority (36.67%) of the sampled respondents picked their shea fruits from uncultivated fields, 35% from leased farm land 35% while 28.33% pick the shea fruits from family land. The study found that shea picking is often done by people on their own farm lands, that is, owner-land or land leased out for farming purposes. About 56.67% of the respondents mentioned that they have problems with people who are not member of the household but come to pick their shea fruits. A total of (27.50%) of the respondents indicated that they pick the shea fruits for soap making, 25% have made

picking of shea fruits as their occupation and sell the shea fruits to the processors while 17.50% used the shea nut for making butter. 38.33% constituting the majority mentioned that they are able to collect about 31-50kg of shea nut per day, 18.33% are able to pick 51-100kg of shea fruit per day, 15.83 picked 21-30kg per day while only 5.83% gathered 11-20kg of shea nut in a day.

Table 4.2. Picking of shea fruits by women, children and men

Variable	Category	Frequency	Percent (%)
Problems with illegal shea picking	Yes	68	56.67
	No	52	43.33
Sources of shea	Family land	34	28.33
	Leased land	42	35.00
	Bush/uncultivated land	44	36.67
Main purposes of shea collection	Food	33	27.50
	Soup making	36	30.00
	Shea butter making	21	17.50
	occupation	30	25.00
Average quantity of shea collected per day	Under 10kg	26	21.17
	11-20kg	7	5.83
	21-30kg	19	15.83
	31-50kg	46	38.33
	51-100kg	22	18.33
Description of shea activities	Very difficult	36	30.00
	Very competitive	14	11.67
	Lucrative	70	58.33

Source: Field survey June, 2014

Furthermore, most of the respondents (58.33%) consider shea picking as a lucrative enterprise, 30% perceive it to be a very difficult task while the remaining 11.67% indicated shea picking as a competitive task. The findings from the focus group

discussions revealed that men do not traditionally pick shea nuts or process shea butter, but they support their wives and children on the farm to pick nuts. The study found out that shea trees on cultivated farms have higher yields than those on uncultivated land. Meanwhile shea picking is so widely and freely pursued on both cultivated and uncultivated lands that pickers sometimes clash with farm owners and land owners who have absolute rights over shea trees on their respective lands.

PROCESSING OF SHEA NUT

The study realized that shea processing is done by individual shea pickers in their communities. The new trend however is that women, the main actors in the shea industry, now organize themselves into groups to attract support from NGOs, small, medium to large scale commercial shea traders and philanthropists, to acquire machines to process shea nuts. The aim of such shea processing groups is to ensure a mutually-reinforcing support for each other. Others form groups in order to produce shea nuts and butter in large quantities that are usually purchased in bulk by shea buying companies. Table 4.3 shows the respondents' engagement in the processing of shea into various products. Among the respondents interviewed, 36.67% had engaged in processing of shea since their infancy, 35% had between 5 and 10 years' experience in the shea processing enterprise. Fifteen percent (15%) had involved in the shea processing for more than 10 years while only 13.33% had less than 5 years' experience in shea processing. The respondents were asked to indicate how they obtain shea nut for processing. The results show that 65.83% pick the shea fruits and process them into nuts. About 22.50% buy the shea nuts from pickers and process them into butter or soap. Others pick some of the shea and buy some as well for

processing. During the processing of the shea nuts, 71% indicate that they employ family labour while 40.8% hire people to assist them.

Table 4.3 Engagement in shea processing

Variable	Category	Frequency	Percent (%)
Experience in shea processing	Less than 5 years	16	13.33
	Between 5 and 10 years	42	35
	More than 10 years ago	18	15
	Since infancy	44	36.67
Source of shea nut for butter processing	Pick shea fruits and process them into nuts myself	79	65.83
	Pick some shea fruits myself and buy some more fruits and process them	10	8.33
	Buy shea fruits and process them into nuts	4	3.33
	Buy the shea nuts from producers	27	22.50
Hire labour in processing shea	Yes	49	40.8%
	No	71	59.2%

Source: Field survey June, 2014

The production process of shea butter is in two parts: shea nut processing and processing of the shea nut into butter. Shea nut processing observed in the study area goes through six major stages. These include: fresh fruit picking, de-pulping, boiling, drying, de-husking and final drying to obtain shea nuts. After obtaining the shea nuts, shea butter processing commences with nine major processes. These include: sorting, washing and drying nuts; crushing (first rough milling); roasting; milling (second milling into paste), kneading & mixing with water, readily skimmed hot shea oil and scooping floating fat; cooking; oil skimming, filtering, cooling and solidification to

obtain butter. Sorting, washing and oil filtration are important steps to ensure hygiene, clear and quality butter. It must be noted that butter processing either starts from shea fruit or kernel processing depending on the choice of the producer and the accessibility of shea fruits or nuts. However, the research revealed that majority of butter producers (thus 65.83%) pick shea nuts and process them into butter themselves. Respondents indicated that it takes them at least seven days, depending on the availability of sunshine, to obtain shea nuts from fresh shea fruits. To ensure long storage, nuts have to be dried for a number of days beyond the seven days stated. The next stage, which involves processing of nuts into butter, takes an average of seven days cycle. Survey evidence from the in-depth interviews and Focus Group Discussions suggest that there is innate understanding about the prospects of Shea nuts in the world market and it was only in a small minority of cases was export business in it seen as in the past-an inevitable domain of the urban people. About 79 respondents (79%) out of the 100 women sampled noted that export trade was the biggest growing market in Shea nut used. Apparently those who are purchasing for the export market outnumber those purchasing for domestic consumption. Besides, whilst those who deal with the export market buy in larger quantities in sacks, the domestic dealers buy smaller portions from the sacks.

RETAILING OF SHEA NUTS

Shea nut producers were interviewed about how they market their products. It is notable that both shea nuts and butter were marketed mostly in the local market. Very often these products pass through channels arranged by the monopolistic middlemen. Thus in most cases the local producers are not directly linked to the wholesale or export marketing outlets themselves. Processed shea nuts and shea butter are often

bought by intermediaries in the local markets and resold to exporters. Usually the preferred market centre is determined by the shortest distance from the village although higher prices at the Bole market may attract women from the neighbouring villages to bring their products on market days. One striking feature of the marketing system is that, where traders have access to those who buy for export trade they prefer to sell to them. Apart from buying in larger quantities it is believed they buy at better price. Actually, whole sale and export dealers always have an advantage because higher prices would normally stimulate a larger supply even though it may be difficult to assess the potential supply due to seasonal variations and the unknown availability of the nuts.

