UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF INTEGRATED DEVELOPMENT STUDIES

THE EFFECTS OF SHEA BUTTER PROCESSING AND MARKETING ON INCOMES OF RURAL WOMEN IN THE NORTHERN REGION OF GHANA

BY

ABDALLAH SUALIHU

(UDS/MDS/0276/13)

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THESIS SUBMITTED TO THE DEPARTMENT OF AFRICAN AND GENERAL STUDIES, FACULTY OF INTEGRATED DEVELOPMENT STUDIES, UNIVERSITY FOR DEVELOPMENT STUDIES, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN DEVELOPMENT STUDIES

DECLARATION

STUDENT

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

Candidate Name: Abdallah Sualihu Date:…….……

Signature:……..

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University for Development Studies.

Supervisor's Name: Dr. Eliasu Alhassan Date:…….……

Signature:……..

ABSTRACT

Shea butter processing is one of the most important typical traditional enterprises and the main source of income for most rural women in Northern Ghana. Aside the challenges the women and children go through whiles picking and carrying the nuts to the house, it is not left out of financial and marketing challenges faced by many small and medium scale enterprises (SMEs) in Ghana. As a result, the study assessed the effects of Shea butter processing and marketing on rural women in the northern region of Ghana; as well analyzed the challenges faced by women who engaged in Shea processing business.

The study used a multi-stage sampling technique to select the Shea processors and staff of NGOs in the Shea sub-sector. The study was a cross sectional survey and therefore, used the semi-structured questionnaire and interview guide as the primary data collection instruments. One hundred and eleven Shea processors responded to the questionnaires as well as a sample frame of one thousand and seventy eight of households engaged in Shea butter processing and marketing. Given the nature of the objectives of the study, descriptive statistical tools were used in the data analyses process.

The study then showed that incomes earned and profits made by the Shea processors from the business helps the women to satisfy most of their needs and wants such as food, clothing, educational and health needs. It was also revealed that the challenges that limit the successes of the Shea processors are tediousness of the production process, limited availability of labour, insufficient storage facilities, low sales, inadequate water, inadequate equipment and most importantly insufficient funds.

The study also revealed that there is no deliberate policy put in place by the government to ensure improved and sustained growth of the industry. It was then recommended that there should be deliberate policies and programs put in place by government of the republic to ensure that the Shea industry of Ghana is well developed, regulated and protected to enable all stakeholders derive the maximum benefit from the industry.

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I remain solely responsible for any short comings therein.

DEDICATION

I dedicate this piece of work to my lovely children, Sualihu Sualiha Tipagya and Sualihu Hussain, and my lovely wife Alhasan Zinatu.

LIST OF ABBREVIATIONS

DRC	Democratic Republic of Congo
MT	Metric Tons
US	United States
EU	European Union
CBEs	Cocoa Butter Equivalents
USAID	United States Agency for International Development
FFA	Free Fatty Acid
WATH	West African Trade Hub
NGO's	Non-Governmental Organizations
SSA	Sub Saharan Africa
Kg	Kilogram
CBRs	Cocoa Butter Replacers
SNV	Stitching Nederland's Vrijwilligers
GEPA	Ghana Export Promotion Authority
GCB	Ghana Cocoa Board
MOTI	Ministry of Trade and Industry
NBSS	National Board for Small Scale Industries
GSB	Ghana Standards Board
GCMB	Ghana Cocoa Marketing Board
PBC	Producer Buying Company
FRI	Food Research Institute
SARI	Savannah Agricultural Research Institute
JICA	Japan International Cooperation Agency
SN	Shea Network

UK	United Kingdom
SME's	Small and Medium Scale Enterprises
SFC	Savannah Fruits Company
NTFPs	Non-Timber Forest Products
BFT	Business and Financial Times
GPRS	Ghana Poverty Reduction Strategy
GSS	Ghana Statistical Service
DFID	Department for International Development
WCED	World Commission on Environment and Development
UNDP	United Nation Development Programme
NASPAN	National Shea Producers Association of Nigeria
IJDS	International Journal of Development and Sustainability
MGL	Mansuki Ghana Limited
WVG	World Vision Ghana
U.S.A.	United States of America

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CHAPTER ONE

INTRODUCTION

1.1 Background

Butter is a fatty Shea extract from the seed of the Shea tree. The Shea tree known in French as *Tharate* or *Abre a beurre* (Butter tree) and formerly called *Butryospermum paradoxum* eventually arrived at the name *vitellaria* with sub species *paradoxa* and *nilotica.* The Shea tree *vitellaria paradoxa* grows naturally in the wild in the dry Savannah belt of West Africa, from Senegal in the West to Sudan in the East, and onto the foothills of the Ethiopian highland (Elia, 2017). The Shea tree (*Vitellaria paradoxa*) is an indigenous and important economic and social asset in 21 African countries (Lovett, 2013) and is particularly abundant in the northern savannah areas of Ghana (Aniah et. al., 2014). In Ghana, the population of Shea nut trees growing naturally in the wild has been estimated to be 9.4 million and over the whole of Northern Ghana (Elias 2013).The Shea industry currently provides employment and income for approximately 900,000 women in the 3 regions of northern Ghana(United Nations Development Program (UNDP), 2010).

According to United Nations Development Programme (2017), more than 600,000 women in Northern Ghana depend on incomes from the sales of Shea butter and other Shea-related products as a means of their daily sustenance. For many women, the main source of income is the production of Shea nuts and butter, thereby making Shea manufacturing of great socio-economic importance to the local people (Collins, 2014). The oil extracted from the Shea nut is used for cooking, and income from selling Shea nuts and butter typically belongs to women to spend as needed for example to purchase clothes or pay school fees (Pouliot, 2012). Profits from selling Shea butter have also been found to account for at least

12% of poorer household income at a challenging time between the end of yearly food stores and before a new harvest (Saba et al., 2018).

Butyrospermum parkii, the Shea nut tree, is an important cash crop which contributes significantly to the growth and wellbeing of people in the agricultural sector in many African countries. The tree grows across a wide swath of Sahelian Africa, from Senegal to Ethiopia (Ziem, 2012). In northern Ghana, the fruits contribute to food security, particularly for the rural poor, especially because their ripening coincides with the lean season of food production (Didia et al., 2018).

Women form the backbone of the industry and are mainly involved in the initial stages of collecting and processing the Shea nuts and butter (Emily, 2015). The Shea tree is found almost the entire area of Northern Ghana, covering about 77,670 square kilometers in Western Dagomba, Southern Mamprusi, Western Gonja, Lawra, Tumu, Wa and Nanumba, with Eastern Gonja having the densest stands (Al-hassan, 2015). The Shea tree (*Vitellaria paradoxa*) occurs predominantly in the Northern, Upper East and Upper West Regions of Ghana and some parts of the Brong Ahafo serves as the source of raw materials for the Shea butter industry (Hatskevich et al., 2011). There is sparse Shea tree cover found in Brong- Ahafo, Ashanti, and the Eastern and Volta Regions in the south of the country. This means there are enough raw materials in the wild for Shea butter processing in marketing (Kavaarpuo, 2010).

The Shea industry has been projected to equalize the cocoa industry in Ghana as Shea butter gradually becomes the best substitute for cocoa butter (Davrieux et al., 2010). This makes the Shea tree one of the non-timber forest products (NTFPs) in Ghana with a wider

coverage and with a potential of serving as an alternative livelihood for many rural women and children if well-developed (Boffa, 2016). The tree is perennial and deciduous and occurs mainly and dry open slopes. It grows slowly from seeds, taking about 30 years to mature and girth of 61cm in the wild where it is often ravaged by bushfires. According to Eric (2010), the Shea tree through grafting can bear fruits in gestation period of three to six years. The break-through has reduced the gestation period of the crop from 10-15 years to between three to six years (Israel, 2015).

Thus for women who are required to work to supplement family income, the Shea butter industry serves as a key avenue to escape from the poverty trap as it offers them the prospect to make a living (Collins, 2014). Available data indicates that Ghana's forests are disappearing rapidly between 1990 to2010; Ghana annually lost an average of 1.96% of forest cover (UNDP, 2010). Accessibility and availability of cooking fuels at affordable prices is becoming more challenging for the poor many of who do not have access to electricity. In Ghana, rural wood users have access to a more abundant and more affordable source of energy (Pouliot et al., 2013). Therefore, the rural impoverished population relies on locally sourced wood and energy inefficient open fires. Greenhouse gas (GHG) emissions are associated with different activities of the Shea butter processing methods and after they are determined, can be converted to a carbon footprint (Ololade et al. 2014). In fact, a study in Ghana (Glew et al. 2014), concluded that during the entire life cycle of the Shea butter process, the emissions resulting from wood burning were by far the greatest contributor to carbon dioxide (CO2) emissions (and thus the carbon footprint)(Graphic online,13 June, 2017).

Shea butter and Shea nut are some of the most important export commodities in Ghana (Harvard, 2017). In the year 2000, Ghana exported 35,983.1 tons of Shea nut and Shea butter at a value of US $4. 7 million. Export earnings from Shea butter products almost doubled in 2013, making it one of the ten leading performers in the semi-processed products of non-traditional export in 2014. Receipts from export of the commodity reached 52 million Ghana Cedis in 2014, 96 percent rise over the 26 million Ghana Cedis recorded in 2013 period. Shea butter produced in West Africa has increased by more than, 200 percent in 2012 an estimated 3.50; 100 metric tons of kernels were exported from West Africa, with a market value of about US $ 120 million. In the Northern Region, the main economic activity of rural women in particular is the processing, marketing of Shea butter (Israel, 2015).

The trees are highly valued by the local communities not only for economic dietary value of the cooking oil, but also for the fruit pulp, bark, roots and leaves which are used in traditional medicines and for the cosmetic industries (Al-hassan, 2015). The Shea tree provides wood and charcoal, as well as used for building and cooking (Ghana Business News, 5 September, 2017). The fruit contain protein and carbohydrates (Global Shea Alliance, 2016).Over the whole of Northern Ghana, Shea butter is highly recognized for its cosmetic, nutritional and therapeutic values, employment creation, and revenue generation among others which contribute to the socio-economic development of the society (Womens Entrepreneurship Forum, 2017).

According to Malachi (2014), in Ghana it is observed that women pick Shea fruits from their husbands' plots, the eldest wife regulates the activity and she is responsible for the allocation of farm land of husband among wives in polygynous marriages (Al-hassan,

2015).Ghana depends on incomes from the sale of Shea butter and other related products as a means of daily sustenance namely supplementing the family food budget and meeting medical and educational expenses. This implies that Shea butter processing is a major alternative livelihood activity for most women in Northern Ghana (Aduse-Poku et al., 2017). Shea butter is produced by women and women groups throughout the year in almost every community in the Northern regions of Ghana(African Shea Butter Benefits, 2017). The Tolon and Gumo Communities, Kalariga and Giso-Naayili of the Tamale Metropolis, Kumbungu and Sagnarigu District are some of the areas where Shea butter is produced in large quantities (Quainoo, 2012).

Ghana is targeting $4 billion in Non-Traditional Exports (NTEs) earnings for 2017. The target represents a big leap from the $2.463 billion recorded in 2016. The achievement of the target calls for an aggressive implementation of the various projects in the National Export Strategy (NES)(Ghana Export Promotion Authority (GEPA), 2017). This affirms that, Ghana has the potential to produce 90% of the world's Shea nuts.

1.2 Problem Statement

Shea butter processing is one of the most important typical traditional enterprises and the main source of income for most rural women in Northern Ghana. Most women in Shea butter producing communities in northern Ghana are usually exposed to hazards like scorpion and snake bites during the harvest season for Shea nuts (Lulla, 2017).

Nevertheless, aside the challenges the women and children go through whiles picking and carrying the nuts to the house (Global Shea Alliance (GSA), 2017). Deficient systems for Shea butter production and marketing coupled with production as well as financial and logistical with limited markets contributed to high poverty rates in Northern Ghana

(Graphic online,17 March, 2017).The integration of African Smallholders into global commodity Shea butter chains is often portrayed as an engine for rural transformation that will generate gross base economic.

According to Adams (2015), various improved technologies have been developed and introduced into the Shea butter processing industry. Among these are the development and introduction of simple machines such as crushers, roasters, millers, kneaders (with boiling drums attached) and hydraulic for efficient extraction of Shea butter. The government and NGOs have also embarked on massive education to sensitize the women in the three Northern regions of Ghana on the importance of the Shea industry in the national economy. Hence, the need for the women to intensify and expand the Shea butters processing activities. The income levels of the women will be sustained and their livelihood will be improved (Saba et al., 2018).

Several methods have been used for oil extraction but three of them have been tried in the Shea butter industry (Vitamin stuff, 2017). The traditional method, the mechanical or screw press method and the mechanical coupled with chemical extraction method. In spite of the introduction of the improved technologies into the Shea industry and massive sensitization campaign that has taken place, the level of patronage is still low. One of the reasons for the situation was the unavailability of market constraints. However, it is still common to see women carry Shea nut and Shea butter from one market centre to another and eventually back home without getting a buyer. Even in situations where buyers are found, the price offered is often just too low.

In spite of these interventions, large quantities of Shea nut remain unprocessed annually, especially during years of bumper harvest. The few processed butter is sold at the least market

price due to poor processing's and marketing arrangements. Hence the capacity and motivation to increase production and marketing of Shea products is lacking. The overall potential of the Shea industry as a source of employment, poverty reduction, propelling growth in northern Ghana and a source of foreign exchange for the country is therefore not fully realized (Nku,2016).

This study seeks to examine the effects of Shea butter processing and marketing on incomes on rural women in the northern region of Ghana as well as analyzed associated challenges and constraints. This could ultimately improve incomes and promote socio-economic development in northern Ghana.

1.3 Research Questions

1.3.1Main Research Question

The major question addressed by the study was how does Shea butter processing and marketing affect the incomes of rural women in the Northern region of Ghana?

1.3.2 Specific Research Questions

1. How does the Shea butter processing meet the household income in the Northern Region of Ghana?
2. How does the Shea butter marketing meet the household income in the Northern Region of Ghana?
3. What are the challenges faced by those engaged in Shea butter processing and marketing in the region?
4. What policies can be put in place to improve upon the Shea butter industry and marketing in the Northern Region?

1.4 Research Objectives

1.3.1 Main Research Objectives

The main research objective of the study was to examine the effects of Shea butter processing and marketing on incomes of rural women in the Northern Region of Ghana.

1.3.2 Specific Objectives

1. To analyze the contribution of Shea butter processing to household income in the Northern Region of Ghana.
2. To assess the contribution of Shea butter marketing to household income in the Northern Region of Ghana.
3. To identify the challenges faced by those engaged in Shea butter processing and marketing in the region.
4. To make policy recommendations to improve upon the Shea butter industry and marketing in the region.

1.5 Significance of the Study

Effective processing and marketing of Shea butter will first of all enhance the production of the commodity. Butter producers will be able to produce the best quality and quantity for both local and international markets. Efficient processing of Shea butter will also improve the income of producers and thereby reduce poverty among butter producers. Moreover, marketing of the butter will step up socio-economic development in the north and this could promote equitable national development in Ghana.

The study will provide information that can be utilized by relevant stakeholders to ensure an improvement in the income levels of the local people. Consequently, Government revenues will also increase since the people will be able to fulfill their civic financial

commitments such as payment of taxes. Non-Governmental Organizations (NGOs) also stand to benefit from this study since the people who are the beneficiaries of NGOs credit will be repay their loans.

The Study takes inspiration from the Growth and Poverty Reduction Strategy (GPRS II, 2006-2009) which envisaged the private sector as the engine of growth. Meanwhile Ghana's economy is already led by the agricultural sector which accounts for about 37.3 percent of GDP and employs 56 percent of the labor force (Ghana Statistical Service, 2010) and therefore agro-based activities constitute one of the opportunities to developing the private sector.

The study will provide a framework and entry point of filling an identified knowledge gap which involving local entrepreneurs in both poverty reduction processes and district development planning.

The availability of local and international market for butter makes the processing and production not only justified, but has the potentials of informing policy on rational allocation of resources towards development at the macro level.

Provision of data for policy formulation, the findings of this study serve as a guide for development practitioners, especially Metropolitan, Municipal and District Assemblies, NGOs, financial institutions and other stakeholders who are involved in the design and implementation of micro-level poverty reduction and local development interventions. This will help to promote private sector competitiveness, export diversification and balanced growth in Northern Ghana.

Moreover, it will also serve as a catalyst to the understanding of the technical issue with respect to managing, funding, production, and marketing of Shea products thereby widening the knowledge base on the subject matter and thus closing the knowledge gap.

Recommendation for a community sensitization of the masses on the strategic methods of improving of Shea butter production through processing and marketing; the study generated a vibrant and pragmatic proposal for the enlightenment of the masses to identify the financial strategies that could help to sustainably improve Shea butter production which could contribute to development. In other words people can be encouraged through community sensitization with available financial strategies to go into Shea Butter production which may improve their incomes and living standards.

Finally, this research will also add knowledge on the debate of privatization and promotion of the private sector to lead economic growth and development in Ghana.