The quality of the shea butter produced is critical for the development of the shea industry. Therefore, the respondents were asked if there has been an improvement in the quality of the shea butter over the past five years. Table 4.6 presents the results on the quality and marketing of shea butter by the respondents. About 78.30% forming the majority indicate that there has been an improvement in the quality of shea over the past five years. This suggests that the sector is developing gradually in terms of quality of shea products made. Information is needed on the part of the producers regarding the quality requirement by their consumers or customers. Most of the respondents (54.20%) stated that they are aware of the quality standard require to meet the expectation of their customers while 45.80% are not aware of the quality standards expected from them by their customers.

The results indicated that quite a number of the respondents are not aware of the quality standard required by their customers. This suggests that symmetric information is needed between the processors and the customers to reinforce

processors to produce more quality shea butter. Sixty five percent (65%) of the respondents indicated that sellers are the enforcing agent of quality standard while 35% stated that consumers are the quality enforcing agent. This implies that at least the respondents are aware of those who enforce quality standard in the shea processing. Majority (93.30%) of the respondents indicated that quality standard of the shea butter determines the price. Moreover, 85.80% of the respondents had ready market for their processed shea butter while only 14.20% did not have any ready market for their products.

Table 4.4 Quality standard and marketing of shea butter

Variable	Category	Frequency	Percent (%mnnnb b b)
Quality improvement in shea butter over 5years	Yes	94	78.30
	No	26	21.70
Awareness of quality standards to meet expectation	Yes	65	54.20
	No	55	45.80
Quality standard enforcing agent	Sellers	78	65.00
	Consumers	42	35.00
Price depends on quality	Yes	112	93.30
	No	8	6.70
Ready market for shea	Yes	103	85.80
	No	17	14.20

Source: Field survey June, 2014

4.2.1 GENDER RELATIONS IN THE SHEA INDUSTRY

Table 4.4 shows the distribution of gender and shea activities among the actors in the industry. The results show that there is a significant difference between gender and the various activities in the shea business as indicated by the significant chi-square estimate at 1%. Most of the shea picking and retailing are done by women. It was

observed that children are also involved in shea picking and retailing on their own and not pick or retail for their mothers as supported in the qualitative responses. Finally, the results show that few men go into shea picking on their farms for a living and also retailing but not processing.

Table 4.5 shows the cross tabulation of the shea activities and the people responsible for the cost of the activities. The results show that most of the costs of the activities are taken by the women among picking, processing and retailing. Children were found to bear the cost of shea picking whereas few people indicated that both men and women bears the cost of picking, processing and retailing as a unit. Twenty two respondents indicated that men bear the cost of picking, processing and retailing. There was a significant difference in the cost sharing in the shea business as indicated by the significant Pearson chi-square estimate at 1%. The findings of Lovett (2004) support the variation in cost bearing.

Table 4.5 Distribution of shea activity by different gender categories

		Shea activity			Total
		Picking	Processing	Retailing	
Gender	Men	7	0	11	18
	Women	36	10	32	78
	Children	16	4	4	24
Total		59	14	47	120
Pearson Chi-Square			38.849***		
Degree of freedom			6		
Asymp. Sig			0.000		

Source: Field survey June, 2014

Table 4.6 Distribution of shea activity and who bears the cost of activity

		Shea activity			Total
		Picking	Processing	Retailing	
Cost bearers	Women only	20	7	31	58
	Men only	7	7	8	22
	Both men and women	7	0	8	15
	Children	25	0	0	25
Total		59	14	47	120
Pearson Chi-Square			43.006***		
Degree of freedom			6		
Asymp. Sig			0.000		

Source: Field survey June, 2014

4.2.2 TREE TENURE SECURITY RELATIONS IN THE SHEA INDUSTRY

Even though women traditionally have no right to land ownership, respondents unanimously agreed that women have uninhibited access to shea trees in any part of the community land accept in occupied farms, fallow lands exclusive. Women are not allowed to enter other people's farms which are meant for the farmer's wife/wives. This is in line with Musah (2008) assertion that majority of women in the Bole district pick shea from anywhere in the community aside sacred lands. Sacred lands are considered to be the home of their spirits/gods and going into those areas, you will be disturbing the spirits.

In terms of restriction by customs to shea 85.7% said they were not restricted by customs whiles 14.3% think they are been restricted by customs. They added that, it is believed that shea picking stops rains as such they are always prevented from picking shea if the rains stop coming. It is however clear from the above figures that woman in the area are not restricted by customs to the access of shea to a large extent. There have been efforts towards growing shea trees in the study area and this effort will go a long way to increase women's access to shea the women however expressed interest

in having their own shea trees, 91.4% expressed interest in having their own shea trees whiles 8.6% see no need to have their own shea trees since shea trees are abundant in the wild. Women who have the desire of having their own shea trees are not able to do so since they are not allowed to put permanent tree crops on the land since doing that will make them owners of the land, This is an indication that any national effort/policy towards growing of shea will be welcomed and supported by women from the study area.

Table 4.7 indicates how gender is related to tenure/tree rights. The results show that most single women in shea business operate on leased land for farming and communal lands with only 7 of the respondents operating on family farm land. Most of the wives who have support from their husbands operate on family and leased land as well as communal land. This implies that the individuals' access to family or leased land does not mean they don't operate on community lands. It was interesting to observe that the few grandmothers in the sample operated on communal lands as their sources of shea. Most of the children also operate on family and leased land as well as community owned land. However, the chi-square estimate was insignificant at the conventional levels.

Table 4.7 Distribution of Gender and Tenure/Tree Right

		1			Total
		Family farm land	Leased land	Communal land	
Gender	Single woman	7	13	14	34
	Wife (husband support)	23	25	23	71
	Grand mother	0	0	4	4
	Children	4	4	3	11
Total		34	42	44	120
Pearson Chi-Square			9.208		
Degree of freedom			6		
Asymp. Sig			0.162		

Source: Field survey June, 2014

4.2.3. GENDER ROLES IN THE MANAGEMENT OF SHEA TREES

In Northern Ghana, shea accounts for more than eighty per cent of woody specimens on farm lands (Boffa, 1999; Lovett and Haq, 2000) whereas 16% is in uncultivated bush Boffa (1996). In contemporary period farmers eliminate most trees on cultivated fields but protect this key economic species, thereby increasing its relative abundance on agricultural land with respect to other woody species. I some parts of Northern Ghana earth or land priest regulate access to shea trees located in sacred groves (Chalfin, 2004).

An individual woman gains permission to gather nuts in such areas by paying a user fee in cash or kind .Local taboos also operates for conservation objectives in many agricultural communities of the shea belt (Lovett and Haq, 2000a).In the communities visited for, instance, the people were prohibited from clearing of shea trees during the raining season when they bear fruits .A strict two- weeks ban on early fruits harvesting is still found in many communities in the study area. This traditionally encourages survival of mature shea nuts that fall quickly and germinate. They also mentioned that agricultural activities do not destroy shea trees but rather help to protect `them since farmers always weed under the trees thereby enhancing their growth and development. Respondents added, however, that where shea trees are overcrowded on the farm, selective destruction is always done and none-fruiting shea are always destroyed.

Management practices carried out by farmers include protection from bush fires, pruning and thinning; to enhance intercropping. Pruning also controls epiphytic plants that adversely affect yields of the trees below the root zone of crop plants and thereby

reducing competitions and increasing yields of associated crops (Bayala et al., 2004). In African villages, shea trees located in spatial proximity to the family compound testify to their protected status. Those present on farmed fields revealed their value to specific ethnic groups, who select for them. However, the activities of hunters and charcoal producers such as bush burning for wild animals, cutting down trees for honey and charcoal have led to the destruction of shea trees. Also shea and other economic trees have to be destroyed to make way for various developmental projects such as buildings (school, clinics, and personal houses) road constructions and electrification projects.

Although agricultural activities help to protect shea trees by way of farmers weeding under them and pruning them sometimes, it has also lead to the destruction of some shea trees to make way for farms. Hunting, Charcoal burning and developmental projects have significantly led to the loss of a number of shea trees. The table below shows the management role played by gender in the management of shea trees.

Table 4.8. Gender management of shea trees

Management actions	Gender Roles			
	Men	Women	Children	Total
Weeding	25	7	4	36
Pruning	23	10	4	37
Protection from bush fires	10	9	7	26
Thinning	13	8	0	21
Total	71	34	15	120

Source: Field survey June, 2014

From the table above it was realised that most of the management practices carried out were done by the men, this explains men's involvements in the shea activities of

late and also most farming activities in the communities are done by men with assistance from their wives and children when they don't go to school.

4.2.4. PERCEPTIONS OF ACTORS ON THE IMPACT OF SHEA ON THEIR LIVELIHOODS

Peasant farming had been seen for many years as a means of fighting rural poverty in the Sub-Saharan zone of Africa. With the passing of time, new researches had shown that the notion is fading off since studies have established that only a small percentage of those farms have seen expansion and intensification leaving the rest stagnated with lowing productivity, decrease in size and low output. Alternative sources of rural income are therefore important to determine for specific locations. This has necessitated the need to look at other possible sources of rural income. Activities in the non-agricultural sector had been recognized as an alternative source of livelihood for the rural poor and needs to be enhanced since they are directly or indirectly linked to agriculture (World Bank Report, 2007; Ellis and Biggs, 2001; Ellis, 1999). The domestic and international demand of shea products stemmed the promotion or expansion of the shea industry. The willingness of the women regarding the expansion of the shea industry is critical to the development of sector.

Five scales were used to examine actors' perception regarding the impacts of shea on their livelihood. The perception index was employed to access the general overview of the respondents' perception towards the promotion of the shea industry. Table 4.10 shows the actors (pickers, processors and retailers) perception on the impact of promoting shea industry. The results show that most of the actors had positive perception that the expansion of the shea industry has contributed to poverty reduction as indicated by mean score of 0.84. Majority (64) of the actors also strongly agreed

that shea expansion has helped them to acquire new resources and mean score of 0.28 indicates that the actors had positive perception that expansion of the shea industry has assisted them to acquire new resources.

Moreover, 47 out 120 respondents indicated that they strongly perceived that shea is an income earning venture. Lastly, most of the respondents (40) agreed that the expansion of the shea has enabled them to invest in non-farm assets. The overall mean perception index of 0.43 implies that the respondents generally have positive perception towards the expansion of shea industry and they agree that it has contributed to improving their livelihood.

Table 4.9 Shea actors' perception of the effects of expanding the shea industry

Perception statement	Strongly Agree(1)	Agree (0.5)	Neutral (0)	Disagree (-0.5)	Strongly disagree (-1)	Mean Score
1. Contribution of shea to poverty reduction	91	21	8	0	0	0.84
2. Acquisition of new resources	16	64	25	0	15	0.28
3. Shea is income earning venture	47	15	26	25	7	0.29
4. Enable investment in non-farm assets	30	40	29	14	7	0.30
Overall mean perception index						0.43

Source: Field survey June, 2014

Perception of the actors concerning men's dominance in the shea industry is presented in the Table 4.11. The results indicate that majority of the respondents agreed that men control the shea sale revenue. They also strongly agreed that men are benefactors in the shea industry. Generally, most of the respondents have positive perception on men's control of the shea industry as illustrated by the overall mean perception index of 0.085. This demonstrates that men have taken control of the shea industry which used to be women dominated enterprise.

Table 4.10 Shea actors' perceptions of men's control of the shea industry

Perception statement	Strongly Agree(1)	Agree(0.5)	Neutral (0)	Disagree (-0.5)	Strongly Disagree (-1)	Mean Score
Men are controlling shea sale revenue	43	47	23	7	0	0.36
Men are benefactors in the shea business	22	17	20	15	46	-0.19
Overall mean perception index						0.085

Source Field survey June, 2014

4.3. EMPIRICAL RESULTS

These empirical results of the study are presented in this. The distribution of shea income from various sources is first presented. This is followed by the decomposition of shea income by gender, tenure/tree right, actors in the shea business and those along the supply channel.

4.3.1 INCOME DISTRIBUTION IN THE SHEA INDUSTRY

In assessing gender inequalities in income among actors in the shea industry, it is very important to know the average quantity of shea from the available sources and the incomes associated with the available sources. Under this section, the mean quantities and income from shea are estimated for different gender categories and actors (see Table 4.12). The results show that women on the average gather 47 bags of shea in a season while children on the average are able to gather 14 bags. Men were found to gather about 4.50 bags of shea nuts on the average. This implies that shea gathering or picking is dominated by women. This is supported by the findings of Lovett (2004) who found that women dominate in shea business in West Africa.

In terms of income, the women were found to obtain an amount of GH¢1880(US$554.57) compared to children who obtain an amount of GH¢560(US 165.19) from shea in a season whiles men obtain the lowest amount of GH¢180(US$53.09). This suggests that a greater proportion of income from shea goes to women in general. This is supported by the findings of Pugansoa and Amuah (1991). Men obtain the lowest income. The quantity of shea is high for pickers (30 bags) followed by retailers (18 bags) and processors (15 bags). The mean income for shea pickers is higher compared to income form processors and retailers. This suggests that on the average shea picking and retailing is a better activity all things being equal and supported by the findings of Boffa et al. (1996).