1.6 Scope of the Study

The study geographically, covered rural areas in the Northern Region of Ghana. These districts are chosen because of the high prevalence of economic activities in Shea butter processing and marketing in these districts. Besides, the district also has a good number of Shea trees. For instance, Tamale which originally was called *" Tamani"*; meaning the town of Shea fruits, is endowed with many Shea trees. In the Tamale Metropolis, the study will be conducted in pre-urban communities around Tamale because of the large contribution of the Shea butter processors in these areas. The study is focused on rural areas in the Northern Region of Ghana because women in this part of the country are among the poorest and most deprived and rural areas are more into primary economic activities

than urban areas. A relatively smallest proportion of rural populations are engaged in simple secondary economic activities as compared to the urban areas.

In terms of content, the study examined the effects of Shea butter processing and marketing on incomes of rural women in Northern Region of Ghana. It also explored the challenges faced by those engaged in processing in the region and finally makes policies recommendations to improve upon the Shea butter industry in other to improve their incomes.

1.7 Limitations of the Study

Just like every social research, this research faced some challenges. The proposal of a methodological procedure was theoretically relevant but deviations from the actual or the expected condition on the field that must be present for the application of such a methodologically procedure posed a limitation to the research process. To overcome this challenge, the reconnaissance or preliminary survey was used to ascertain the present condition in order to select and the use an appropriate methodological tools and instruments.

A study of this involved various theoretical and conceptual frame works that served as a limitation to the research since it was difficult to determine the structure that guided the flow of ideas in the study. Through a thorough review of literature, the researcher determined how other researchers have used other theories and concepts for successful results as well as adopted a similar procedure to correct the limitation.

Thematically, even though the major themes of analysis were derived from the research questions and objectives, determining the issues to be raised to obtain adequate information

to answer the related questions the theme was a limitation. To correct this limitation, the literature was the main stream literature on each of the thematic areas that identified the related tenants and other sub-issues that adequately covered the themes were realized.

1.8 Organization of the Study

The study is made up of five chapters. The first chapter forms the introduction aspect; consisting of a general background to the study; the problem statement, broad and specific objectives, relevance of the study, scope of the study, the limitations of the study and organization of the report.

Chapter two covers the theoretical basis of the processing and marketing on income of rural women. In this chapter, literature has been review on global Shea distribution, general peculiarities of Shea butter processing and marketing, Shea butter extraction technologies, quality standards in Shea butter processing, contribution of Shea butter on rural women to household needs and challenges of the Shea butter industry. Chapter concludes by reviewing Shea butter related policies and impact on processing in marketing on rural women.

Chapter three defines the research methodology applied for the study. This section provides the process and methods that are employed in investigating of research problem. It also provides a guide for understanding how that was done. Specifically, it entails' the research methods and approach adopted for the study. These include; the research approach and process, research design, sampling units, sample size, methods of sampling, data collection and analysis and background of the study area.

The result are presented and discussed in chapter four. This is done in relation to the objective of the entire study. The study ends with chapter five to provide a summary of the findings of the study as well as a conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter discusses the review of the literature on Shea nut and Shea butter relating to general characteristics of Shea butter processing and marketing, the contribution of Shea butter processing to household in the Northern Region of Ghana as well as the contribution of Shea butter industry to national development in Ghana. It also gives an insight into technologies in Shea butter processing, economics of Shea butter production, qualify standards in the Shea industry, potentials of Ghana's Shea butter industry, gender roles in the Shea butter processing, financing of Shea butter as well as concepts and theories that are relevant to the subject matter. Major concepts such as rurality/rural people, industry, income, livelihood efforts used in relation to the Shea industry are reviewed. The general as well as specific meanings are explained.

2.1 Shea Distribution and Scale

Accounts from as early as Cleopatra's Egypt (1st century BCE) speak of caravans bearing clay jars of valuable Shea butter for cosmetic use. The funeral beds of early kings were carved in the wood of Shea trees. Shea butter's skin care and healing properties were first harnessed thousands of years ago. The history of Shea as a precious commodity can be traced back to Ancient Egypt, where Shea butter was and continues to be used to protect the hair and skin in the fierce sun and the hot dry winds of African deserts and savannah (Akihisa etal., 2016).

The Shea nut and Shea butter is found only in Africa as a resource to the continent. In other words, it is indigenous to the African continent. The Shea tree, formerly *Butryopermum paradoxum* is now called *Vitellaria paradoxa*. The Shea tree followed a very tortuous ovulation since the oldest specimen was first collected by Mungo Park on May 26, 1797 before eventually arriving at the name *Vitellaria* with subspecies *Paradoxa* and *Nilotica*.The Shea tree, *Vitellaria Paradoxa* belongs to the family of *Sapotacea.* The tree is an indigenous fruit tree distributed in the Shea Park lands described as a green *epicarp*, a fleshy *mesocarp* (pulp) and a relatively hard shell (endocarp) which encloses the Shea kernel (embryo).Shea is an agro managed tree crop, which is found in the wild, growing in large parts of sub Saharan Africa and ecosystems lies in a region of 600-1400mm of annual rainfall (OAS, 2015).

Shea butter is a fat extracted from the nut of the African Shea tree (*Vitellaria paradoxa*). It is usually yellow in color when raw, with unrefined, refined, and ultra-Refined Shea butter being ivory or white in color. Shea butter is a triglyceride (fat) derived mainly from stearic acid and oleic acid. It is widely used in cosmetics as a moisturizer, salve or lotion. Shea butter is edible and is used in food preparation in Africa. Occasionally, the chocolate industry uses Shea butter mixed with other oils as a substitute for cocoa butter, although the taste is noticeably different (Davrieux et al., 2010).

The Shea tree is found only in the semi-arid lands of guinea savannah woodland belt of Africa. It is usually found in semi-cultivated state in ‘parklands’ or ‘bush-follow’ alongside the locust-bean tree, *parkia biglobosa*, in integrated agro-forestry systems(Jibreel et al., 2013).In the 1980s, huge amount of interest and attention led to calls for the Cocoa Research Institute of Ghana to botanical and genetic exploration with research focusing on

diversity, management and propagation of Vitellaria .Almost 30 years have passed since these calls were first made and only limited amounts of information's with regards to options growing conditions and improving the marketing of Shea products has been gained (Al-hassan, 2015).

In 1977, *Vitellaria* was included on the list of tree species constituting African forest genetic resource priorities for in site conservation at the fourth session of the 294 Food and Agriculture Organization (FAO) panel expects on Forest Genetic Resources (Esinam, 2010).The tree grows slowly from seed, taking 12 to 15 years to bear fruit and about 30 years to mature but currently uses 3 to 6 years(Yidana, 2010).According to Lovett (2013), the Shea tree (*Vitellaria Paradoxa*) is an indigenous and important economic in social asset in 21 African countries and it is particularly abundant in the Northern Savannah areas of Ghana. These countries are, Benin, Burkina Faso, Cameroon, Central African Republic, Ivory Coast (Cote di'voire), DRC, Ethiopia, Gambia, Ghana, Guinea Bissau, Guinea Canonry, Mali, Niger, Nigeria, Sierra Leone, Senegal, South Sudan, Sudan, Chad, Togo and Uganda (Aniah et al., 2014).

Nigeria currently the world leading producer of Shea nuts, an estimated over 680 metric tons of Shea nuts produced annually in West Africa of which Nigeria accounts for over 370,000metric tons or 53% of the capacity. The Shea trees are predominantly in 21 of the 36 states of the federation. About 56% of the production of Shea nuts are exported whilst 44% are either consumed locally, or smuggled and resulting in a loss of nearly N345 million every year. Globally, the demand for Shea butter projected to grow from about $10 billion to more than $30 billion per annum by 2020 (Vanguard news, 7 March, 2017).

According to Agro News (2017), Nigeria is a leading producer of Shea nut and butter in the world. However due to issues around quality, it is yet to fully tap into the benefit of the expanding market for Shea nut and Butter Investment. The oil content is the most crucial element of the Shea nut as that component is an important ingredient in the composition of the Shea butter that goes into Cocoa Butter Equivalents and other by-products. Estimated National Production is 500,000 MT annually, about 3% of the national production is exported. Shea nut currently sold for between N110, 000 to N130, 000 in Nigeria, depending on the state sourced from. Shea Butter currently sells for about N750 per Kg and N750, 000 per tonne; mt. Again, prices differ with location. The price of Shea nuts and butter follows the movement in the price of cocoa beans and butter. Major destinations for Nigeria's Shea nut and Butter are Europe, United States and Japan. Main buyers of Shea nut and Shea butter are chocolate manufacturers, Cosmetic Industries, Pharmaceutical Industries as well as households. Quality of processed Shea Butter remains the major challenge in Nigeria. Nigeria currently exports less than 5% of its produced Shea nut. Hence potentials and earning from this crop is yet to be tapped and fully maximized. Women groups in West African countries have received the grant to produce Shea butter. The beneficiaries countries are; Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mali and Nigeria. 50% of the grant would be used to support reforestation and effective management of flora and fauna (Garba et al., 2011).

The Shea industry currently provides employment and income for approximately 900,000 women in the three (3) regions of Northern Ghana (UNDP, 2010).

Shea butter is mainly used in the cosmetics industry for skin- and hair-related products (lip gloss, skin moisturizer creams and emulsions, and hair conditioners for dry and brittle hair). It is also used by soap makers, typically in small amounts (5–7% of the oils in the recipe), because it has plenty of unsaponifiables, and higher amounts result in softer soaps that have less cleaning abilities (Ghana News Agency, 2010). Some artisan soap makers use Shea butter in amounts to 25%, with the European Union regulating the maximum use around 28%, but it is rarely the case in commercially produced soap due to its high cost against oils like palm oil or pomace (olive oil). It is an excellent emollient for people who suffer dry skin conditions. No evidence shows it is a cure, but it alleviates the pain associated with tightness and itching (African Shea Butter Benefits, 2017).

Mansuki Ghana Limited (MGL), a natural cosmetics manufacturing, packaging, trading and service entity, has developed over 20 ranges of value added cosmetics out of Shea butter. The products, classified into three categories; soap, lotion and hair products, include coconut oil and Shea butter natural hair food, pure body Shea butter lotion, Shea butter black soap locally known as *Alata samina*, Shea butter herbal hair treatment, Shea butter and coconut nourishing shampoo and Shea butter and coconut extra nourishing conditioner. Shea butter had cosmetic benefits of nourishing the body and hair. Shea butter products offered super food for the skin a large proportion of non-saponifiable components, essential fatty acids, vitamins E and D, phytosterols, provitamin A and allantoin(Wumpini, 2014).

In some African countries such as Benin, Shea butter is used for cooking oil, as a waterproofing wax, for hairdressing, for candle-making, and as an ingredient in medicinal ointments. It is used by makers of traditional African percussion instruments to increase the durability of wood (such as carved djembe shells), dried calabash gourds, and leather

tuning straps. In the UK and other countries, it is incorporated into assorted tissue products, such as toilet paper (Sidibe et al,. 2012).

According to United Nations Development Programe (2010), women form the back bone of the industry and are mainly involved in the initial stages of collecting and processing the Shea nuts and butter. Thus for woman who are required to work to supplement family income, the Shea butter industry serves as a key avenue to escape from the poverty trap as it offers them the prospect to make a living (Collins 2014).

The Shea tree *Vitellaria paradoxa* produces fruits whose kernels contain about 40–50 lipids usually referred to as Shea butter (Nde Bup et al., 2013). Although the tree is indigenous to Sub Saharan Africa, its oil is highly cherished and used in chocolate formulations as cocoa butter replacers and in cosmetics in Europe, America and some parts of Asia such as Japan, etc. The market for Shea nuts and butter has been on a constant rise with cosmetics taking about 10% of the total production. Tradition holds that, the main actors in the production sector are women and children who get up early in the production season and work kilometres to collect the nuts. This collection, processing and sale either as dried nuts or as butter represent significant income earning opportunities for these local women (Nde Bup, 2010).

Over two million people in 13 African countries process the commodity for cash and consumption (Al-hassan, 2015). There has been a steady increase in the demand for Shea nuts and butter for use in food, chocolates and cosmetics which has also triggered increases in supply though the supply is not commensurate with the demand. The potentials of the production capacity are not fully exploited because not all of the countries in which Shea

trees grow are involved in the processing and sales of the nuts or butter (Lovett, 2010). For example in Cameroon and the Central African Republic there is no organized women group that processes and sell nuts and/or butter to the international or local market. In addition, even in countries such as Ghana, Mali, Nigeria, Burkina Faso, etc. where the production and sale of Shea nuts and butter is already advanced, the production methods are still traditional or are only partially mechanised. More so the buyers are very exigent on the quality and traceability of the nuts and butter. Given the fast rate of growth witnessed in the Shea industry over the past decade, it is suggested that Shea nut volumes multiplied by recent tonnage prices, even prior to butter extraction, can earn West African Sahel-Savannah rural communities in the region of US$ 150 million (Lovett, 2010). Though the sector varies from one zone to the other ,the production zones of production are known, the level of activity in and marketing of Shea nuts and butter are not synchronized so that far reaching decisions that can impact the activities in all producing countries can be undertaken (Hatskevich et al., 2011).

Estimates of the potentials of Shea nut indicate that major producing countries are found in West Africa. Available data from Faostat (2013) shows that Nigeria has the highest potential of Shea nut production. Presently, it produces more than half of the total quantity of nuts which is processed and sold either locally or in the international market. The 21 Sub- Saharan African countries where Shea trees grow can be grouped into 3 zones following their potentials for Shea nut production per year: high production zone comprising of Benin, Burkina Faso, Cote D'Ivoire Ghana, Mali, and Nigeria. Sudan and Uganda that have potentials of producing 70 000-300 000 tons per year; average production zone comprising of Cameroon, Chad, Central African Republic, Guinea Conakry, Senegal

and Togo with potentials of 10 000–70 000 tons per year and low production zones made up of the Democratic Republic of Congo, Ethiopia, Gambia, Guinea Bissau, Niger and Sierra Leone with yearly production potentials less than 10 000 metric tons. At this stage some of the butter can be supplied to the local manufacturers of edible and cosmetics products while a larger quantity of the kernels and butter also acts as one of the major sources of cooking oil in areas where it grows (Nifor, 2013).

The Shea industry, still in its infant stage, is an attractive business entity earning about 30 million USD of foreign exchange for the Ghanaian national economy. This amount is expected to triple when the Shea production potentials in Ghana are fully exploited (Hatskevich et al., 2011). In Burkina Faso it is the fourth most important export crop after gold, cotton and livestock and makes a contribution of about 6 million USD to the national economy (Konaté, 2012). Today the Shea tree is the second most important oil crop in Africa after the palm nut tree. Additionally, natural regeneration has declined as coppicing and pollarding have limited ability to produce epitomic shoots that usually sustain the wild population (Hausmann, 2012). Research on the domestication of the plant and development of improved cultivars for sustainable future performance is still limited. In some areas of Uganda, it has been reported that, Land shortage and insecure tree ownership are some of the main challenges to *V. paradoxa* management (Okiror et al., 2012).

Shea is an important sector which is rapidly growing and presents potentials to contribute to the growth of the national economies of the countries in which it grows. The market is expanding in Europe and South America and these nurses a lot of hopes for the African rural woman who is the main stakeholder in the Shea processing sector. Major producing countries are Nigeria, Ghana, Mali, Benin and Burkina Faso. An important market exists

in the European Union, Canada, Japan and the USA which buys Shea mainly for cosmetics and chocolate formations. A good market equally exists locally for Shea butter which is used mostly as cooking oil (Faostat, 2013).

The immense applications of *Vitellaria paradoxa* to the treatments of many bacterial diseases motivated the investigation of the plant for antibacterial components (Garba & Oisakede, 2011). The Shea tree occurs over almost the entire area of Northern Ghana, over about 77,670 square kilometers in Western Dagomba, Southern Mamprusi, Western Gonja, Lawra, Tumu, Wa and Nanumba with Eastern Gonja having the densest stands. There is sparse shea tree cover found in Brong-Ahafo, Ashanti and the Eastern and Volta regions in the south of the country (Fabil, 2015).

The Shea nut tree is an economic crop indigenous to the Guinea and Sudan savanna zones of Nigeria. It is grown between latitudes 70-120 N. It plays a major role in food production, foreign exchange earnings, raw materials for industries, income and employment generation to millions of Nigerians (Garba et al., 2011). Similar to the method adopted for the extraction of Polyalthia longifolia seed oil (Ziem, 2012) and the population of Shea trees growing naturally in Ghana has estimated to be about 9.4 million with a potential yield of 100,000 tons of dried Shea nut per year. The Shea tree population covers the whole of Northern Ghana. There is a sparse Shea tree cover found in Brong Ahafo, Ashanti, Eastern and Volta regions in the south of the country, African Pear (Dacryodes edulis) fresh leaves (Wumpini, 2014).

According to West Africa Trade Hub and African Partners Network (2017), Shea nuts grow in traditionally managed parklands, generally tended and harvested by women over 3

million square kilometers of Africa, a belt that includes several West African countries, including Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Nigeria, and Togo. Both kernels and the butter made from them have found eager markets in European confectionary and global cosmetics and pharmaceuticals: In 2012, an estimated 350,000 MT of kernels were exported from Africa, with a market value of approximately US$120 million, while demand for West African Shea butter rose by 1,200% over the last decade. About 80% of traded Shea is exported as a raw commodity; only about 20% of the harvest is processed in Africa and exported as Shea butter (Naila et al., 2013).