Table 4.11 Distribution of shea quantity and income from Picking

	Quantity		Income	
	Mean	SD	Mean	SD
Gender				
Men	4.5 bags	1.23	GH¢180.00	3.33
women	47bags	5.37	GH¢1880.00	21.79
Children	14bags	1.38	GH¢280.00	2.65
Actors in shea business				
Pickers	30bags	3.12	GH¢1200.00	24.75
Processors	15bags	2.13	GH¢600.00	4.56
Retailers	18bags	2.49	GH¢720.00	13.20

1 US$=GH¢3.39 in June, 2015
Source: Field survey June, 2014

4.3.2 DECOMPOSITION OF SHEA INCOME BY SHEA ACTIVITY

In order to assess the share of income from the various shea activities, a Gini-decompositon of income by the identified shea activities were analysed. The results of the decomposition of the Gini coefficient of per shea income for all households in the shea business are presented in Table 4.12. The results show that the total Gini coefficient for total income from shea business is 0.2105. This suggests that the Gini coefficients for the various income sources are a little higher than that of total shea income because not all households derive income from each of the income sources. The Gini coefficients range from 0.2105 for processing to 0.7210 for retailing.

The results show that income from shea processing is unequally distributed (0.7210) and the Gini correlation between total income from shea and processing of share is high (0.9700), indicating that shea processing favours the rich in the shea business more than any other income source. This is supported by the findings of Bernardin

(2011) on non-farm income inequality in rural Ghana. The results of processing show that a 1% increase in that income source, all things being equal, increases the Gini coefficient of total shea income by 0.0127%. It is important to note that shea picking (0.3810) and retailing (0.3175) have the greatest share of the income from shea business. This implies that women who are engaged in only shea picking make more income and also women who are engaged in retailing makes more money compared to those who are into processing of shea. A result supported by Chalfin (2004) on shea butter and global marketing.

The results further show that shea picking has a slight equalizing effect on the distribution of total shea income. This finding shows that a relatively high source Gini (0.6310) does not imply that shea picking has an unequalizing effect on total shea income inequality. Thus, shea picking may be unequally distributed yet favour the poor as the findings of Elias and Carney (2007) also showed.

Finally, the results show that income from shea retailing is unequally distributed (0.5210) and the Gini correlation between total income from retailing of shea share is high (0.4600), indicating that shea retailing also favours the rich in the shea business. The results of retailing shea show that a 1% increase in that income source, all things being equal, increases the Gini coefficient of total shea income by 0.0158 %.

Table 4.12 Gini decomposition by income source in the shea business activities

Shea activity	Share in total shea income (Sk)	Gini coefficient (Gk)	Gini correlation with total shea income (Rk)	T-Statistic	% Change in inequality
Processing	0.2540	0.7210	0.9700	7.36***	0.0127
Picking	0.3810	0.6310	0.3500	11.75***	-0.0190
Retailing	0.3175	0.5210	0.4600	11.94***	0.0158
Total income		0.2105			

Source: Field survey June, 2014

4.3.3 DECOMPOSITION OF SHEA INCOME BY GENDER

The share of income that each gender category obtains from shea business was analysed to see which of the gender categories obtains a higher proportion of the income. The results are presented in Table 4.13. The results show that greater share of the shea income goes to married women (0.6501) with a little contribution from men (0.0004). However, the large share in total shea of income for married (0.6501) and Gini coefficient (0.8750) implies that income to this source is large and unequally distributed but the negative Gini correlation of (0.0768) suggests the flow of inequality targets poor married women in households (individuals), the income source may have an equalizing effect on the income distribution. This supported by the findings of Lopez-Feldman (2006).

The results further show that an increase in income of shea for all the gender groups in the study area will decrease the Gini coefficient, thereby decreasing inequality among respondents particularly children and single women with percentage change of

-0.1954 and -0.0217 respectively. This is indicated by the negative percentage change estimates as shown in Table 4.13. Also a little inequality in income is prevalent among single women in the study area as indicated by the Gini coefficients of 0.2210 but a fair share of the total income goes to this category of women after the married women. This is in line with the findings of Hilhorst (2000). However, the inequality favours the poor single women as indicated by the negative Gini correlation of 0.2667 all things being equal. Children also receive some share of the total shea income but it must be emphasized that a unit increase in the share of income to children was found to have the greatest contribution to income equality.

Table 4.13 Inequality decomposition of income by Gender

Household head	Share in total shea income (Sk)	Gini coefficient (Gk)	Gini correlation with total shea income (Rk)	T-Statistic	% Change in inequality
Men	0.0004	0.1917	-0.2981	1.14	-0.0005
Married women	0.6501	0.8750	-0.0768	5.76***	-0.0001
Single women	0.4000	0.2210	-0.2667	7.89***	-0.0217
Children	0.2667	0.3333	-0.0679	9.45***	-0.1954
Total income		0.2410			

Source: Field survey June, 2014

4.3.4 DECOMPOSITION OF SHEA INCOME BY TENURE/TREE RIGHT

Various tenure and tree rights have different effects on income that shea actors obtain and as such income from shea was decomposed based on the existing tenure rights. The results show that greater part of the shea income comes from family/husbands' land (0.6502) and leased lands (0.5601) compared to community ownership of lands

(0.3020) as shown in Table 4.14. This suggests that unlike in the olden days where majority of shea was sourced from the wild or bush, currently, due to commercialization of the shea business, greater part of the shea income is arising from individuals own farm or husbands land. This is supported by the findings of Chalfin (2004) and Godoy (1992) who found that tenure is an important determinant to shea income.

The shea income from family/husbands' land is large and unequally distributed as indicated by high share of income and Gini coefficient. The positive Gini correlation coefficient (0.2796) indicates that the flow of shea income from family/husband's land is towards respondents at the top of income distribution and contributes positively to inequality. The shea income from women leased and from the bush or uncleared land also contributes significantly to total shea income with high Gini coefficients which indicates that income from these sources are unequally distributed but the negative Gini correlation indicates that though income from these sources are unequally distributed but favours or targets poor households and as such the income from women leased and from the bush may have an equalizing effect on the income distribution. This is supported by the findings of Bernardin (2011) on non-farm income inequality in rural Ghana. Finally, the results show that a change in income from any of the sources will decrease Gini coefficient and thereby reduce income inequality but the rate of reduction is very marginal as indicated by the negative percentage change estimates.