The young trees are also in need of protection from fire taken 12-15 years before first fruiting, with maturity only reached after about 30-40 years old (Esinam, 2010).The semi-cultivated is used thought the trees occur naturally, when the land was first cleared for cultivation as the best trees are found on farmed land near settlements (Yeboah et al., 2011).The Shea nuts can contain from 20% up to 50% edible fat. The Shea fruit according to Pouliot (2012) and Naughton (2015), it produces more solid Shea butter as compared to other oil bearing fruits as it contains more stearic acid. The Kernel contains about 60% edible fat (Shea butter) and residual product (Jibreel et. al., 2013).In West Africa, the Shea tree occupies an estimated 1 million km^2 of land, where annual rainfall ranges from 500 to 1200mm (Al-hassan, 2015).

In Ghana, the Shea tree virtually covers about two-thirds of the country, mostly in the wild state (Al-hassan, 2015). According to Econstor (2017), the fat obtained from the Shea kernel is referred to as Shea butter and it is the most valued product from the Shea tree. Seven West African countries including Burkina Faso, Benin, and Cote d'Ivore, Nigeria, Mali and Togo produce a total of about 500,000 plus of Shea nuts. The countries export an

estimated 270,000 tons as raw nuts and convert the remaining 230,000 tons into roughly 600,000tons of crude Shea butter, which is later exported. Some countries in West Africa who engaged in large-scale Shea butter trade are; Nigeria, Burkina Faso, Ghana, Mali, Togo, Benin and Senegal. Total African production of Shea nuts in Estimated at 760,000MT and about 50% of all Shea nuts produced are consumed in Africa (Jibreel et al., 2013).

Niger export 57% of world Shea butter production, as part of the ministry 2017 budget proposal at the state House of Assembly in Minna (Vanguard news, 7March, 2017). Total production potential in Africa reaches over 2.5 million MT of Kernel .The Shea nut that is left uncollected can augment the total production of Shea nut and Shea butter within the Shea belt if measures are put in place to reduce the loss(Al-hassan, 2015).

International Shea Industry Conference (2017), organized by the Global Shea Alliance (2017), have revealed that Nigeria's largely untapped Shea butter market can yield $2 billion annually. Nigeria, which presently accounts for 57 percent of the global Shea with a value of $3.8 billion, could address its challenge of poverty through Shea butter export. By developing the large-scale production of Shea butter in Nigeria, the country would be on the right path to diversifying the economy through strategic focus on the commodity's export business. The current global Shea value stands at more than 3.8 billion dollars and Nigeria is said to contribute about 57 per cent of the global Shea value that is about $2 billion additional revenue (Vanguard news, 7March, 2017).

Improve rural economies of communities is to take comparative advantage in Shea butter production by promoting Shea butter as a food and cosmetic product. The European Union that 5 percent of Shea must be added to all confectionaries particularly chocolate in the zone could effectively upscale the profile of the commodity's business. More than 50,000 tonnes of the product could be exported from the country per year; the lack of adequate statistics on Shea butter production is one of the factors militating against the development of the sector in Nigeria. The country loses most of the financial benefits that should come to the country as a result of the smuggling of the produce (West Africa Trade Hub and African Partners Network, 2017).

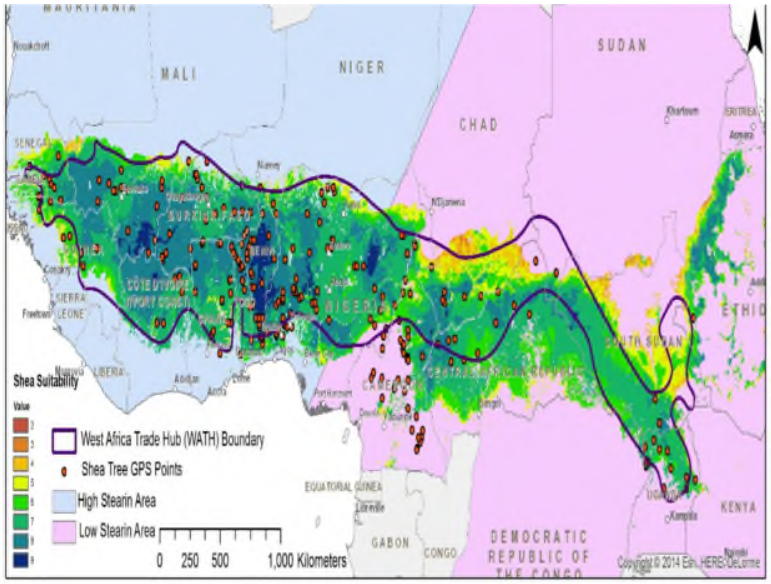
About $2.166 billion, (N335.73 billion) revenue in excise duties is lost yearly by the Federal Government to illegal exportation of Shea butter commodity out of the country. At least 50 trailers carry Shea butter and its derivatives cross the Nigerian border daily to Benin Republic from the Niger state alone, while Nigeria's Customs Service appear unable to check smuggling activities(Vanguard news, 7March, 2017). Increase in the country's Shea butter production could empower more women to contribute to the wellbeing of the families and those of their local communities (West Africa Trade Hub and African Partners Network,2017). Women collect nuts across the Savannah area stretching from Senegal to Uganda and South Sudan. Millions of women make Shea butter that millions more in West Africa consume daily in food and skin care products. The Shea has tremendous impact on local economies, for every one dollar of Shea exported; local villages receive an additional 50 per cent of income (Afful et al., 2017).

The fruit portion is typically removed to retrieve the hard-shelled nut. Shea nut is a very oil-rich seed. The Shea tree grows throughout Sahelian Africa, from Senegal to Ethiopia.

The sub species, *nilotica*, which grows in northern Uganda and Southern Sudan, is particularly special. In Uganda Shea trees are mostly found in the northern part of the country in places such as Kidepo area, West Nile and Acholi districts. Uganda Export Promotion Board (UEPB) together with the National Environment Management Authority (NEMA) has partnered to develop Shea nut products into an export(Al-hassan, 2015).

The Northern Region experience one rainy season typically from May to October, "Hungry Season" in the 3 northern regions when the population is at a higher rise for food shortages (Esinam, 2010).The contemination of organic Shea butter through the residual effect of spraing with pirimiphos-methyll in the locality as part of the AngloGold Ashanti Malaria Control Programme (AGAMAL) in the upper West Region of Ghana (ResearchGate, 2017).

Figure 2.1: A Map of West Africa Showing Shea Nut Producing Countries



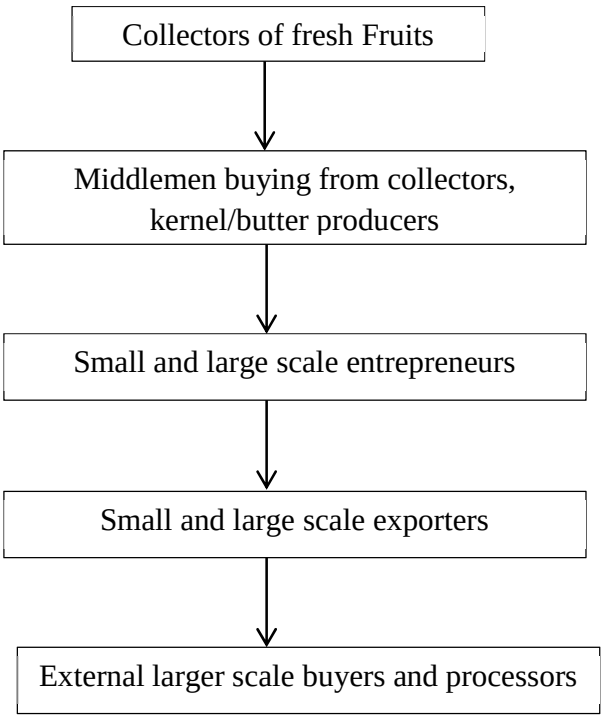
Source; (Naughton et al., 2015)

Figure one shows that Shea nut prevails in Africa predominatly in West Africa countries. Five countries in Africa dominate in the world of Sheanut production; Mali, Benin, Nigeria, Burkina Faso and Ghana(Naughton et al., 2015). This explains that the Sheabutter in derived from the Shea nut processing.

2.2 Shea Butter Processing Systems

Basically there are four major categories of people involved in the Shea butter industry, these actors are: Shea pickers, traders who buy directly from the pickers, Shea kernel and Shea butter processors and exporters(Esinam, 2010).According to (Lovett 2013) , presented a more elaborate stakeholder involvement in the Shea butter processing business. Village pickers and post-harvest processors of Shea kernel; local buying agents (LBAs); rural or urban traditional butter processors; large scale exporters of Shea kernel; small scale entrepreneurs formulating cosmetics based on Shea butter in Africa; external (US, EU, India and Japan) large scale buyers and processors of kernel and butter; external companies formulating cosmetics; and external entrepreneurs formulating edible products including cocoa butter equivalents (CBEs) or Cocoa Butter Improvers (CBIs) based in Shea butter (Lovett 2013). The common elements in the description of stakeholders in the Shea butter processing systems are:

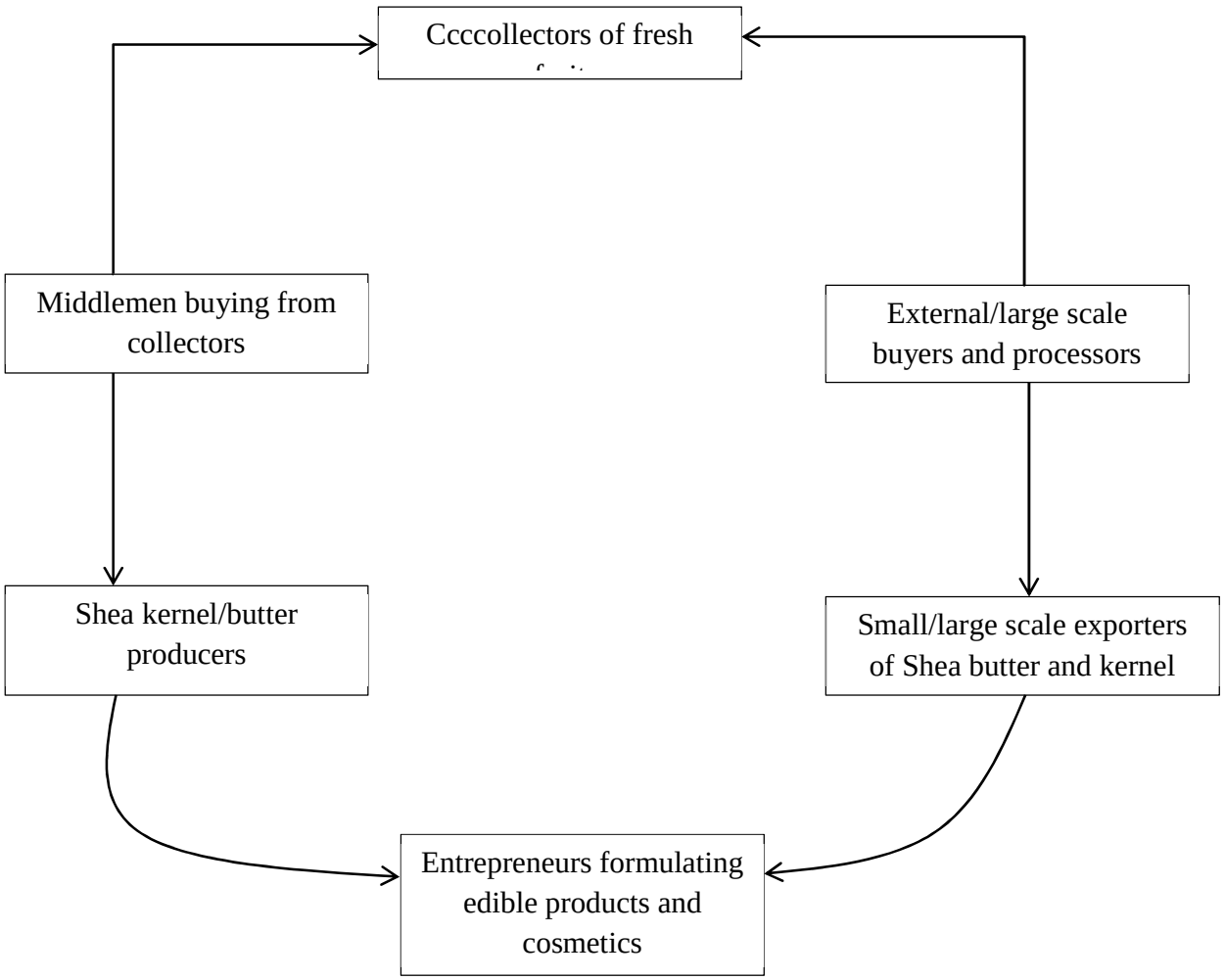
Figure 2.2: Description of Stakeholders in the Shea Butter Processing System



Source: *Glew D, Lovett PN(2014)*

From figure 2 below, Shea butter fruits collectors either sell to middlemen who buy from the collectors or external large scale buyers and processors themselves, middlemen buying from the collectors turn to sell to Shea kernel butter producers, as well as entrepreneurs formulating edible products, services and cosmetics. Finally external large scale buyers and processors sell to small and large scale exporters of Shea butter and kernel. The flow chart continues in that manner. Each of these processes requires inputs to facilitate efficient production to promote development since the need for effective processing and marketing.

Figure 2.3: Shea Butter Production Systems Flow Chart



Source: Authors Construct (2016)

From figure 3 above, women collect or pick Shea nut fruit; they either sell the product to the middlemen or the external or large scale buyer's base on market demand and supply. The Shea nut further sold to producers as well as small and large exporters of Shea butter. Finally, entrepreneurs formulate policies and programs on the utilization of the products to the market and also to the general public.

2.2.1 Types of Shea Butter Processing Technologies

In West Africa including Ghana, Shea butter extraction process is categorized into three main methods; traditional, semi mechanized and fully mechanized industrial system (Alhassan, 2012). These methods are discussed below;

(a) **Manual Traditional System of Production**

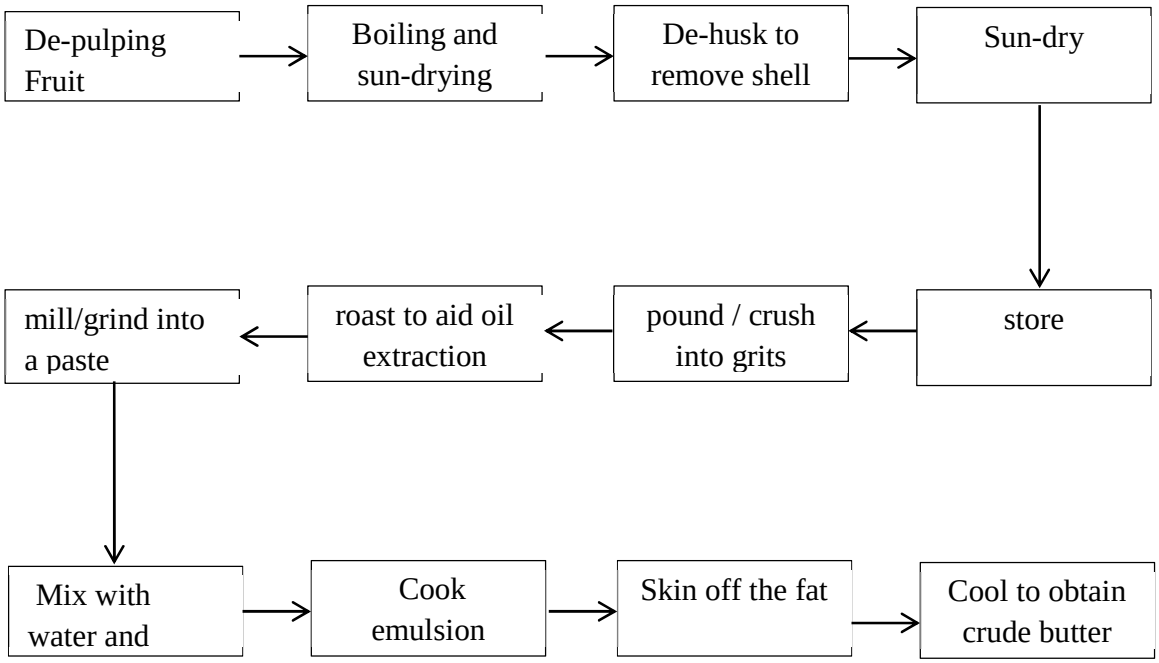
Rural-based women using manual traditional method of extraction, about 60% of all the crude butter produces in West Africa at an extraction rate of about 20% (Esinam, 2010). Traditional method predominates could be due to lack of funds to procure appropriate simple tools and equipment to facilitate and expand the production of Shea butter. The Shea extractions are low as 25-60%. An estimated production of 1kg of Shea butter takes one person from 20-30 hours, from collection to final product. It also estimated that 8.5-10.0kg of fuel-wood is needed to produce 1kg of Shea butter (Naila et al., 2013)

The traditional method involves the following activities: harvest the nuts from the farm, accumulate in piles or pits, heat the nuts , boil (preferred) or roast, dry the whole nuts (if boiled), de-husk the nuts to get kernels (usually cracked by hand), dry the kernels, crush the kernels, dry roast the crushed kernels, mill or pounded/grind into a paste, kneaded (water-boiled or pressed) to form an emulsion to separate fats, boil the oil (fat) to dry and clean by decanting to clarify the butter, prepare for use, sale , or storage (cooled oil will congeal into solid white or cream colored (Wumpini, 2014).According to (Jibreel et al., 2013), Processing of Shea butter is a way of life for many women in Northern Ghana and the Tamale Metropolis in particular. While many of these women still use the traditional Shea butter processing method they leant from their elders' years ago, others think the method involves lengthy, arduous processes requiring large quantities of fuel wood and

water which are often carried from long distances. The large demand for labour, water and fuel wood by the traditional method of Shea butter processing and a possible environmental effects from large and continues use of fuel wood have motivated many processors to acquire skills in alternative processing method perceived to use less of these resources(Kanwaljit et al., 2012).

Below is a diagram of traditional Shea butter processing stages;

Figure 4: Traditional Shea Butter Processing Stages



Source: Esinam (2010)

From Figure 4, Shea fruits collectors either sell to middlemen buying from the collectors or eternal large scale buyers and processors themselves, middlemen buying from the collectors turn to sell to Shea kernel butter producers, as well as entrepreneurs formulating edible products, services and cosmetics. Finally, external large scale buyers and processors

sell to small and large scale exporters of Shea butter and kernel. The flow chart continues in that manner. Each of these processes requires inputs to facilitate efficient production to promote development, hence the need for effective processing and marketing.

2.2.2 Semi-Mechanized System of Production

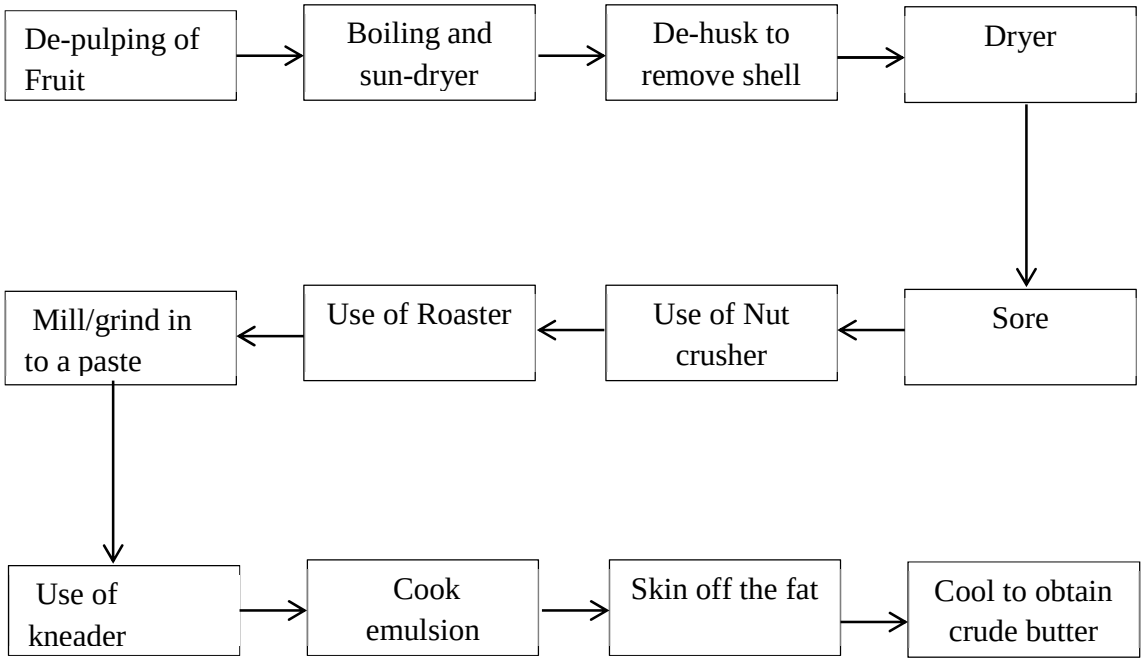
Several attempts have been made to introduce new technologies into the gathering, storage and processing of Shea butter. Such technological advancement has led to an improvement extraction rate from 20 percent to 35-40 percent. The semi-mechanized method involves the use of grinders to take the place of pestle and mortars and these hand operated machinery reduce the amounts of firewood and water required. A nut crusher, roaster, a kneader or a hydraulic or screw press often complements the manual process and reduces drudgery of the traditional system (Emily, 2015).

The semi mechanized method of Shea butter processing has also introduced an improved technology for roasting the kernel after it has been broken into tiny pieces. The improved roaster retains the heat in the compartment to roast the kernel at a reduced time, energy use (both fuel wood and human effort) and the processor exposure to the heat generated by the fire. The semi mechanized method of processing has introduced another technology called a kneader to convert the milled kernel into an emulsion ready for cooking or heating. This technology has replaced the use of the hand in kneading (Jibreel et al., 2013).

The semi-mechanized system could be very suitable for a developing country like Ghana. Further research ought to be conducted to promote extensive use of the semi-mechanized system in Ghana. Wide varieties of the Shea tree (*Vitellaria paradoxa*) have been identified through research and species variability may provide an opportunity for the

selection of varieties with lower gum contents which would allow dry fractionation techniques that are cheaper as well as more suitable for tropical regions like Ghana than those that use inorganic solvents (Iddrisu, 2013). Figure 5 shows an improve version of flow chart illustrated in figure 5 through the use of appropriate equipment for processing.

Figure 5: Revised Flow Chart Showing Traditional Shea Butter Processing Stages



Source: Esinam (2010)

From figure 5, production stages remain the same, improved machines as well as tools and equipment are used to enhance the efficiency of production. Instead of pounding, sun drying, roasting with fuel wood, kneading; a dryer, nut crusher, roaster and kneader are used to increase production efficiency and product quality.

2.2.3 Fully Mechanize System of Production

According to the Institute for Development Studies (IDS)(2015), mechanized processing in West Africa yields 30-40% of Shea butter from raw nuts; more efficient, but fully mechanized systems achieved extraction rates of between 42% and 50%. This is relatively higher, compared with 25%-60% of extraction rates of the traditional and semi-mechanized systems (Esinam, 2012).

Most of the West African plants produce less than 25% of their installed capacity and operates only six months in a year in order to offset the high cost of storing Shea nuts throughout the year. A further research must however be carried out to find out the economic approach for storing Shea nuts in West Africa to enable processing plants function all year round. Further studies must also find out about crude Shea butter storage possibilities that could reduce the high cost of storing Shea nuts in Ghana.

Fully-mechanized Shea butter processing method involves the use of fermentation/ parboiling tank, parboiled Shea fruit digester, bed drier, cracker/shell separator, roaster, milling machine, oven, basket oil presser, warehouses and or chemical solvents to extract the oil (Fox et al, 2013).

2.3 Economics of Shea Butter Production

A recent study on global distribution of the Shea tree estimated that the potential annual production of Shea kernels is 2.4 million tons, yielding an estimated yield of greater than 800 thousand tons of Shea butter (Naughton et al, 2015).

According to New America Media (2017), Shea Butter is coveted by global cosmetic companies for its amazing moisturizing properties. As an increasingly sought after

ingredient in everything from soothing and nourishing hair and skin care products to lip balms and exfoliating creams ,the benefits of Shea butter are in high demand across the globe. The connotation of Shea butter however is drastically different among the women of sub-Saharan Africa who harvest the nut of the Karite tree, from which Shea butter originates. They are among the 1.2 billion people that live in extreme poverty. That equals one out of every five people on the planet living on less than a dollar a day (New America Media, 2017).

Processing of Shea nuts often takes place within local cooperatives where between 100 to 800 women work every season. Cooperatives are mainly operated by non-governmental organizations (NGOs) or are small local businesses. The women employed via the cooperative either sells the nuts they collected from the communal lands where the Karite. Tree grows or they process them into unrefined Shea butter. It takes three kilos of Shea nuts to create one kilo of Shea butter (1kg equals 2.2 pounds). Shea processing takes two routes. The raw nuts are sold to Asian oil companies in bulk who extract, refine and sell the oil to Europe for cosmetic purposes. Whereas unrefined Shea butter is locally processed, certified organic, graded for purity then pushed onto the world market by upper level distributors. In both scenarios a hefty markup is added with none of the profits trickle down. Unrefined Shea butter is graded from A - F with “A” representing the highest active ingredients such as pro-vitamin A, K, vitamin E, fatty acids, triterpenes and anti-inflammatory agents that aid in the relief of various skin ailments. In a nutshell, this is why Shea butter is a global multi-million dollar industry. Last year an estimated 150,000 tons was exported with up to 23% of the total exports consumed by cosmetic companies. The women who collect the Shea nut as part of their subsistent life are not completely naïve,

but are unaware of its true market worth. This naiveté results in a continued undervaluing of the product, blind acceptance of pennies on the dollar and circuit poverty. The Shea nuts are traditionally processed to ensure a 100% raw and active compound filled Shea butter. No bleach, hexane, high heat or other chemicals are ever used (West Africa Trade Hub and African Partners, 2017).

The initiative to empower Shea butter producers economically is by restructuring the Shea Butter supply chain, building capacity among producers and improving production quality to facilitate access to local and international Shea Butter markets (Prachel, 2017). The Shea butter Economic Empowerment Programme (SEEP) business model has four components: 1. Developing trade hubs, storage facilities and distribution centre's to promote greater ownership of the supply chain and decrease reliance on middlemen. 2. Provide training for producers to improve agricultural practices and increase productivity. 3. Educate producers in business management to increase financial literacy and promote a better understanding of the Shea Butter market. 4. Engage multiple stakeholders such as government officials, community leaders, buyers and producers to ensure long-term sustainability of the Shea butter industry (Shea Economic Empowerment Program (SEEP), 2017).

Shea butter is one of nature's wonders, and a special one that has been used for millennia by many generations of African people for skincare, baby care, healing and food. The Shea butter industry employs about 10 million women in rural communities in 21 countries across Africa, contributing to the economic growth of the respective countries (Naughton et al., 2017). In Ghana, the Shea nuts are traditionally harvested mainly by women in the northern part of the country, crushed and boiled to extract the Shea butter. The hot Sahara or Savannah, Shea butter protects the skin from the sun and dehydration. What makes Shea

butter an extraordinary skincare product and an amazing body healer is its richness in precious constituents, which include unsaturated fats with essential fatty acids, vitamins E and D, provitamin A and allantoin. All these are natural and make Shea butter a super food for skin and hair (Thiam et al.,2010). It can also be used for wrinkles, skin protection, strengthening and regenerating, as well as an antioxidant, anti-inflammatory, deep moisturizer and for treating scars (Graphic Online, November 20, 2014).

The United States Agency for International Development (USAID) in partnership with the Global Shea Alliance (GSA), a network of local and international actors in the Shea industry, has injected a US$13 million to boost the sector. The package is meant for the implementation of a five-year project, dubbed: “GSA Sustainable Shea Initiative” which is expected to increase the income of Shea collectors by over US$3.5 million. Benin, Burkina Faso, Cote d’Ivoire, Ghana, Mali and Nigeria, are the six beneficiary countries in Africa (Naughton, C. C. 2016). By the project, the annual export value of Shea is projected to hit US$132 million, which would be geared towards facilitating 440 thousand tons of Shea products. Over 130 thousand women Shea collectors would benefit from capacity building workshops. Investing and supporting the growth of the Shea industry is one means of helping to improve incomes for women and their families (Geri, 2010). Some bottlenecks needed to be addressed to improve the Shea industry value chain system. The fragmented and disorganized nature of Shea supply chains in Africa means that, Sheanut collectors, mostly women, rarely market their product collectively. This reduces the income that women are able to receive from their labors. It is estimated that, the Shea sector in Ghana could yield 100 hundred tons of Shea nuts worth about $US 100 million annually. In Africa, 16 million Shea nut collectors are directly and indirectly engaged in the sector. The mature

kernel contains about 61% fat needed for medicinal and industrial purposes. Shea butter has been found to have a fat composition similar to cocoa butter, and it is used as a substitute for lard or margarine because it makes dough highly pliable (GhanaWeb,21 May, 2015). The Shea butter is known to be naturally rich in vitamins and minerals such as vitamins A, E, and F. The residue of Shea serves as excellent fuel and can also be mixed with mud for plastering traditional mud huts (New America Media, 2017).

Average set up cost ranges from $200 for a 1.2 ton per annum capacity, extracted manually, to about $19 million for a 50,000 metric ton per annum at the top end in a fully mechanized extraction and refinery system. According to Lovett (2013), a fully mechanized large scale in country refining of Shea butter is characterized with the use of expensive and complex equipment which do not currently, encourage investment in Africa. The species variability may provide an opportunity for selection of varieties that could simplify production processes. The semi-mechanized processing method could be the best alternative for rural processors especially women in Ghana considering the set up cost of a fully mechanized system of production (Glew et al, 2014).

2.3.1 Quality Standards in Shea Industry

The Global Shea Alliance and USAID recently commissioned an independent study by LMC International, a global agribusiness consulting firm, to evaluate the growth of the Shea industry and its economic impact on producing communities over the past 20 years. The Global Shea Alliance is partnering with the Government of Ghana and United Nations Development Programmed (UNDP) to submit an innovative and transformational proposal to the Green Climate Fund estimated at 60 million USD to reduce deforestation and relate (GSA news, 2 November, 2017).

The Shea industry in West Africa is rapidly expanding. Demand for Shea butter produced in the region has nearly doubled in the past ten years, and Shea is now an important ingredient in food and cosmetic products worldwide. The industry is centered on women; more than 16 million rural women in Africa contribute to their household incomes by collecting and processing Shea kernels. In other to implement industry, wide collaborative solutions as well as challenges facing the Shea supply chain. Developing industry recognized quality standards and sharing best practices with members. Facilitating purchases between collector groups and kernel buyers to improve linkages and encourage faster processing. Working to modify and enforce international food standards that will open new markets for Shea products (Akakpo et al.,2014).

In 2014, more than 30,000 Shea collectors in six countries were trained in, and are now using, best practices in collection, processing and storage. Between August 2014 and March 2016, the GSA facilitated the export of 121,000 MT of Shea nuts worth $43 million. In 2014, the GSA launched its sustainability program and in June 2016 signed an agreement matching $6.5 million USAID funds with $6.5 million GSA funds from 25 private sector sustainability partners. This partnership will result in 250 Shea warehouses, capacity building for 137,500 women Shea collectors and processors and a 50 percent improvement in financial benefits to participating Shea cooperatives. The Global Shea Alliance expands the worldwide market for Shea through media promotion, international events, and policy advocacy. The Global Shea Alliance partners with and supports national associations in six countries (Benin, Burkina Faso, Mali, Côte d'Ivoire, Ghana, and Nigeria) in order to leverage public and private sector resources to improve the competitiveness and sustainability of each country's Shea industry (Naughton et al., 2017). Through public-

private partnerships, the GSA promotes industry sustainability, quality practices and standards, and demand for Shea in food and cosmetics (Global Shea Alliance, 2016).

2.4 Potentials of Ghana's Shea Butter Industry

At the international scene, the market prospect is very bright. Therefore, the greatest potential in this respect is the commercial development of Shea products with ready market value, thus will give the nation a major economic boast of unimaginable proportions from the Shea butter are mostly situated in developed countries and either belong to the confectionary or cosmetics industry and are usually sourced through various middlemen, a situation that has the possibility of short-changing the poor women (Springer Nature, 2017).

In fact, poverty is so endemic in the 3 northern regions that it will be difficult for the proportion of people whose income is less than $1.25 a day in these areas by 2015. This is because poverty in this area continues to remain widespread, with extreme poverty impacting 11.7% of the population in the Northern Region and even 41.8% in the Upper West Region (Alhassan, 2012).

A research by the Institute of Statistical Social and Economic Research (ISSER), of the University of Ghana, has suggested that the Shea industry in its current form cannot be a means for sustainable poverty reduction, as Shea nut pickers do not make meaningful profits. Shea-nut pickers were able to pick approximately 2.5 bags per season, which cost GH¢112.5, far below the country's per capita income of 1,858 dollars. There was need for government and all actors to commit resources into sustaining the Shea sector to enable it

to take advantage of the growing demand for Shea in the confectionary and locally hand-made Shea butter in the cosmetics industries (Ghanaian Times, January 21, 2015).

Report from the International Shea Industry Conference (2017) organized by the Global Shea Alliance (GSA), have revealed that Nigeria's largely untapped Shea butter market can yield $2 billion annually. Nigeria, which presently accounts for 57 percent of the global Shea with a value of $3.8 billion, could address its challenge of poverty through Shea butter export. By developing the large-scale production of Shea butter in Nigeria, the country would be on the right path to diversifying the economy through strategic focus on the commodity's export business. The current global Shea value stands at more than 3.8 billion dollars and Nigeria is said to contribute about 57 per cent of the global Shea value, which is about $2 billion additional revenue (Sanogo et al,. 2017).