Table 4.14 Inequality decomposition of income by tenure/tree right

Tenure/tree right	Share in total shea income (Sk)	Gini coefficient (Gk)	Gini correlation with total shea income (Rk)	T-statistic	% Change in inequality
Leased land	0.5601	0.7167	-0.1724	16.99***	-0.0002
Husbands/family land	0.6502	0.7500	0.2796	14.77***	-0.0000
Community ownership of land	0.3020	0.6333	-0.1232	15.00***	-0.0002
Total income		0.2105			

Source: Field survey June, 2014

4.3.5 DECOMPOSITION OF SHEA INCOME BY SHEA SUPPLY CHANNEL

The channel where actors sell their shea nuts and products significantly influence their income, ideally, actors will sell to the channel that yields higher returns given their constraint. Hence, the income from shea was decomposed based on the supply channel through which the individuals sell their produce to and the results are presented in Table 4.15. The results show that the domestic market represents a large share (0.6702) of the shea income followed by the cooperatives (0.3201). The export market represents a small share of the shea income. This is not surprising following the emergence of the shea export market and as such will need some time to get capture the market for shea. It is interesting to observe that the income from both export and cooperative markets have high Ginis with positive Gini correlation

estimates. This implies that income from these sources is unequally distributed and the positive correlation coefficients indicate that the income from these sources are directed proportionally towards those at the top of income distribution all things being equal. Thus, selling shea through the export market and cooperatives does not favour the poor individuals and as such it the domestic market seems to be a better channel for the poor. Finally, the results indicate that a unit increase in income from the domestic market decreases the Gini coefficient by 0.1004%. Therefore, following the growing demand for shea and commercialization, the findings indicate that the export market favours the rich individuals. This is supported by the reports of Pugansoa and Amuah (1991) in Ghana.

Table 4.15 Inequality decomposition of income by source of supply channels

Market Channel	Share in total shea income (Sk)	Gini coefficient (Gk)	Gini correlation with total shea income (Rk)	T-Statistics	% Change in inequality
Domestic market	0.6702	0.4917	-0.2831	2.97***	-0.1004
Export market	0.1301	0.7917	0.3524	21.46***	0.0012
Cooperatives	0.3201	0.8167	0.2551	20.99 ***	-0.0030
Total income		0.2105			

Source: Field survey June, 2014

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the main findings of the study as well as conclusions from findings and policy recommendations. The limitations of the study and suggestions for future research are also outlined in this chapter.

5.1 SUMMARY OF FINDINGS

Recently, shea butter has emerged as a promising economic commodity that has gained international recognition because of the products' therapeutic properties and its high demands by the food and cosmetic industries both locally and internationally. It is in the light of these potentials of the commodity that formed the basis and the interest to undertake this research. The research assessed gender, tree/tenure rights and income distributions in the shea business in the Northern Region of Ghana using both qualitative and quantitative data. The quantitative data was obtained from 120 respondents. The results of the study as obtained revealed that women, children, grandmothers and household members are still the main pickers of shea fruits. Men were found not to be main pickers of shea but rather support their wives in shea picking.

Majority of the people pick shea from the community owned lands followed by leased lands. Most of the respondents indicated they have problem with people picking shea from their family or leased land.

The new trend revealed by the study was that, actors in the shea business now organize themselves into groups to attract support from NGOs, small, medium to

large scale commercial shea traders and philanthropists as well as to ensure a mutually-reinforcing support for each other. The results show that there exist a significant difference between gender and the various activities in the shea business.

Shea picking and retailing are mostly done by wives with support from their husband. A greater share of the costs of shea activities are taken by the women. Children were found to bear the cost of shea picking whereas few people indicated that the entire family bears the cost of picking, processing and retailing as a unit.

Most of the wives who have support from their husband operate on family and leased land as well as community owned land. The studies revealed that majority of the women 79.19% were willing to enter into export shea business while about 20.83% were not willing to enter into export shea business. The study revealed that that lack of financial support is a great challenge regarding commercialising the shea business.

The findings from the Gini decompositions indicate that the income from shea in the study area is unequally distributed among women in the shea industry. The study reveals that shea processing is unequally distributed and favours the rich individuals in the shea business. Shea picking was found to represent a higher share of shea income and women who engage in shea picking alone makes more money compared to the other income sources. Shea picking was found to be unequally distributed yet favour the poor individuals. Income from shea retailing is unequally distributed and favours the rich individuals.

The results further reveal that the distribution of income among single women, married women and children are unequally distributed and the flow of inequality

targets the poor individuals, thus the income from shea business may have an equalizing effect on the income distribution. Children benefit from the total shea income and a unit increase in the share of income to children was found to have the greatest contribution to income equality.

It was found that unlike in the olden days where large proportion of shea were sourced from the wild or bush, now due to commercialization of the shea business, greater part of the shea income is arising from individuals family or husbands land. The shea income from family land is large and unequally distributed. The shea income from women leased land and from the bush or uncleared land also contributes significantly to total shea income with high Gini coefficients which indicates that income from these sources are unequally distributed but the inequality favours or targets poor individuals and as such the income from women leased land and from the bush land may have an equalizing effect on the income distribution. The export market represents a small share of the shea income. Finally, selling shea through the export market and cooperatives does not favour the poor individuals and as such the domestic market seems to be a better channel for the poor.

5.2. CONCLUSIONS

Share business is found to be dominated by women in the study area but there exist some support for married women from their husbands. The uncultivated land still remains a major source of shea for the respondents in the study area. However, following the increased demand for shea and commercialization of shea, picking from a land that does not belong to you is becoming a major issue of distress. Forming of women association or actors association is found to be one of the ways to support

women in the shea business. Overall, the respondents generally have positive perception towards the commercialisation of the shea industry and they agree that it has contributed to improving their livelihood. There exist significant differences in the various activities in the shea business among gender. There are significant differences between income from shea picking, processing and retailing. Income from shea business is unequally distributed among women in the study area. The income from shea business is unequally distributed among single women, married women and children. The shea business favours poor women in the study area compare to men. Shea picking has a slight equalizing effect and favours the poor women whereas shea processing and retailing favours the rich women. The shea income from women leased land and from the bush or uncleared land favours the poor women in the study area. The domestic market seems to be a better market channel for the poor women. Selling to export and cooperative agents are better marketing channels for the rich individuals in the shea business. It is further concluded that the individuals' access to family or leased land does not mean they don't operate on the uncultivated lands.

5.3. RECOMMENDATIONS

With respect to the significance of shea both locally and internationally and the amount of income it generates for women, the following measures are recommended to help expand the shea industry and make it more effective, efficient and profitable, also there is the need for a policy framework established by government to guide interventions in the industry, as well as the political will to develop the shea industry to champion economic growth and development in Northern Ghana. These suggestions are discussed subsequently in detail

1. There is the need for policy framework led by government and with the support from relevant stakeholders to guide interventions in the shea industry, such framework should provide clear strategies and related guidelines for the short-term, medium-term and long-term development of the shea sector. This will require political will by all stakeholders, especially political parties that will ensure their long-term commitment to develop the shea industry to champion economic growth and development of Northern Ghana.
2. The study has revealed that, as shea becomes a commercialized, access by women to collection areas will be restricted. This calls for a comprehensive tenure reforms on marriage and inheritance that consider women as members of their various communities and should empower them to inherit land from their husbands. This is critical in protecting and sustaining the livelihood of women in the shea industry.
3. In order to ensure enhanced benefit to women, they should be supported to gain access to export market. To achieve any appreciable measures in this regards, there is the need to organise women into cooperatives to ensure professionalism as well as meet the minimum export requirements in terms of quality and quantity which will be impossible to achieve individually. This requires support from NGO's and the government if they are to be successful in the export market.
4. This study has revealed that, the level of commercialization among women in the shea value chain is limited .It is therefore, recommended that future studies should determine factors that influence some women not to go into commercializing their shea businesses. This will go a long way in ensuring

that the barriers limiting the commercialization of women –led businesses in the shea value chain is removed.