Improve rural economies of communities is to take comparative advantage in Shea butter production by promoting Shea butter as a food and cosmetic product (Alhassan et al., 2011). The European Union had 5 percent of Shea must be added to all confectionaries particularly chocolate in the zone could effectively upscale the profile of the commodity's business. More than 50,000 tonnes of the product could be exported from the country per year; the lack of adequate statistics on Shea butter production is one of the factors militating against the development of the sector in Nigeria (Nifor, 2013). The country loses most of the financial benefits that should come to the country as a result of the smuggling of the produce. About $2.166 billion, (N335.73 billion) revenue in excise duties is lost yearly by the Federal Government to illegal exportation of Shea butter commodity out of the country. At least 50 trailers carry Shea butter and its derivatives cross the Nigerian border daily to Benin Republic from the Niger state alone, while Nigeria's Customs Service appear unable

to check smuggling activities (Ololade & Ibrahim, 2014). Increase in the country's Shea butter production could empower more women to contribute to the wellbeing of the families and those of their local communities. Women collect nuts across the Savannah area stretching from Senegal to Uganda and South Sudan. Millions of women make Shea butter that millions more in West Africa consume daily in food and skin care products. The Shea has tremendous impact on local economies, for every one dollar of Shea exported; local villages receive an additional 50 per cent of income (Business, 2017).

The Utilization of Shea fruit to enhance food security and reduce poverty in Ghana, the Shea tree grows extensively in the northern part of Ghana, which is known to be one of the poorest areas in the country. To help reduce poverty and enhance food security in this area, attempts were made to add value to Shea fruit pulp and Shea butter. Three of the products were produced; Fresh Shea fruit pulp contained 226.25 ± 1.56 mg/100 g, $0.96 \pm 0.06\%$, $1.09 \pm 0.01\%$ and 74.60 ± 4.22 mg/g phenols, fat, protein and sugar respectively (Naughton et al., 2017).

According to the United Nations Development Programme (2017), Empowering Rural Women and Alleviating Poverty by Strengthening the Local Shea Butter Industry. In addition to its importance as a key income source for rural women, Shea butter production can significantly contribute to increasing the possibility of the income generated being used for improvement of living standards of local women and their households. Further, Shea butter has the potential of evolving into a viable export industry since private businesses in several countries have been expressing their interest in importing Shea butter (Global Shea Butter Industry, 2017).

2.5 Uses of Shea Butter

Oil rich in fats that is derived from the *karite* tree (also known as the Shea tree) is your solution for many skin, health, and hair health issues. Fairly recently, this butter has gained huge popularity in the western world due to its widespread use in several beauty products, such as lotions, cosmetics, shampoos, and conditioners(Issahaku et al., 2011). Extracted from the nuts of the Shea tree (*Vitellaria paradoxa*) that is native to Africa, Shea butter is fatty oil that exists as a solid at room temperature (Stylecraze, 2017).

According to Ghana Business News (2017), the *Karite* tree bears the fruits; the nuts inside the fruits are of prime importance. These nuts are crushed, boiled, and manipulated to extract a light-colored fat, which is commonly referred to as Shea butter. The main components of Shea butter include oleic acid, stearic acid, linoleic acid. It gets absorbed quickly into the skin as it melts at body temperature. Its moisturizing and healing properties prove beneficial for many skin issues. It also has anti-inflammatory and antimicrobial properties (to a certain extent) that can be utilized to treat many ailments. Its similarity to many vegetable oils makes it suitable for ingestion (Lewis et al., 2016).

The Shea tree has naturally inhabited West Africa for centuries, stretching from Senegal to Sudan and up to the foothills of Ethiopia. African history documents mention jars of a rich butter used for skin and hair care being transported during Cleopatra's reign (Natcher, 2015). Even the Queen of Sheba is said to have used it. The tree was used to make coffins for the early kings in Africa, and the butter extracted from the nuts was used for its healing and skin care properties (Akihisa et al., 2010). The tree is also considered sacred by many tribes in Africa. It is still extensively used in Africa to protect the skin and hair from the harsh sun and dry winds. While kneading the extracted oil with the hand was popular

earlier, advancements in technology have led to different methods, such as clay filtering and using hexane for the final extraction of Shea butter (Brand, 2017). A few tribes also blend it with palm oil and use it for cooking purposes; this is mostly seen in Northern Nigeria (African Shea Butter Benefits, 2017).

The usage of Shea butter for skin care could be traced back to as far as ancient Egypt even in the place where the early King of Egypt was buried, crafted the Shea tree. Furthermore, the deserts in Egypt and Africa could kill you and Shea butter is a great sun block to protect skin(Naughton et al., 2015).Natural Moisturizer for Skin; Peeling Your Skin with Shea Butter; Effective Skin Sun Block; Treats Dry Skin Naturally; Greats for Chapped Lips; Solution to Stretch Mark; Good Bye to Dark Spots; Treats Rough Skin; Protects Skin Natural Oil; Effective to Treat Acnes; Wrinkles Reduction; No More Eye-bag; Natural Solution to Itchy Scalp; Treats Dandruff Effectively; Mends Split Ends; Excellent Moisturizer for Hair; Natural Hair Conditioner; Hair Protection from UV-Ray; Reduces the Effect of Salt and Chlorine during Swimming (Research Nester, 2017).

2.6 Financing of Shea Butter Processing and Marketing

Shea (*Vitellaria paradoxa*) butter is an important internationally recognized economic commodity because of its food and medicinal potentials, however, access to finance for small-scale forest enterprises such as Shea butter production and marketing remains a fundamental problem, which affects the growth and performance of these enterprises (Afful et al,. 2015). Four major groups of people were involved in the Shea butter activities. These were the fruit collectors, individuals who buy nuts from collectors, the processors and exporters of the Shea butter (Aniah et al., 2014).

In relation to the production, most of the rural women used the traditional method of processing the Shea nuts into butter because of lack of funds to acquire the required tools for semi- or fully mechanized systems. Using the traditional process resulted in poor-quality butter, therefore Shea butter processed using this method did not attract competitive prices (Kent et al. 2014).The women would acquire the necessary equipment they would be able to produce high-quality butter that would give them competitive prices (Glew et al. 2014]. Some financial organizations have established technical support services to provide processing facilities for these producers (Hatskevich et al., 2011).

Financing Shea butter production for rural women

The study identified two major sources of financing Shea butter processing: contract financing and microcredit financing (Esinam, 2010). All of the women reported that the main advantage of contract financing was that it provided a readily available source of finance for their processing activities. The disadvantage was that they had to sell all of their produce at the prices offered by the financiers (Issahaku et al., 2011). Regarding microcredit financing, the main advantage mentioned by all of the women was that it gave them control over who to sell their Shea butter to, while the disadvantages were the high interest rates and difficulties in managing weekly repayments of the loans (Ademola etal., 2012).

Three main companies were identified as the major contract financing buyers: SeKaf Ghana Limited, Savannah Fruits Company and Tungteiya Processing Centre. These have two main modes of operation; some establish their own processing centers, whereas others train and pre-finance production of women groups who have their own processing facilities

(Sidibé et al., 2012). The companies developed this financing model to ensure a constant supply of consistently high-quality Shea butter from producers (Glew et al. 2014).

As part of operationalizing the model, the company establishes a Shea butter village equipped with processing facilities, such as drying and sorting platforms required for effective production (Aniah et al., 2014). These are materials the women could not afford. In addition, all three companies in partnership with technical support institutions, provided training in improved Shea butter processing methods to enable processors to produce the quantity and quality clients requires (Issahaku et al., 2011). This allows the company to monitor the production process repayments of the loan. To ensure loans are paid back on schedule, micro financing companies target Shea butter processors who have lucrative setups, seek to expand their business, and would be able to cope with the strict weekly repayments (Owoo et al.,2014) .

Women's perceptions of access to financial arrangements for Shea butter production processing and trade in Shea butter was a full-time activity for some of the women, whereas others engaged in part-time processing in addition to other secondary income-generating activities, such as groundnut processing, rice processing and petty trading (Aniah et al., 2014) . Contract financing was very popular as some women groups received contract financing from some companies. At the start of operations, the company would give the women money for processing with the agreement that they would sell the finished product to them (Kent & Bakaweri, 2010).

The processors consider the financing arrangement as not beneficial for their income-generating activities perhaps unavailability of effective alternative credit facilities compels

them to keep using contract-financing facilities offered by the buyers, which are sometimes unfavorable (Derbile et al., 2012). The women were of the opinion that the availability of a range of financing options, and pricing information, would allow them to choose the most favorable financing contracts in order to sell to those offering the highest prices (Glew et al., 2014).

Women needs loans to buy nuts, they were unable to access loans for various reasons and they could not rely entirely on contract financing because they provide financial services to clients only when they need to buy Shea butter (Kent & Bakaweri, 2010). Small amounts of cash disbursed, which is not sufficient to increase production, and the loan amounts were not enough to cater for both their business and household(Lovett, 2013).

In a similar study, high illiteracy levels were identified among Shea butter producers in the rural areas of northern region of Ghana. Some non-governmental organizations have tried to address these problems by establishing technical support services in the form of processing facilities for Shea butter producers (Kent & Bakaweri , 2010). For Shea butter production, most of the women were engaged in contract financing, whereas a few used microcredit facilities. Similarly, in a study of agro-processing industries reported that 78% of rural industrialists had never utilized credit for capitalization purposes (Derbile et al., 2012). This suggests low patronage of credit facilities because of relatively high interest rates and other conditions set by loan providers' he disadvantage of contract financing was that processors had to sell all of their produce to the financiers without the opportunity of negotiating the price (Kent & Bakaweri, 2010). This situation was because the women did not have their own operating financial capital to support their activities. Inadequate credit is a severe constraint in Shea butter production (Ademola et al., 2012).

With reference to the Shea butter prices offered, the women had inadequate information and were unable to decide whether these were competitive. In similar situations, women have reported mixed opinions on their level of influence over pricing decisions (Afful et al, 2015). Most felt they had to plead with the buyer, who decides the price (Kent and Bakaweri, 2010). In rural areas, prices offered for Shea products are generally low (Hatskevich et al., 2011).

The prices offered to Shea processor are usually unfair rather than beneficial to the women. Furthermore, reported similar findings when a key informant accused buyers of opportunistic behavior in their refusal to remunerate women according to the quality of Shea butter (Sidibé et al., 2014). Moreover, for those who obtained loans, pre-disbursement training on the use of loans was not a routine practice (Afful et al, 2015). This affirms similar observations by (Issahaku et al., 2011), that most loan recipients do not receive training before disbursement of funds. This emphasizes the need to train recipients to understand the need to avoid misapplication of loans (Aniah et al., 2014).

The women recognize limitations in the existing financial arrangements, yet it offers the most accessible means of financing their production activities and selling their Shea butter (Fobil, 2015). Therefore, appropriate financing and marketing arrangements are required for the continued existence of the Shea butter processing industry (Kent et. al., 2014). Citing a situation in Mali, reported how access to finance helped women groups expand their area of production (Sidibé et al. 2014).Also propose the incorporation of women processors into international markets as a development pathway in sub-Saharan Africa (Nde Bup et al., 2013), describes the situation in Burkina Faso where women groups assisted to boost their ability to produce Shea butter and to link them directly with potential

export markets. The aim was to give women groups the opportunity to increase their access to the world market and to improve Burkinabé women's economic returns from Shea nuts (Rousseau et al., 2015).

2.7 Shea Butter Marketing

(a) Shea Butter Market Segmentation

Shea butter is an extract of a fruit of *Kartie* tree, Shea nut. *Kartie* tree is native to Africa. *Kartie* is its French name meaning "the tree of life". Shea butter market is segmented on the basis of its applications into different industries which include cosmetics & personal care, food, medicinal and others. Shea butter market demand is emerging in cosmetics and personal care industry due to its inflammatory, skin care, and moisturizing properties (Bryceson, 2017). Growing food industry is in demand of low-fat content products and Shea butter and oil is considered as an excellent substitute for palm and cocoa oil which has comparatively high-fat contents. Commercial Shea butter is available in the market on the basis of its purity and processing, as grades Grade A, B, C, D and E. A-Raw or unrefined, B-refined, C-highly refined or extracted with solvents, D-lowest uncontaminated grade Shea butter and E- Shea butter with contaminants. Grade A Shea butter retain most natural properties as compared to other grades and hence market demand from food and cosmetics segments is higher (Ellis & Bahiigwa, 2017).

According to Research Nester (2017), Shea butter is free of any artificial chemicals and is composed of stearic acid and oleic acid. Shea butter is used extensively in the cosmetic products such as skin moisturizers, hair conditioners and lip gloss. Apart from this, Shea butter is used in various industries such as food and healthcare. Consumers worldwide prefer Shea butter products. The process of extracting Shea butter from nut involves

various processes such as cracking, crushing, roasting, grinding, separating the oils and collecting and shaping (Jibreel et al., 2011). The market share of Shea butter has constantly been rising as compared to cocoa butter or palm oils. The market share of the Shea butter is growing due to the increased adoption of Shea butter products over cocoa butter or pal oils. The advantages that it offers over the cocoa and palm oil is that Shea butter has low fat content and better healing properties than the former. Further, the Shea butter products are powerful antioxidants and restore the damaged skin and hair to health (Reardon, 2017). However, the cocoa butter contains only polyphenol which is helpful in relieving stress. Shea butter contains vitamin A and vitamin E which are vital for skin and eyes. In addition, Shea butter contains cinnamic (ResearchGate, 2017).

Shea butter market is segmented on basis of regions which includes North America and Latin America, Middle East and Africa, Japan, Eastern Europe, Western Europe and Asia pacific excluding Japan. Western Europe and North America possess demand of Shea butter in the cosmetics and personal care industry by volume (Research Nester, 2017). The major cosmetics and soap industry in the U.S. is a most lucrative global market for Shea butter extracts. In African countries, Shea butter is used as a waterproofing wax, cooking oil, for hairdressing, in candle-making, and as an ingredient in medicinal ointments (Hatskevich, 2011). Shea butter has high demand in several sectors and world market. Principle factors driving market demand are continuous rising demand for cocoa equivalent products due to rising chocolate consumption by world population (Honfo et al, 2012). Rising market demand for natural products based cosmetics and skin care products are becoming another market driver for Shea butter (IJDS, 2013).

(b) Shea Butter Market Key Players

The maximum amount of Shea butter is exported to other market places other than Africa where it gets extracted, purified and converted into different required by products. *Kartie* nut processing takes two routes, the row nuts are exported to Asian oil companies in bulk who extract, refine and sell it to Europe. Unrefined Shea nut extract and butter is locally processed and graded for purity and then pushed into the world market through distributors. Key players operating in Shea butter market are Star Shea Ltd., Bread For Life, All Pure Nature Ltd. , Shea Radiance, Vink Chemicals GMBH & CO. KG, Jedwards International, Inc., Lovinah Naturals, Maison Karite Sociedad Limitada, Shebu Industries, Shea Therapy Ltd (formerly trading as AGC Ltd), The Pure Company etc. The majority of the players in Shea butter market are associated with global Shea butter alliance in order to smooth and easy trade transaction in the global Shea butter market (Akakpo et al., 2014).

In Western Europe, Japan and North America markets Shea butter are highly sought due to its high skin care, emollient and moisturizing properties. This Demand mainly comes from cocoa butter equivalent (CBE) as Shea butter is approved to be used in chocolates. Asia Pacific excluding Japan and Japan is also an important market demand from food as well as natural cosmetics markets in the region is increasing. The Europe and North America are the main markets for Shea butter use in cosmetics and natural products (Boffa, 2016).

Consumer awareness about hydrogenated oils containing Tran's fats has also played an important role in the increased use of Shea butter in food products. Emerging market demand for Shea butter in the world market is proven employment source for villagers and the sector has got high economic important. The government taking initiatives to fulfill the

maximum market demand of Shea butter and related products, emerging from all over the world (Research Nester, 2017).

Factors restraining market growth include Shea butter cost, which is higher than that of the substitute products palm oil and olive oil, used in soap and other skin care products (HawaiiNewsNow, 2017). The global Shea butter market is anticipated to witness a robust growth over the forecast period owing to the rising disposable income and consumer awareness. Europe and North America is the largest market share of global Shea butter followed by Asia-Pacific. Further, government policies are bolstering the European Shea butter market. Recently, European Union instructed that minimum 5% Shea must be present in eatable products like chocolate which is expected to bolster the Shea butter market. North America is expected to witness significant growth over the forecast period owing to the high demand for cosmetic products such as lip scrub, lip gloss and hair conditioners. Asia-Pacific is anticipated to showcase a growth in the demand of global Shea butter (Research Nester, 2017).

Rising consumer awareness and increasing healthcare concern are the key factors which are expected to bolster the Asia-Pacific Shea butter market. Japan is the major country in the Asia-Pacific accounting for the largest market share in the region. Market Segmentation by Raw and unrefined Shea butter, Refined Shea Butter. Region Global Shea butter market is further classified on the basis of region as follows: North America (U.S. & Canada) Market size, Latin America (Brazil, Mexico, Rest of Latin America) Market size, Western and Eastern Europe (U.K., Germany, France, Italy, Spain, Hungary, Belgium, Netherlands & Luxembourg, Western Europe) Market size, Asia-Pacific (China, India, Japan,

Singapore, Australia, New Zealand, South Korea & Asia) Market size, Middle East and North Africa (MENA) Market Size(HawaiiNewsNow, 2017).

The United States Agency for International Development (USAID) in partnership with the Global Shea Alliance (GSA), a network of local and international actors in the Shea industry, has injected a US$13 million to boost the sector (Citifmonline, 2016). In Africa, 16 million Shea nut collectors are directly and indirectly engaged in the sector. The package is for the implementation of a five-year project, "GSA Sustainable Shea Initiative" which is expected to increase the income of Shea collectors by over US$3.5 million. Benin, Burkina Faso, Cote d'Ivoire, Ghana, Mali and Nigeria, are the six beneficiary countries in Africa (Hohn et al., 2013).

Annual export value of Shea is projected to hit US$132 million, which would be geared towards facilitating 440 thousand tons of Shea products. According to Ghanaian Times 2014, World Vision Ghana (WVG) has supported 400 women at Bongo-Soe in the Bongo District of the Upper East Region to go into Shea butter processing for export (Citifmonline, November 8, 2016). A Ghanaian mother/daughter-run business based in the United States (US) is offering livelihood for hundreds of Shea nut pickers in northern Ghana through the sale of quality highly concentrated Shea butter-based moisturisers on the US market. The two are making waves into the US market with Eu'Genia Shea, a finished line of intense moisturisers, using Shea butter as the primary raw material (Graphic Online, June 13, 2017).

Shea butter traditionally has been used in the food industry for margarine, pastry, and chocolate, where it is used in place of cocoa butter. Increasingly, Shea butter is used in

"natural" and high-end cosmetics and soaps. Shea nuts, as opposed to the intermediate product of Shea butter, have been the dominant product traded internationally. West African supply has increased substantially in the past five years to reach 1,215 metric tons (MTs) and a total value of US$896,000. Principal suppliers are Côte d'Ivoire and Ghana. Shea Butter has been a growing industry for the past ten years. The most notable growth has been in the European market where imports have increased almost one-hundred percent and the market price has nearly quadrupled (Naughton et al, 2017).

Mansuki Ghana Limited (MGL), a natural cosmetics manufacturing, packaging, trading and service entity, has developed over 20 ranges of value added cosmetics out of Shea butter. The products, classified into three categories; soap, lotion and hair products, include coconut oil and Shea butter natural hair food, pure body Shea butter lotion, Shea butter black soap locally known as Alata samina, Shea butter herbal hair treatment, Shea butter and coconut nourishing shampoo and Shea butter and coconut extra nourishing conditioner (Assan, 2017).

Nigeria's largely untapped Shea butter market can yield $2 billion annually. Nigeria, which presently accounts for 57 percent of the global Shea with a value of $3.8 billion, could address its challenge of poverty through Shea butter export. The current global Shea value stands at more than 3.8 billion dollars and Nigeria is said to contribute about 57 per cent of the global Shea value that is about $2 billion additional revenue, Global Shea Butter Industry 2017. More than 50,000 tonnes of the Shea butter product could be exported from the country per year. About $2.166 billion, (N335.73 billion) revenue in excise duties is lost yearly by the Federal Government to illegal exportation of Shea butter commodity out of the country. At least 50 trailers carry Shea butter and its derivatives cross the Nigerian

border daily to Benin Republic from the Niger state alone, while Nigeria's Customs Service appear unable to check smuggling activities(Vanguard news, March 7,2017).

2.8 Gender Roles in the Shea Butter Processing in Ghana

Countries where Shea butter is produced it are an economic activity of great importance that many women depend on for their livelihoods (Collins, 2014). According to Esinam (2010), it is rarely for men to participate in Shea nut gathering as it is regarded as the job of women and children. NGO's emphasis the potential of the industry to reduce poverty levels among women. Shea nut and Shea butter production in Ghana has the potential of increasing employment availability to the economically vulnerable population, especially women. Farmers and women groups engaged in the Shea butter and groundnut business in the Upper West Region of Ghana, they have lost about GH¢5 million in revenue after their produce was downgraded on the international market for containing traces of a chemical pirimiphos Methyl (Hoetu,2017).

The livelihoods of over 3 million women are now on the line as concerns are being raised about people cutting down the Shea trees that produce the nuts-the raw material for the trade. Majority of women in Northern Ghana depend on Shea butter processing for a livelihood, but continue felling of these economic trees is further widening the poverty gap (Holt et al., 2015).

The Shea butter business is mostly a hereditary business and a motivation that female processors not only for income but a way of life in Northern Ghana (Anieh etal. 2014). Women also preserve the cultural and social values of Shea butter. Majority of Shea butter is made traditionally by women who learned the methods from our elders and grandparents

participating in this activity provide women a chance to engage with other women, thus fostering solidarity, unity, togetherness and expanded social networks among female participants(Collins,2014),.

According to UNDP (2010), women's access to wage employment in non-agricultural sectors has been weak, undermining the country's quest to promote gender equality as well as women's empowerment. In Ghana, women are underrepresented in wage employment and political decision making it undermines the effort of achieving gender equality and women empowerment.

Collecting the Shea coincides with the hungry season in Northern Ghana. The Shea kernel processors sell their commodity to purchase much needed food. Perhaps these collectors lose out on higher earnings that could in the later year, when prices for Shea nuts and Shea butter escalate. Women sell their agricultural produce to intermediaries at lower prices to pay for food and basic necessities (World Food Program, 2016).

The intermediaries or the middlemen pay for the transport and storage of the product as sell it at higher prices later in the year. An estimated profit margin that some intermediaries or middlemen made is 300 – 500%. the market for Shea expands, it is important to increase the capacity of women's as Shea butter processors to produce innovative and value added Shea products(Aniah et al.,2014),.

The Institute of Statistical, Social and Economic Research of the University of Ghana has indicated that until the government rolls out a comprehensive strategy to revamp the Shea nut industry, it cannot contribute meaningfully to economic growth. The Shea-nut pickers were able to pick approximately 2.5 bags per season, which cost GH¢ 112.5. This is far

below the country's per capita income of $ 1,858(Ghana Broadcasting Corporation, February 06, 2017).

Shea nut picking has being the predominant occupation of many women in the northern part of the Ghana. Shea nut picking is usually done during the rainy season amidst farming. Though bad pricing of the product has been a disincentive to the pickers' couple with the lack of rage facilities compels them to always sell the nuts according to the dictates of buyers of the product. The excommunicated method of picking this fruits or nuts by usage of bare hands and thus exposing the women to all sort of risks like snake bites and scorpions stings for the past years has been a source of worry to women. But with the input from the assistance of Save-Ghana, a roller allows women to pick more nuts at a time than usual (Business News, 2 June, 2017).

These rollers could with little time and energy harvest about four bowls of the Shea nuts or fruits and then emptied into a bigger container. The roller machines cost one hundred and sixty two Ghana cedies. Save-Ghana has imported two hundred pieces of these machines and would be giving them to women groups that would allow them pay in bits. The payment would be spread across sixteen weeks period, meaning eleven Ghana cedies every week (Ghanalive, 2 June, 2017).

World Vision Ghana (WVG) with funding from World Vision Korea has trained 600 women in Shea Butter extraction and trade in the Garu-Tempane District of the Upper East Region. The women drawn from Kpikpira, Gagbire and Woriyanga under WVG Shea Butter project have been trained on modern Shea butter extraction technologies and value added processes to promote trade and increase household incomes of beneficiary women.

The project has trained women in Shea butter production, soap making, pomade production, batik tie and dye making for local consumption and export. They have also been trained on financial management and records keeping. Shea butter project has empowered women financially and impacted over 4,700 families within the three communities (Cityonline, 5 August, 2017).

2.9 Contribution of Shea Butter Processing to Households Basic Needs

World Vision Ghana (WVG) has constructed Shea butter processing centres for 600 women in the Garu-Tempane District of the Upper East Region to help improve and sustain their livelihoods. The women were trained in value addition were making soap and pomade, hair cream and body lotions using the Shea butter they produced. The project has improved the financial position of the women to contribute to their household income and to cater for their children. The potential for the development of Shea industries to increase women's incomes is the focus of a number of development interventions in rural West Africa. However, concerns have been voiced over the potential effects of increased commercialization on women's rights over this resource (Women's Entrepreneurship Forum, 2017).

According to Vasco (2014),Most of the Shea nut pickers across the Shea producing parts of the country do not have any protective clothing, Wellington boots, hand gloves and hence exposes them to harmful creatures and the negativities of the weather, for instance, storm could strike someone dead in the bush . The veritable conditions in which Shea nut pickers go through before picking the nuts are too precarious. Yet gain just a little for their deadly efforts while the big merchants and industry players profit hugely from their sweat.

The pickers have not kept their problems to themselves but had on countless occasions complained of the dangerous conditions and processes they pass through daily before picking the nuts. Some of their complains included that of being bitten by snakes because they use their bare hands and sometimes bare feet to comb the bush in search daily living and support our children in schools and if the business is left out of the nut (Women's Entrepreneurship Forum, 2017).

Shea tree is a wild crop scattered across parts of Africa and in Ghana, it could be found in large quantities in the three Northern Regions with few also in some parts of the Volta and Brong Ahafo Regions (Vasco, 2014).

Since it is not grown, there is currently no plantation in the country about the Shea but pickers mostly women comb the bush to pick the nut. Such an orthodox practice results in larger proportion of the nuts being lost reducing production due to the inability of the pickers to pick them. Shea is often referred to as "Life" especially in Dioula language in Burkina Faso and where it is also generally grown wild, with little need for any special cultivation or nourishment (Pouliot etal., 2013). There are some few plantations of the crop in Burkina Faso. Almost all parts of the tree have some practical use(Malachi, 2014). The bark is an ingredient in traditional medicines against certain childhood ailments and minor scrapes and cuts (Pouliot, 2012). The shell of the nuts can repel mosquitoes. Above all, the fruity part of the nut is then crushed, yields a vegetable oil that could be used in cooking, soap-making and skin and hair care (Al-hassan, 2015).

Harvesting the nuts and making the butter traditionally have been women's work. Men usually are involved only in transport and marketing (Ojo & Adebayo, 2013:13). The cash

crop Shea is also valuable for the treatment of certain diseases by traditional herbalists. The infant industry is an attractive Offers employment for several individuals who partake in all of its value chain processes. More than 900,000 women in the three Northern regions, collect over 130,000 tonnes of dry nuts annually. The industry also benefits close to two million poor people, about 95 per cent of who are rural households, though business venture earning about 30 million dollars of foreign exchange for the national economy (Pouliot, 2012). According to Al-hassan (2015) in Burkina Faso, they call it "women's gold." When crushed and processed, the nuts of the Shea tree yield a vegetable fat known as Shea butter. It has long been a common ingredient in local foods and soap, but its qualities also make it a valuable export, for use in the manufacture of chocolate and cosmetics (Pouliot et al., 2013).

The tree grows throughout the semi-arid Sahel region of West Africa, but the largest concentration is in Burkina Faso (Aniahetal., 2014). The Shea tree through grafting propagation method had proved that the shear tree, through grafting could bear fruits in a gestation period of between three to six years. If successfully implemented could reduce the gestation period of the crop from 10-15 years to between three to six years and therefore increase production its products. The findings are intended to enable farmers and the government to make a plantation of the crop just as it is with cocoa. the first ever grafting of the Shea nut was successful in 2008 at Zoonaaliyi near Nyakpala where about 1,200 grafted plants covering about a hectare of land is being observed(Al-hassan, 2015). A wide range of Non-Government Organization (NGO) (both national and marketing in Ghana and support has ranged from linkages to markets, assistance with obtaining technology and training in business skills. Some of these NGOs include; Send Ghana, SNV, Oxfam, GTZ

and a host of others with the hope that when the sector is properly developed, it could alleviate poverty and empower women of whom most of these NGOs seek to protect (Lovett, 2013).

Strangely enough, some of these NGOs who seek to protect the interest of the poor and vulnerable in the Shea industry turn to exploit them by setting some Shea processing centers where women pick and process the Shea. The poor and vulnerable are usually cheated at the point of purchase as their products are bought cheaply by some of these NGOs, IDS (Bulletin, 2017). Another point of cheat is through the value chain of the Shea as the companies in the Shea industry make huge profits at the expense of the poor, Shea Economic Empowerment Program (SEEP, 2017). Some of the NGOs also give loans or credits to these vulnerable farmers in the Shea sector with huge interest rates. It is however important that the NGOs advocated for the best for the Shea industry but the interest of the vulnerable farmers must be paramount else they may be using the poor farmers to fight for their own interest. Some of the interventions of some NGOs must however be lauded.

The Shea industry faces numerous challenges which are surmountable. Some other challenges the Shea industry is faced with included uncontrolled pricing both local and international, inadequate information on the crop due to limited research, bush burning, lack of political will, loss of Shea trees through cutting the trees for charcoal and a host of other copious problems that needs to be addressed to pave way for more prolific investment with great dividends from the Shea industry (Konate, 2012).

According to Research Nester (2017), the intervention would not only alleviate poverty through job creation but also contribute to the reducing poverty as well as enhancing the

socio-economic fortunes of the country. Other school of thought had also advocated for the de-linking Shea industry from the COCOBOD to give it briefing space to propel, arguing that the Shea under the COCOBOD appears to be dying gradually(Collins, 2014). Shea industry within the Savannah Accelerated Development Authority (SADA), intends to nurture and grow the Shea industry as part of other interventions to accelerate development of the Northern parts of the country to reduce poverty and hopes are already high for the best to be done for that industry. If indeed efforts are being made to bridge the development gap between the Northern Ghana and Southern Ghana, then the Shea nut industry must be given serious consideration because it holds the key to the successes and improvement of many lives just as the cocoa in the Southern Ghana (Econstor, 2017).

Shea tree (Vitellaria paradoxa) known under its synonym Butryospermum paradoxum is a member of the family Sapotaceae (Ojo & Adebayo, 2013:13). Africa is the centre of origin of this genus and it grows In Nigeria, approximately 45 percent of the land is suitable for the growth of the plant (Ololade & Ibrahim, 2014:2). Shea tree grows in the wild in many states including Niger, Nasarawa, Kebbi, Kwara, Kogi, Adamawa, Benue, Edo, Katsina, Plateau, Sokoto, Zamfara, Taraba, Borno, and Oyo. It is widely known, valued, and exploited by the natives in all the areas where it grows (Ololade & Ibrahim, 2014:2).

The economic importance of this crop cannot be over-emphasised. Globally, shea butter is used largely in the food industry (for confectionaries such as biscuits, chocolates, pastries, margarines, and ice creams); pharmaceutical industry (for ointments and anti-inflammatories); and the cosmetic industry (for soaps, candles, lotions, makeup, baby ointments, and hair care (Eneh, 2010:3). Traditionally, it is used as a skin and hair moisturizer and for protection against the sun (Ololade & Ibrahim, 2014:2). The fruits also

contribute to food security in areas where it is found growing, mainly for rural poor, especially since their ripening coincide with the lean period of food production. The production of Shea nut and processing of the butter serves as one of the main sources of employment for the rural women and children who are engaged in its gathering (Ojo &Adebayo, 2013:13).

The Shea processing industries is characterized by the use of crude implements in Nigerian. The use of these crude implements often led to the production of poor quality Shea butter that attracts low prices in the international market. n order to sustain the increase of Shea butter production in Nigeria, processors across the producing states were trained on modern processing technologies in 2011. However, a large proportion of the processors had abandoned the use of modern processing technologies for the indigenous processing techniques (Ololade & Ibrahim, 2014:2).

According to Aniah et al. (2014), in a study to evaluate the economic as well as the environmental prospects for the Shea sector of Uganda entitle “Evaluating the Marketing Opportunities for Shea nut and Shea nut Processed in Uganda” indicated that Shea nut products commanded an important position in the diet of the rural populist. Children and women eat the fruit while its raw processed crude oil is used as a food accompaniment (Naila et al., 2013).

Shea butter oil is the only source of traditional convincing oil in most northern villages in Uganda and is used for all the traditional foods. In most villages, the refined cooking oil is not available and therefore Shea is the only source of cooking oil. The study also indicated that Shea oil (Shea butter) was very important to household income as it provided a major

source of income to the households who engaged in its trade (Nagler et al., 2014). The study further revealed that women processors rated Shea oil as the highest source of income generation as it provided more income than rearing and farming. Whereas on the same way wholesalers also indicated that trading in Shea was highly lucrative, with gains being higher on Shea compared with other crops such as groundnuts and maize. Besides, the money made through Shea is clearly for the women, as opposed to situations where much of a woman's labour goes into products that are sold and the monies kept by the local or the leader of the family (Collins, 2014).

Women are therefore empowered economically through their engagement in the industry to make meaningful decisions and investments in their lives, families and communities (Fox et al., 2016).Shea oil plays a significant role in household food and income security of northern Uganda. Shea oil provided an essential part of the diets for the people in the Shea belt. Marketing as well as trading in Shea also contribute in providing an important source of income that is used by the rural households to purchase food and other households' items (Aniah et al., 2014).

In a study on the potentials of Shea nut tree to the Nigerian Economy Garba, Nwame Oisakede (2011), observed that as a natural resource controlled by mostly women, the Shea butter tree supports the nutritional and economic health of rural families. The wild and slow growing savannah tree provides food such as nutritional fruits as well as food oil and revenues from the sale of its annual bounty to help rural households feed themselves, to invest in livestock and other income generating forms of wealth to meet cash requirements including shelter, clothing, health care, taxes, school fees, school uniforms and school books (Okiror et al., 2012).