5.4 LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FUTURE RESEARCH

The study faced the following challenges in the process of collecting data;

1. The lack of culture of record-keeping of shea proceeds among small-scale shea dealers and the refusal of some medium to large-scale shea dealers to release data on their operations has been challenging.
2. The study was limited to only shea income so future research should consider income distribution from all sources available to households.
3. It is suggested that further research on the quality and quantity of shea traded in by the various actors in the shea industry.
4. The study cannot be generalized for all the three Northern Regions since it was limited to the Bole District. Further studies can consider income distribution and inequality across the all Regions.
5. The decomposition of income could not be done for many socioeconomic characteristics since the incomes were not collected in relation to the some of the demographic characteristics.

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APPENDIX 1

LAND AND TREE TENURE SECURITY

The result from the key informant interview revealed that, as a community within the Gonja traditional area, Bole has a Gonja chief and the community-level governance is based on the Gonja customary laws. This section outlines the system of customary tenure in the Bole district for land and trees as understood and practiced by the community members, especially women who are the primary users of the non-timber products from economic trees such as shea. The general understanding of the rules regarding the collection of shea nuts was that all women in the community could collect them from their husband's farm and fallows and from the bush and other community lands without restrictions; but they had no right to pick from other households' farm or fallows. However, this understanding of the rules contrasted sharply with the "official" Gonja customary laws when it came to the access to fallows that were older than two years.

The Gonja traditional laws dictated that any land left fallow continuously for a period of more than two years reverted to the status of community land, where all had equal rights to access the resources therein (Anonymous 2014, no date; and personal communication with *Mr Declark a staff of MOFA*, on 10 September 2014). Furthermore, the customary laws also make it clear that all settler households in the community who had settled there with the consent of the chief and the landowner will have the same rights as the indigenous households with regards to access to land and trees - as the laws state: "Once a stranger is given permission to settle and granted land to make a farm he is treated for all purposes like a citizen farmer, and is subject to all customary duties" (ibid.). In practice, however, virtually all fallows left by the

indigenous households were considered exclusive to those households (and hence the women from such households), even when they were left continuously fallow for more than two years

APPENDIX 2

I am a student from the department of Agricultural Economics, Agribusiness and Extension (KNUST) and as a partial fulfilment of my MPhil program, I am undertaking a Research on "ASSESSING GENDER, TENURE RELATIONS AND INCOME DISTRIBUTION IN THE SHEA BUSINESS IN THE BOLE DISTRICT". Please be assured that any information provided shall be kept confidential. Thanks for your permission.

NAME OF RESPONDENT……

NAME OF ENUMERATOR…….

COMMUNITY…….

DATE INTERVIEWED……/……/…… SERIAL NO……

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

ACTORS: SHEA PROCESSORS

1. Sex: a) Male [ ] b) Female [ ]

2. Age……..

3. Marital status: a) Married [ ] b) Single [ ]

c) Divorced [ ] d) Separated [ ] e) Widowed [ ]

4. Educational Status: a) No formal education [ ] b) Primary [ ]

c) JHS/middle School [ ] d) SHS [ ] e) Tertiary [ ]

5. What is your Ethnicity? a) Indigene b) Migrant c) other specify……..

6. Who is the head of your household? a) Male [ ] b) Female [ ]

7. What is the Size of your Household? .....

8. How many of your household members are your own children? .....

B. HOUSEHOLD LIVELIHOOD ACTIVITIES

9. Do you engage in Shea Butter processing as a full time occupation?

a)Yes [ ] b) No [ ]

10. Apart from Shea nut processing, are you involved in any other Business?

a) Yes [ ] b) No [ ]

11. If Yes to Q 10 above, Please Mention the other Businesses in order of importance to you?

a) ……
b) ……
c) ……

12. How long have you been engaged in the processing of Shea nut ?

(a) Since infancy [ ]

(b) More than 10 years ago [ ]

(c) Between 5 and 10 years [ ]

(d) Less than 5 years [ ]

13. How do you get the Shea Nuts that you use for Shea Butter Processing?

(a) Pick Shea Fruits and Process them into Nuts Myself [ ]
(b) Pick some Shea Fruits myself; Buy some more Fruits and processes Shea Nuts myself [ ]
(c) Buy Shea Fruits and Process them into Nuts Myself [ ]
(d) Buy the Shea Nuts from Producers [ ]
(e) Others specify……

C.TECHNOLOGY AND PRODUCTIVITY

14. Indicate your output levels and the prices of Shea butter over the last 5 years in the table below

Year	**Output Level** **(in tons/bags/calabashes)**	**Prices (Gh¢)**
2010		
2011		
2012		
2013		
2014		

14. What Equipment do you use for Shea Butter Processing? .....

15. What is the average processing time for a cycle of Shea butter you produce? .....

D.LABOUR AND STORAGE

16. Do you employ other people to help you with the Shea Butter Processing?

a) Yes [ ] b) No [ ]

17. If Yes, to Q16 above fill the following table

No. of People Employed	Monthly Salary (Gh¢)

18 Please explain how and where shea butter is stored in the table below:

Method of storage	
Type of storage facility	

E.QUALITY STANDARDS

19.Has there been any improvement in the quality of your products over the last 5years?

a) Yes [ ] b) No [ ]

20 .Are you aware of any quality standards your product is expected to meet?

a) Yes [ ] b) NO [ ]

21.If yes who enforces the standards? ……

SHEA BUTTER MARKETING

22. Is there ready market for Shea Butter?

a)Yes [ ] b) N0 [ ]

23. Please mention who your internal and external buyers are in the table below:

Internal Buyers	External Buyers

24. Please state the stages involved in the marketing of your Shea Butter (ie marketing chain)?

a)…… b)……

c) ……..... d) …..…… ……

25. Is the Price of Shea Butter tied to its quality?

a)Yes [ ] b) No [ ]

26. What factor(s) determine the price of Shea Butter? .....

……

F.QUESTIONNAIRES FOR SHEA NUT PICKERS

NAME/POSITION……..**.....**
NAME OF INTERVIEWER……
DATE ……/……/……

(1)Do you have Shea trees in this community?

1=Yes [ ] 2= No [ ]

(2)If yes, who owns Shea trees and how does the ownership of the trees affect the Shea business?----------

(3)What category of people are engaged in the Shea business, picking nuts and processing nuts into butter? ----------

(4)Is your engagement in this business a full time or part-time job? ----------

(5) Can women own land?

1=Yes [ ] 2=No [ ]

(i) If yes, how----------
(ii) If no, why----------

(6) Who is allowed to pick the Shea nuts from the trees on your family land?

1=only household (husband, wife, children, grandparents) [ ]

2= Household and extended family [ ]

3=Anyone

(7) Who picks them in practice----------?

(8)Do adult men also pick Shea nuts?

1=Yes [ ] 2=No

(i)How was this in the past? ----------

(ii)If different why do you think it is now different from the past? ----------
----

(9) Do you have problems with people coming into your land to pick Shea nuts illegally?

1=Yes [ ] 2=No [ ]

(10)Are you allowed to pick Shea nuts from other peoples land ?

1= Yes [ ] 2= No

(11)Is there land that is owned by no one?

1= Yes [ ] 2=No

(12) How far do you usually travel to collect Shea nuts in miles/km? ----------

(13) Kindly describe the tree distribution on the area of land.

1=Sparse [ ] 2=low [ ] 3=Dense [ ]

(14)In which months of the year do you engage in Shea nut picking? ----------

(15)Does the Shea nut picking duration change in different years?

1=Yes[ ] 2=No[ ]

If yes, Explain----------

(16) How many days in a week do you

Pick Shea nuts? ----------

(17) What keeps you from picking on other days? ----------

(18) How would you describe the activities of Shea nuts in this village?……

(19)What is the main purpose for collecting Shea nuts in this village?.....

……

(20)What are your major sources of collecting Shea nuts?

a)Family farm lands[ ] b)Husband's farm lands [ ]

c)Bush/uncultivated fields [ ] d)Others……

21) On the average how many kilograms of Shea nuts do you collect in a day?(Estimate of a standard pan commonly used is 25kg)

22) How do you organize Shea nut trade in this village?

A) At Home [ ] b) Through Intermediaries [ ]

c) The Local market [ ] d)At urban markets [ ]

23)What is the average annual income you obtain from Shea nut picking?

……..

24)What factor(s) determine the price of Shea Nuts? .....

……

25) Is the Price of Shea Nut tied to its quality? a)Yes [ ] b)No [ ]

26) How do you finance your shea nut business?

a) Own funds [ ] b) Banks [ ]

c) Husband [ ] d) others…….

27)Do you have interest in commercializing your Shea nut business into export or wholesale trade? If yes Explian……

28) What are the constraints involved with expanding Shea nut business? (use a 3 point scale,1-3,to rank each choice)

a) Bureaucratic [ ] b) Information [ ]

c) Finance [ ] d) Market [ ]

e) Transportation [ ]

29) Is your engagement a full time or part time?.....

a)Own funds [ ] b) Banks [ ]

c) Husband [ ] d) others…….

G .QUESTIONNIARES FOR SHEA RETAILERS/EXPORTORS

Name: ----------

Name of enterprise: ----------

Years in Business: ----------years

(1)How long have you been in the Shea nut trade ? …….

2) How did you start your business activities?

a) General trader [ ] b) Shea nut dealer [ ]

c) Under a family member [ ] d) under a Shea nut dealer [ ]

e) Under a business company [ ]

3) What encouraged you to go into Shea nut business?

A) Customer demand [ ] b) Growing market [ ]

c) Encouraged by a friend [ ] d) Change in Government policy [ ]

4) What is your major area of operation?

a) Domestic market [ ] b) Exporting [ ]

c) Supply to cooperate bodies [ ]

5) What type of product do you deal with?

a)Shea nuts[ ] b)Butter [ ] c) Both [ ]

6) Who are your clients…….?

7) How do you get your supplies?

a) Villages [ ] b) Local market [ ]

c) Central market [ ]

8) On the average how many kilograms of Shea nuts are you able to purchase? (large jut sack weighs about 85kg) .....

9) What is the average capital requirement you use to run your business?

……

10) How do you finance your Shea nut business?

a)Own funds [ ] b)Credit [ ]

c) Family funds [ ] d) Banks [ ]

11) Do you add any value to the products before you package for sale?

Explain…….

…….

(12)How would you describe Shea nut trade?.....

……

13)what are the challenges you face in your business?----------

---

14) How can these challenges be solved? ----------

15) What factors determine the price of shea butter locally? .....

16. Are there any government influences in the local prices of Shea Butter? Explain……
.....
17. What factors determine the price of shea butter internationally? .....
……

H .SALE

18) Indicate, in the table below, your average annual purchases, local sales and exports over the last 5 years

Purchases		**Local Sales**		**Exports**	
Volume (tons)	Value (Gh¢)	Volume (tons)	Value (Gh¢)	Volume (tons)	Value (US$)

19Please State the Processes involved in Shea Butter Marketing?
……

20. Does Shea Butter sell well locally? a) Yes [ ] b) No [ ]
21. What is/are the reason(s) for your answer in 20 above?
.....
……
……
22. Does Shea Butter sell well internationally? a) Yes [ ] b) No [ ]
23. What is/are the reasons for your answer in 21 above? ……
24. How are payments done after the sale of Shea Butter/nuts (on the spot or latter)?
……..
25. Is there any competition in the Shea butter marketing business?
a) Yes [ ] b) No [ ]
26. If Yes, explain, and if No. explain……
27. Are there any local or international regulations in the marketing of shea butter?
28. If yes, what are the regulations? .....

I .COMMERCIALIZATION OF SHEA

Farmers Perception about the effects of commercializing their Shea business

Please indicate how you agree or disagree to the following statements by ticking the appropriate box (Note: there is no right or wrong answers for these questions)

1 = Strongly agree **2** = Agree **3** = Neutral **4** = Disagree and **5** = Strongly Disagree					
Statement	**1**	**2**	**3**	**4**	**5**
It has made significant contribution to poverty reduction					
I am able to acquire new resources that would not otherwise be accessible					
Shea nut production has led to the productivity of food crops					
I earn more income than before					
I am able to produce more food crops on my farm					
I am now able to consume more meals a day					
It have increased access to improved seed, fertilizer, herbicides, and pesticides.					
It has enabled me invest in improved farm practices					
It has enabled me invest in non-farm assets					
men tend to control the revenues from shea sales					
It has benefited men more than women and children					

J: EXPENDITURE PATTERNS

1. Please indicate the amount of the income from Shea sales you spend on the following

Expenditure item	**AMOUNT GHC**
Food	
Agricultural production	
Assets	
Education	
Health	
Clothing	
Social assistance	
Soft Drinks	
Alcohol	
Lotto	
Remittances	
Others	
Total	

2. How many times does your household consume **basic food on average in a day**?

a. One time in a day [ ] b. two times in a day [ ] three times in a day [ ] d. more than three times in a day [ ]