According to Munor and Thomas (2013), in a study conducted, Shea nut and Shea butter was found to be of significance to the rural people in the upper west region of Ghana as many families income from Shea contributed to the quarter or in some cases more than half of a yearly income of a household. They held that money from Shea generally goes to the women as mentioned above by and this is one of the very few sources of income for them. From the nuts or the butter, the women got from selling the nuts or the butter; they generally acquire or buy food, clothes, or pay school fees and medical care (Wumpini, 2014). According to the study, in years of failed or poor harvest, income from Shea might serve 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 natural resources they have access to for economically value(Tsikata & Darkwa,2011). Shea is also a nutritional value in spite of its monetary value as it is an important source of fats and vitamins for many families in the region. Shea butter, for non-pastoral areas or cultures is the only source of fat in the diets of many local communities in sub Saharan (Ghana Statistical Service, 2014).

Also, unlike most crops based revenue, the returns from Shea production and marketing are controlled by women as previously indicated, who then invest their income for the benefit of their families (Akakpo et al., 2014). Income from the sale of Shea products supports basic household financial needs including food, clothing, medical care, soap, salt among others and a wide variety of both short and long term investments of these investments including livestock, cultivation and shelter, perhaps none is more important than education, including school fees for the girl-child (Fobil, 2007). In this regard, the women of rural northern Uganda are working to uplift the next generation, based on

conversation and long term sustainable management of a unique natural resource of the deepest cultural significance (www.Sheaproject, 2012).

2.10 Contribution of Shea Butter Industry to Development in Ghana

The contribution of Shea butter to development in Ghana cannot be over emphasized. The industry is a good source of socio-economic development both Northern Ghana and the entire nation;

(a) Contribution of Shea Butter processing to Employment Generation

According to Naughton (2016), Northern Ghana Shea aims to produce and market high quality Shea butter from Shea nuts gathered in the wild by rural women in Ghana. Through this, Shea nut pickers will gain access to higher end markets and a larger share of the value from nuts picked (Jasaw et. al., 2015). Shea butter production is the main livelihood for more than 900,000 rural women in Ghana, yet they tend to benefit least from the final value of the commodity (Collins, 2014). While women in the Upper West region of Ghana are by tradition excluded from land access, they have been allowed ownership of Shea nuts, which they can freely pick in the wild, and the butter produced from it - potentially a large source of income given that more than 60% of available Shea nuts in the Northern region of Ghana are left in the bush uncollected (Sanogo et. al., 2017).

According to Business World Ghana (2016), Shea nuts industry's value chain continues to be an economic driver for a lot of rural women farmers' resident in the northern sector as the commodity serves as employment generation, industrial development and growth of the national economy(United Nations Women Facts & Figures, 2016). Estimated annual earnings from the sector currently stands at US$175 million, comprising export revenues

from the raw nuts and processed butter. It is estimated that about 9.4 million Shea trees are in the country, and these can potentially yield one hundred tonnes of Shea nuts worth about US$100 million per year (Naughton, 2016). The crop grows extensively in the Guinea savannah which occupies more than half of the country's total landmass of 2,385,100 square kilometres. It can be found in Northern, Upper East and Upper West Regions of the country covering landmass of about 77,670 square kilometers (Global Shea Alliance, 2017). Over 90% of registered businesses in Ghana are in the small and medium enterprises, SMEs sector employing over 80 per cent of industrial employment.

(b) **Foreign Exchange Generations**

Shea is at the moment classified as non-traditional export commodity and is monitored by the Ghana export promotion authority (GEPA) of which was called Ghana export promotion council (GEPC). The table below shows crude Shea butter exports and earning from 2000 to 2015;

Table 1: The Crude Shea Butter Exports and Earnings

Year	Shea nuts		Shea Butter	
	Qty in Kilograms	Value in US $	Qty in Kilograms	Value in US $
2000	35,983,100	4,674,271	1,041,050	829,743
2001	46,281,400	6,654,411	1,679,740	1,131,347
2002	27,626,500	6,125,464	2,539,890	2,584,282
2003	66,996,900	16,746,386	1,559,700	1,567,430
2004	5,548,439	2,463,114	552,901	457,314
2005	165,508,326	28,968,495	648,089	940,514
2006	104,757,253	27,248,770	579,846	894,317
2007	57,165,806	27,008,556	10,295,257	7,659,888
2008	55,488,202	24,939,825	4,013,120	6,487,683
2009	67,826,340	26,853,367	12,561,367	19,010,304
2010	41,219,243	13,791,267	32,782,616	24,764,995
2011	111,194,139	25,086,810	29,707,748	27,611,980
2012	108,976,341	26,377,963	14,245,765	12,841,634
2013	37,517,888	8,062,696	41,814,602	26,443,668
2014	59,909,221	25,046,473	113,277,196	52,021,399
2015	134,651,181	33,571,717	83,182,243	64,034,036

Source: GEPA-Tamale, (2O16)

A close look at table 1 reveals a continuous increase in the price of Shea butter each year in the international market with little fluctuations. This makes Shea butter an important source of foreign exchange for Ghana over the years.

(c) Contribution of Shea butter processing to Food Security

Naughton et al. (2017), Shea butter, an edible oil and lotion produced primarily by women in over twenty-one countries in sub-Saharan Africa and consumed locally and exported internationally, can contribute considerably to achievement of several United Nations Sustainable Development Goals (2016). Major challenges that exist for Shea market expansion and food security potential include climate change and globalization of other competing world edible oils (Sanogo et al., 2017). Nevertheless, there are promising opportunities for the Shea market with the extensive Shea tree distribution, growth of consumer support for environmentally and socially conscious products, and capacity building efforts of rural Shea nut collectors and butter producers (Rousseau etal., 2015).

According to the World Food Program (2016), there is no doubt that the issue of food security and climate change is becoming a major challenge to most African countries of which Ghana is not exceptional. In Ghana research had shown that the Northern, Upper East and Upper West Regions are the most affected when it comes to the challenges of food security and climate challenges. Government and for that matter the Savannah Accelerated Development Authority (SADA), the Ministry of Food and Agriculture , the Ministry of Environment, Science and Technology , traditional authorizes should see how the technology could be implemented in the remaining parts of the country to help improve upon Food Security and Climate Change(United Nations Women Facts & Figures, 2016).

Notwithstanding the fact that bush fires in some of the communities remained a major challenge to the Shea butter industry, there is the urgent need to extend its implementation to the rest of the country where it is not practiced, particularly in the Northern, Upper East and Upper West Regions to help address the issue of Food Security and Climate Change (Naughton, 2016).

(d) Contribution of Shea butter processing to Poverty Alleviation

According to United Nations Development Programme (2017), more than 600,000 women in Northern Ghana depend on incomes from the sales of Shea butter and other Shea-related products as a means of their daily sustenance. In addition to its importance as a key income source for rural women, Shea butter production can significantly contribute to increasing the possibility of the income generated being used for improvement of living standards of local women and their households (Malik, 2013).

Further, Shea butter has the potential of evolving into a viable export industry since private businesses in several countries have been expressing their interest in importing Shea butter (Pouliot, 2012). Project aims at empowering rural women in Northern Ghana and alleviating their acute poverty by reinforcing the feasibility of local Shea butter industry as a sustainable business. The achievement requires a wide range of proficiency in Shea butter production, marketing and promotion, this included four development agencies with different expertise, namely UNDP, Japan International Cooperation Agency, Africa 2000 Network, and AFRASIA Business Council and has integrated its own strengths for achieving the shared project goals (Boffa, 2016).

Shea tree is a wild crop scattered across parts of Africa and in Ghana, it could be found in large quantities in the three Northern Regions with few also in some parts of the Volta and Brong Ahafo Regions. Since it is not grown, there is currently no plantation in the country about the Shea but pickers mostly women comb the bush to pick the nut Lovett (2013). Such an orthodox practice results in larger proportion of the nuts being lost reducing production due to the inability of the pickers to pick them. Shea is often referred to as "Life" especially in Dioula language in Burkina Faso and where it is also generally grown wild, with little need for any special cultivation or nourishment but of late, there are some few plantations of the crop in Burkina Faso (Rousseau etal., 2015).

According to ResearchGate(2017), majority of rural population in Ghana are faced with poverty, especially in northern Ghana which records the highest poverty levels, Springer Nature2017.Despite the potential of the Shea industry to contribute to alleviating poverty among rural women, little attention has been given to the industry GhanaWeb2010.However,the average annual income for butter processors was much higher than that of nut processors; and the major challenges confronting women in the Shea industry includes: limited access to investment capital; cutting down of live Shea trees; lack of modern processing equipment and training; and poor pricing of Shea products in the local market (Naughton et al., 2017).

From Seweh (2011) conducted an economic and financial analysis of the small, medium–semi mechanized, medium-mechanized and large scale facilities in Shea processing to determine the most suitable and profitable option worth investing. The author calculated net present value (NPV), benefit cost ratio (BCR) and internal rate of returns (IRR) of the four projects. Ranking the projects according to the results obtained, the large-scale facility

is the most viable option to invest in with a very high NPV of GH¢ 20,690,803.10, BCR of 2.75 and IRR of 39%. The small scale local processors ranked second and also proved viable. But the remaining two projects (medium-semi mechanized and medium-mechanized) had two of the analyzed values less than the acceptable values and should be rejected.

2.11 Government Agencies in the Shea Industry

A number of government agencies, departments as well as offices are involved in the trade of Shea. Some of the most important offices departments and their functions as far as the Shea industry in concerned are the Cocoa Board, the Ministry of Trade and Industry, the Ghana Standards Board and the Ghana Export Council now an authority.

(a) Ghana Cocoa Board (GCB)

Prior to the observation of Shea trade in the early 1990's, the Cocoa Marketing Company formerly the Produce Buying Company under Cocoa Board purchased Shea nuts for export. The Ghana Cocoa Board used to be the most important marketing board in Ghana controlling the sale and export cocoa, Shea nuts, Shea butter and coffee. The Cocoa Board has several offices in Ghana but the most dominant among the offices is based in Kumasi. In 1991, the internal and external trade of Shea nut and Shea butter was privatized. The Cocoa Research Institute of Ghana (C R I G) under the auspices of Cocoa Board holds the mandate for research on the Shea resource, which is mainly taking place at a field station near Bole in the Northern Region. Moreover, Cocoa Boards main concern is cocoa and it does not carry ant any promotion or quality control of Shea butter, perhaps, Cocoa Board is affiliated primarily with Southern Ghana. The cocoa production, more or less neglecting Northern Ghana and the Shea industry despite the importance of Shea both in the

production of cocoa butter equivalents (CBSEs) as well as its use as cocoa butter improver (CBI). The Board keeps records about quantities produced and trade of cocoa and is important in setting and promoting the prices that producers get for the cocoa. However, with regards to the Shea board, is less active until quite recently. There are records about nuts, yet no records are kept of the Shea butter. The data on the nuts only contains data of the quantities shipped through the part of Tema.

Journal of Agrarian Change (2017),there is an integrated theoretical framework to reveal the mechanisms behind socio-economic differentiation in the changing patterns of access to Shea in western Burkina Faso, in the context of globalization of the Shea nut trade and internal migrations from both the Mossi Plateau and the Sahelian zone. The complex dynamic mechanisms of changes in access to Shea have reduced access to Shea for late comers as well as for people with a limited number of Shea trees in their fields. Areas where Shea is managed as a common-pool resource are becoming less accessible.

Shea trees grow across 4 million km2 of sub-Saharan Africa. Shea parklands provide a sustainable source of edible fat (Shea butter) that, in terms of volume, is currently second only to cocoa butter as a vegetal source of stearic acid in the multi-billion dollar chocolate and cosmetic sectors. However, in terms of international trade, Shea has been opaque to consumers of edible products (where the majority of Shea exports end their global journey) and actually only well-known in western markets as a cosmetic ingredient (Sanogo et al., 2017). The millions of women collectors have been disconnected from global supply chains, as the majority of their Shea nuts are factory processed, supplied by traders who, in many cases, do not understand quality issues nor share knowledge with their village-based collectors-this is the *"Paradox of paradoxa"*. Women who work in rural Africa,

however, usually have little or no access to the requisite information and knowledge that would allow them to benefit from improvement to their products and increase value addition upstream in the value chain. In general, many rural women of Sahel-Savannah Africa are still disconnected from the global Shea market. This is the "*Paradoxa of paradoxa"* (Lovett, 2010). The fruits are harvested around May until September, coinciding with the rainy season, the genetic variability of Shea is noted to be high Houehanou et al.,(2013) and there is no tradition of planting trees, as Shea is highly effective in propagating itself in this environment.According to Yeboah et al (2011), recent work, however, with micro-propagation, rooting cuttings and grafting may allow opportunities to formally domesticate and enrich parklands through selection and planting of more productive Shea trees (Chimsah et al., 2014), (Lovett,2013). Höhn and Neumann (2012) further suggested that agro forestry parklands, intercropped with millet, began to be cultivated around 2000–2500 years b.p. in north Burkina Faso, as patterns of climatic aridity were moving southwards. When you take all of this information into account it suggests that farmed parklands, of which Shea is often a component, were likely already in existence (Naughton, CC, 2016).

Earliest records seen (The Straits Times, 2014), for the development of cocoa butter alternatives show that research and development in this field had begun during the 19th century. According to records, palatable and stable cocoa butter substitutes (CBSs) had been developed by Messrs Loders and Nucoline Limited of Silver town (UK) since 1887, resulting in a coconut fat based substitute named Nucoa. During the 1920s economic conditions were even more appealing in regards to creating cheaper chocolate ingredients. Two important earlier drivers of the international trade in Shea for cosmetic purposes have

been L'Occitane, and The Body Shop. L'Occitane, and then The Body Shop's early attempts to source hand-crafted Shea butter, directly from women in the 80s and 90s for the cosmetic sector were admirable. However, the hundreds of ton volumes of butter still being exported this aforementioned purpose are diminutive as compared to the hundreds of thousands of tons of Shea nuts used in the edible sector, which then were still being sourced as unprocessed kernel. Quantifying volume aspects of Shea supply chain, however, is rather complex due to the use of crude and refined mechanical and hand-crafted butter, the Shea cake or residue and the stearin, olein and bioactive fractions or derivatives in multiple sectors. It is currently estimated that between 10%–15% of all Shea exports are destined for the cosmetic sector of which an estimated 15,000–25,000 SETs are hand-crafted and 150,000–250,000 SETs are mechanically crushed into butter within the Africa continent (LMC International, 2014).

However, there exist bottlenecks for women producing high quality nuts, and education is lacking on the best ways to process the nuts to optimize their physical properties for the international Shea value chain. In this value chain, it is the proper processing of the nuts that is critical for the quality of final products and higher quality processed Shea nuts are more sought after by those that export into the international market place (Springer Nature, 2017). When the value of the product export increases, men often assert control of the associated profits while women are still in charge with the processing and other labor-intensive aspects of the commodity. Women's income from Shea kernels and shear butter is used to buy other goods such as food, clothing, and medicine, and to invest in their children's schooling (Pouliot, 2012).

In the international marketplace, there are a number of factors that can impact the value of Shea butter for those that use this material in food and cosmetics: (i) high levels of free fatty acids (FFA); the breakdown products following hydrolysis of Tri-Acyl-Glycerols (TAGs), which have to be removed during refining in order to standardize the product and increase shelf-life, result in approximately 1.5% loss in butter volume for every 1% of FFA removed; (ii) the carcinogenic Poly-cyclic Aromatic Hydrocarbons (PAHs) (Commission Regulation (EU), (2013) which must be completely removed during the refining process prior to any edible use in the USA or EU markets; (iii) high levels of volatile peroxides which also need to be removed through refining steps as these products of oxidation can further catalyze additional degradation of a stored product, again reducing shelf-life; and, (iv) removal of any water, contaminants or other impurities (which impact shelf-life and standard formulations) will also result in loss of butter volumes during refining.

Shea represents a challenging value chain, especially as the first steps are in the hands of difficult to reach, poorly educated rural women, who have diverse cultural backgrounds and are scattered across the vast Shea belt from the far west of the African Sahel-Savannah, e.g., Gambia and Senegal, to the far east of this vegetation region, e.g., Ethiopia, South Sudan and Uganda (a 3–4 million km2 zone)(Naughton, 2015). However, it is common that initial product (the Shea nuts) either moves to traders in the value chain or it is passed into a handcrafted value chain (Global Shea Alliance, 2014) and (CBI Ministry of Foreign Affairs,2014).

(b) Ministry Of Trade And Industry (MOTI)

Another important government institution that plays a role in the Shea industry is the Ministry of Trade and Industry (MOTI). Under this ministry, there are a number of the

boards which executes the policy of the MOTI. These boards are the Ghana Export Promotion Council, the Ghana Standards Board and the National Board for Small-Scale Industries (NBSS). As the ministry in charge of trade, the MOTI therefore works to stimulate this business more.

(c) Ghana Export Promotion Council (GEPC)

Formerly, the Ghana Export Promotion Council now the Ghana Export Promotion Authority (GEPA) is sole responsible for recording quantities traded over the borders. The available figures however are quantities of nuts shipped through the harbor of Tema, a situation similar to that of the Cocoa Board. There are no numbers available on nuts traded over the land borders to the major Shea producing countries in West Africa including Togo, Benin, Burkina Faso, and Cote D' Ivoire among others. The Ghana export promotion council could play a more crucial role in mobilizing people who want to share their knowledge and experience with others in order to increase the export of Shea butter from Ghana (Ghana News Agency, 2017).