K. OTHER SOURCES OF INCOME

K1: Production and Sale of other crops
K2: Off- Farm Income

i) Apart from farming, did you engage in any off-farm work? Yes [ ] No [ ]

ii) If yes, indicate the non-farm activity you engaged in 2014

1	Self-employment	Type of business?	
		Hours spent on the work every day?	
		Costs (Gh¢) of business in 2014?	
		Income (Gh¢) from the business in 2014?	
2	Non-agricultural wage employment	Actual job	
		Number of days used for this work	
		Monthly wage (in cedi)	
3	Off-farm agricultural employment(e.g. hired labor)	Actual job	
		Number of days used for this work	
		Monthly wage (in cedi)	

Non-labor Income: Remittances

Indicate remittances from relatives/friends

i) In cash (GH¢)……
ii) In kind …… value of remittance in kind (GH¢)……

K4) Livestock

a) Livestock wealth (2014)

Assets	Quantity in stock	Quantity sold	Quantity consumed	Unit price (Gh¢)
Cattle				
Sheep				
goats				
Pigs				
rabbits				
Chicken				
Guinea fowls				

APPENDIX 3 FOCUS GROUP DISCUSSION AND INTERVIEW GUIDE

ASSESSING GENDER, TENURE RELATIONS AND INCOME DISTRIBUTION IN THE SHEA BUSINESS IN THE BOLE DISTRIC.

FOCUS GROUP DISCUSSIONS AND INTERVIEW GUIDE

Researcher…….
Focus Group Discussion ID…….
Community…….
Translator……..
Date……..
Language…….

A .Land Tenure

1. What is the prevailing land tenure system in this community?
2. Are there any gender differences with regards to access to land?
3. In your opinion what factors account for these differences?
4. Was the situation the same in times past?
5. Are there any gender differences in the purchase and disposal of lands in the community?
6. If yes, what are the restrictions or conditions?
7. What factors account for these differences?
8. Who has rights to use land as collateral to secure credit or other financial assistance?
9. Are there any gender differences in relation to rights to use land as collateral to secure credit or other financial assistance?
10. What factors account for these differences?
11. Can husbands give out a portion of their land to their wives?
12. If yes, what are the conditions attached?

B. Tree Tenure

1. What is the prevailing tree tenure system in the community?

2. Who has rights to inherit/own trees?

3. What are the conditions under which one can inherit/own trees?

4. Are there any gender differences in rights to inherit/own trees?

5. What factors account for these differences?

6. What are the rules and regulations regarding trees in the community?

7. Are women allowed to plant trees on land which belongs to their husbands or other male relatives?

8. What are the conditions attached?

9. What are the conditions under which women can be allowed to pick Shea nuts on land which belongs to their husbands or other male relatives?

10. Who has the rights to pick Shea nuts from the Shea trees?

11. What are the conditions attached?

12. Are there gender differences in rights to use produce from the Shea trees?

13. What factors account for these differences?

14. Are Shea trees sold or leased?

15. Who has rights to lease or sell Shea trees?

16. Are there gender differences in rights to lease or sell Shea trees?

17. What factors account for these differences?

C. Gender Roles in the Shea nut Sector

What are the roles played by men and women in Shea nut activities?

(Picking, processing and retail)

Pickers of Shea Nuts

1. Who are those involved in the picking of Shea nuts?

2. How many years have you been involved in the picking of Shea nuts?

3. What quantity of Shea Nut do you pick in a season?(use a 80kg sack as a base)

4. What do you do with the dry Shea nuts?

5. What informed your option in 4 above?

6. Where do you sell your Shea nuts?

7. Who do you sell the Shea nuts to?

8. How much income do you make from the sale of shea nuts?

9. What do you do with the money?

10. Have you thought of selling somewhere else and what are the challenges?

Processors of Shea nuts

1. Who are those involved in the processing of Shea nuts?

2. What quantity of Shea Butter do you sell in a year?

3. Where do you sell it and why?

4. How much money do you make from the sale of butter in a season?

5. What do you do with the money?

6. Is it possible to expand your production?

7. What do you need to expand?

8. What can you say about whole sale and export trade in Shea nuts?

9. What can influence local producers to go into commercialization?

10. What can be done to step up production and attract invests in it?

11. What challenges do you have with your buyers?

12. Do the complains you have from your buyers influence the price they pay for the product?

13. What are the constraints faced in the processing of the nuts into butter?

Retailers/Exporters in the Shea Sector

1. How long have you been in the Shea nut/butter trade?

2. How did you start your business activity?

3. What encouraged you to go in to the Shea nut/butter business?

4. What is your major area of operation?

5. Who are your clients?

6. How do you get your supplies?

7. On average how many kilograms of Shea nuts are you able to purchase in a season? (Use a jute sack of 80kg as a base)

8. What is the average capital requirement you use to run your business?

9. How do you finance the Shea nut/butter business?

10. Do you add any value to the product before you package for sale?

11. What is the cost involved in transporting a bag of Shea nut from the farm gate to the store or export companies?

12. How much do you buy a bag of Shea nut at the farm gate?

13. How much do you sell a bag of Shea nut to the Exporters?

14. How will you describe the Shea nut/Shea butter business

D. Decision Making

i. Who takes decision in the Shea activities?

Ii.What factors account for these decisions?

Iii.Who takes decision on when to sell the Shea nuts or Butter?

Iv.What factors account for these?

E .Distribution of Income from the sales of Shea nuts and Butter.

i. How much money do you make from the sale of Shea nuts and butter in a season?

ii. Who has control over the income from the sale of Shea nuts and Butter?

Iii.What factors account for these?

iv .How is the income from the sales of Shea nuts and Butter distributed among husband and wife?

F. Expenditure of Income from the Sale of Shea nuts and butter.

Are there any restrictions on the use of the income from the Sale of Shea nuts and butter?

What are these restrictions?

What factors account for these restrictions?

Are there any gender differences in the use of the income from the sale of Shea nuts and butter?

What are the differences?

What factors account for these differences in expenditure pattern between men and women?

G Policy Level and Administrators of Development- Civil and Public Servants at District Assemble level

1. What is your view of the shea industry?
i. The actors in the industry
ii. The current status of the industry

iii. The future of the industry

2. Who, in your view regulates the activities of actors (pickers, processing, marketing/exporting) of industry?

3. What is government policy direction/plan towards the shea industry in northern Ghana?

4. Where does the industry belong, in terms of sectors of the economy?

5. What, in your view is the estimated potential (in terms of value) of the shea industry to the development of northern Ghana?

6. What positive likely effects will such potential of the shea industry have on:

(a) The incomes of rural people.

(b) Poverty reduction efforts

(c) Employments generation

(d) Rural-urban migration/ North-South migration etc

7. What strategic role can the shea industry play in the development of northern Ghana?