The Ghana Export Promotion Authority (GEPA) is targeting $4 billion in non-traditional export (NTEs) earnings for 2017. The target represents a big leap from the $2.463 billion recorded in 2016. The achievement of the target calls for an aggressive implementation of the various projects in the National Export Strategy. There must also be an execution of activities and programmes lined up in collaboration with other key export stakeholders to ensure that the targets are met. GEPA has set itself an ambitious target of $10 billion in NTEs by 2021. The provision of adequate funding and support, the GEPA would be able to drive the anticipated increases in NTE revenue in 2017 and beyond. GEPA had started a restructuring of the internal operations to provide the necessary resources for staff to

enhance their capability to facilitate the export trade. Meanwhile, NTEs fetched the country $2.643 billion last year compared to $2.55 billion in 2015, a 2.3 per cent increase. Non-traditional export (NTEs) contribution to 23 per cent of the country's total exports in 2016. The Non-traditional exports (NTEs) were achieved on the back of three main sub-sectors; agriculture, processed and semi-processed products and handicrafts. Processed and semi processed products accounted for 84.72 percent of Non-traditional export (NTEs) and contributed $2.08 billion in export earnings compared to $2.12 billion earned in 2015 (Ghana Business News, 2017). The fall was as a result of decline in the performance of cocoa products. Cocoa paste, cocoa butter, canned tuna, plastic products, and lubricating oil are among the ten leading products in the processed and semi-processed products. The Handicraft sub-sector, which stagnated around $4 million, however experienced an increase of 22 per cent to $5.22 million on account of higher earnings from hides and skins and jewelry exports. Export Earnings from the Agricultural sub-sector in 2016 amounted to $371.14 million compared to $396.91 million earned in 2015, bringing the sub-sector contribution to 15.07 per cent to the total NTE earnings in 2016. The 10 leading agricultural products include; Cashew Nuts, Banana, and Medicinal Plants, Fresh or Chilled Tunas and Shea nuts. The Economic Community of West African States (ECOWAS) and European markets remained the leading markets for Ghana's NTE products. ECOWAS was the top performer absorbing 37.25 per cent of the products, while the European Union had 32.33 per cent. Other African countries absorbed 2.14 per cent, developed Countries 8.33 per cent and other countries 19.94 per cent. In the ECOWAS region Burkina Faso, Togo, Nigeria, Mali, Senegal, and Cote d'Ivoire, are among the top ten NTE markets in the (ECOWAS). The 10 leading EU destinations include; the United Kingdom, Netherlands,

France, Spain and Belgium. Overall, the 10 leading NTE Markets included Burkina Faso, United Kingdom, Vietnam, Netherlands, Togo, Nigeria and France. There are more than 400 non-traditional export products categorised into agricultural, processed/semi-processed and handicrafts, (Ghana News Agency, 2017).

According to Ghana Business News (2017), the Ghana Export Promotion Authority (GEPA) is working towards achieving the vision of the Government to move the nation from consumption to production and export-based economy. GEPA had targeted to export $10 billion worth of value-added products in the next four years of which 20 per cent for Shea butter would be exported.

(d) Ghana Standards Board (GSB)

The Ghana Standard Board is the national statutory body charged with the development and enforcement of standards to promote quality in trade and industry. This included, standards setting, metrology testing and quality assurance. The Ghana Standard Board is under the ministry of Trade and Industry. The GSB has promulgated approximately 160 Ghanaian standards and adopted over 300 foreign standards for certification purposes. These standards cover a wide range of products. In the Shea industry perhaps, there is a standard for (unrefined) Shea butter (GS 238:2006) and a standard for Shea kernel (DGS 824:2006). This institution has an office for the three Northern Regions located in Tamale as well as headquarters in Accra. At the office in Tamale, there were neither standard for Shea butter nor for Shea kernel available, although all producers and many traders and exporters of these products can be found in the three Northern Regions. Exporters have to have an export certificates to be allowed to export products as well as to be allowed to sell their product in Ghana. This certificate has to renew annually. The GSB periodically

performs unexpected inspections to check the companies including those engaged in the Shea industry (Ghana News Agency, 2017).

2.12 Programs and Government Policies in the Shea Butter Industry

Since 1949, the government of Ghana (then the Gold Coast) has controlled the domestic purchase of Shea and its sale for export on the international market through a number of marketing boards. Although, the policies of these boards may have different, they dominated the Shea market during the past half century by setting domestic prices, licensing buying agents, dictating the form of internal supply lines and serving as the sole exporter. Major policy decision was taken in place in 1973, and a law was enacted that placed the internal and external marketing as well as research on Shea nut under the sole control of the Ghana Cocoa Marketing Board (GCMB). It also has a further responsibility over cocoa, also, coffee and other minor trees. During the 1980s and early 1990s, Shea export policy underwent an apparent radical transformation as it moved from extremely deep and exclusive state or government involvement to the inclusion of private formal sector enterprises in the removal of all price regulators and buying restrictions in 1991. During that time, the produce buying company (PBC) a subsidiary of the Cocoa Marketing Board and the state owned enterprise in charge of the Shea market renounced its control of Shea export in order to facilitate the entry of private forms. By 1992, the Produce Buying Company (PBC) was affectively demolished.

The integration of African smallholders into global commodity chains is often portrayed as an engine for rural transformation that will generate broad-based economic growth and help to eradicate poverty. In this vein, in northern Ghana, the production of Shea nuts, the fruit of the semi domesticated Shea nut tree, which is in high demand in the international

confectionary and cosmetic industry, is promoted by government agencies, international donors, non-governmental organizations, and agro-processing companies alike. In their discourses Shea nuts become 'women's gold' and the Shea industry an engine of poverty reduction (Econstor, 2017).

Shea butter, derived from the African Shea tree, has acquired a pivotal position in global agro-food and cosmetics industries. In Burkina Faso, public and private actors as well as civil society are converging upon the product to boost the incomes of rural female producers; some producers are improving their prospects by forming an association (Arora-Jonsson S., 2013).

The National Shea Producers Association of Nigeria (NASPAN) has stated that converting about 100,000 metric tonnes of Shea nuts to produce 48,000 metric tonnes of Shea butter for export can generate more than $72 million for the Nigerian economy. Shea industry is enormous in Nigeria, but basically at its rudimentary stage and underdeveloped, calling for the need to deploy automative and mechanized processes to boost Shea nuts production for export. Nigeria currently produces about 300,000 tonnes of Shea nuts yearly making it the largest producer, but however, volume is about 40 per cent of the sector's real potential (Financial Watch News, April 27, 2017).

Nigeria currently reputed as the world's leading producer of Shea nuts, the Nigerian Export Import Bank said it was ready to support the country to recover its lost capacity. Of the estimated over 680,000 metric tons of Shea nuts produced annually in West Africa, Nigeria accounts for over 370,000 metric tonnes, or 53 percent of the capacity(Premium Times, November 4, 2017). Shea trees, which grow wildly throughout the country, are

predominantly in 21 of the 36 states of the federation. About 56 per cent of the production of Shea nuts are exported, and the balance are either consumed locally, smuggled out of the country, resulting in a loss of nearly N345 million every year. Current global demand for Shea butter projected to grow from about $10 billion to more than $30 billion per annum by 2020. Ladgroup is Nigeria's leading indigenous conglomerate, with 40,000 metric tons per annum state of the art Oil Mill Extraction factory, the largest Shea nuts processing factory in Africa. Nearly two billion Shea trees grow naturally on park lands in 21 African countries, stretching from Senegal to South Sudan, with more than 16 million women living in rural communities individually collecting the fresh fruits and the kernel, process to extract a healthy vegetable oil to sell to earn a living (Econstor, 2017).Nexim Bank had in March 2015 approved about $5.8 million to Ladgroup Limited to set up a Shea nut processing factory. The facility, which covered equipment finance ($2.8 million) and working capital ($3million), helped the company to purchase and install a Shea butter refining unit, a step down transformer and to augment its working capital base. The factory is dedicated to sourcing and processing of Shea nuts into Shea butter for sale to both domestic and export markets. The company planned to create about 300 direct and more than 600 indirect jobs as well as earn about $5million in the first year and $100million in the next five years (Econstor, 2017).

In 1984, the Cocoa Marketing Board through the Produce Buying Company intensified Shea commercialization for export as part of a larger initiative to diversify agricultural exports and thereby stimulate and secure foreign exchange earnings. In order to carry out its programme of Shea export promotion, the Produce Buying Company dictated the formation of agricultural cooperative known as Shea Nut Farmer's Societies in the rural

areas of the Northern Ghana in order to secure supplies. In spite of the high profile activities during that period, there was little or no improvement in the traditional Shea nut and Shea butter production strategies that can be attributed to the board's intervention. In the early 1990's, the Shea nuts sector of the Produce Buying Company was dissolved, but the Cocoa Marketing Board retaining control of the Shea industry through a policy of licensing of Shea nut buyers and exporters till date (Ellis,2017).

The Board through its research wing, in recognition of the need to find substitutes for the rather expensive cocoa products and to maximize economic exploitation of the vast Shea resource in Ghana, the Cocoa Research Institute of Ghana (CRIG) initiated scientific research into the cultivation and processing of Shea nuts. This led to the creation of a subsidiary research station of the Cocoa Research Institute of Ghana in 1976 at Bole, Northern Region with the sole responsibility of researching into the ecology and biology of the Shea tree with the aim of improving its yield (Fobil, 2015).

Also, other national institutes that have been involved in research into Shea include the Food Research Institute (FRI), Savannah Agricultural Research Institute (SARI) of CSIR and the University for Development Studies (Alhassan & Jafaru, 2011). Many NGO's have also made some efforts to respond to some challenges as well as constraints in the industry with the aim of reducing poverty among rural households particularly in Northern Ghana. At the moment, though there exists a 15 member national steering committee on Shea nut besides a Shea unit under Cocoa Board, charged with the mandate of monitoring, regulating and ensuring the revamping of the Shea nut industry, government's position is unclear, insufficient and does not provide adequate direction and national guidance to the Shea sector (Jasaw et al., 2015).

Currently, the level of interest and commitment by government of Ghana in the Shea industry can be said to be insignificant or insufficient. The many challenges faced by the industry as discussed previously as well as the potential of the industry in transforming the lives of the many rural poor in producing areas require adequate government intervention, far beyond the establishment of steering committee, more so considering the several decades that government has controlled the Shea sector. Governments intervention in the Shea industry is being sought, first of all, to prevent the exploitation of rural women and their households and secondly to support the growth of the industry through promotional and regulatory frameworks that would both enable rural people protect wild Shea trees and cultivate more and at the same time also forestall the current exploitation going on in the industry (Lovett, 2010).

2.13 Challenges Faces by the Shea Butter Industry in Ghana

Shea butter producers lack capital, inadequate equipment, access to water, access to roads, and high cost of fuel wood and production difficulties due to the use of large manual production tools as the major constraints of processing activities (Esinam, 2010). However, there is also lack of understanding about the contextual factors that prevent households, specifically female members, to participate in Shea butter processing and sale (Pouliot et al., 2013).

Four hundred and twenty-one small businesses received financial and logistical support from the United Kingdom's Department for International Development (DFID) from 2014 to 2017 to develop and implement their business ideas. The support had resulted in over 250 per cent revenue growth of such businesses that had in turn created 1,203 jobs in the country. Enhancing Growth in New Enterprises (ENGINE) programmed, which includes

700 female entrepreneurs, aims at bringing together a network of entrepreneurs, government, financial institutions and business development service providers to find common solutions to entrepreneurship development challenges (Graphic Online, 13 June, 2017). Entrepreneurs are now exporting products ranging from indigenous beauty products such as black soap and Shea butter based cosmetics to environmentally friendly across Africa and into Europe and North America(Graphic Online, 30 September, 2017).

According to the Ghana Export Promotion Authority (GEPA), is on a vigorous public sensitization on the one district, one exportable product project in the Northern Region where Shea nut is a major export commodity. The vision of GEPA in relation to the one district-one exportable product initiative is not only aimed at increasing export earnings from non-traditional exports, but also creating jobs for the youth as well as increasing the earnings of various producers which can lead to accelerated development of the various districts (Global Shea Alliance, 2013).

World Vision Ghana (WVG) with funding from World Vision Korea has trained 600 women in Shea Butter extraction and trade in the Garu-Tempane District of the Upper East Region. The project has trained women in Shea butter production, soap making, pomade production, batik tie and dye making for local consumption and export (Citifmonline, Saturday, August 5, 2017), . They have also been trained on financial management and records keeping. Shea butter project has empowered women financially and impacted over 4,700 families within the communities. The intervention has re-shaped women financial positions at the household level. The women can now contribute financially to their households' income and also invest their proceeds on the activities of their families especially in the education and health of their children (Business Ghana, 9 August, 2017).

A Ghanaian mother/daughter-run business based in the United States (US) is offering livelihood for hundreds of Shea nut pickers in northern Ghana through the sale of quality highly concentrated Shea butter-based moisturisers on the US market. The products and the company have been featured recently in the April 2017 edition of Marie Claire Magazine, an international monthly magazine for women, Fox Channel 5 and Channel 12 News, all in the United States. Help empower impoverished women in northern Ghana, equip them and empower them economically by bridging the gap between rural Shea nut pickers and global Shea butter demand. The Shea butter production is based in Damongo, where 1,500 pickers from the communities and 30 full-time women employees in the Damongo facility, including cooperatives at Busunu, Kawankura and Janupunktu(Honfo et al.,2014).

The integration of African smallholders into global commodity chains is often portrayed as an engine for rural transformation that will generate broad-based economic growth and help to eradicate poverty (Econstor, 2017). In northern Ghana, the production of Shea nuts, the fruit of the semi domesticated Shea nut tree, which is in high demand in the international confectionary and cosmetic industry, is promoted by government agencies, international donors, non-governmental organizations, and agro-processing companies alike(Assan, 2017). In these discourse, Shea nuts become 'women's gold' and the Shea industry an engine of poverty reduction. Based on qualitative and quantitative research in the Upper East and Upper West regions of northern Ghana, there is an actual impact and future promises of smallholder integration into the global Shea market. The way producers, mainly women from poor rural smallholder households gain access to nuts and produce

and market their crops is described, and the profits derived at different steps of the Ghanaian Shea value chain analyzed (Aduse-Poku etal., 2017).

The sale of Shea nuts does provide a welcome source of income for rural women and poor rural households in Northern Ghana at a time of year when resources are scarce. Thus the production and sale of Shea nuts helps to mitigate poverty (Assan et al.,2017).Low levels of production, resulting from labor and resource access constraints, as well as exploitative price setting by oligopolistic Shea processing companies, the integration into the global Shea commodity chain is not a 'game changer' for the producers. It does not have the potential of moving poor rural households out of poverty (Adi, 2017). Rural women who tend to disengage from Shea picking when more profitable economic activities such as independent farming, wage labor, or business opportunities arise. Therefore, discourses promoting Shea production do not seem to rest on a sober analysis of the socio-economic impact of commodity chain integration, but rather tend to serve political, public relation, and marketing ends (Ackah, 2013).

According to Niehof (2017), Ghana like many other African countries, is confronted with a significant youth under and unemployment challenge. Although the Ghana Statistical Service (GSS 2017) report on labour force pegged the unemployment rate of Ghana at 5.2 per cent, unemployment among the youth (15–35 years) is 32.2 per cent. Additionally, the urban unemployment is higher (6.3 per cent) than the national average as well the rural unemployment rate (3.9 per cent). The majority of youth who are employed in urban areas are engaged mainly in wholesale and retail businesses, as well as very low productivity service areas. In rural areas, many youth who are engaged in low productivity agricultural activities seek the opportunity to migrate. Given the relatively low levels of education and

skills of most rural youth, non-farm enterprises have the potential to create the much-needed employment opportunities in rural areas (Owoo et al., 2014).

The non-farm enterprises are being promoted for their perceived potential to absorb surplus labour in rural areas (Hoetu, 2017),. This is particularly important as the capacity for agriculture (in its current state) to provide a sustainable source of livelihood is low, and prospects for unskilled workers in urban areas have dwindled. Therefore, is that non-farm activities like Shea nut and Shea butter processing and marketing are the next best alternative for rural youth (Nagler et al., 2014).

Expanding non-farm activities in rural areas may not resolve the rural unemployment problem because in large part these are operated as coping mechanisms rather than as businesses (Reardon, 2017),. Through the achievement of asset accumulation and upward mobility from diversification through the operation of non-farm enterprises within the rural economy is possible (Ellis, 2017). These suggests that such a benefit is not likely for most rural households in Ghana whose goal of survival is a more probable outcome of diversification(Rijkers & Costa, 2012).Rural non-farm enterprises refers to small, informal household enterprises including agribusiness, trade and retail, tourism, rural industrialization, construction and mining (Nagler et. al., 2014).

According to Ackah (2013), the declining participation in non-farm enterprises as people grow older, younger people are more likely to take up opportunities in the non-farm sector than older people. Ethiopia, Malawi, Niger, Nigeria and Uganda, found that older cohorts were more likely to engage in Shea butter processing, which might reflect the fact that many of those who are less than 25 years old are still attending school (Nagler et al. (2014).

In general, the levels of education and skills required for gainful employment in rural non-farm enterprises are not very high. Education increases the likelihood that people will engage in formal, rural non-farm enterprises. Educated people who participate in the non-farm sector there is a significant association between level of literacy and type of enterprise: operators with more education tend to use more modern technology (Ellis et al., 2017).

Furthermore, other challenges such as preserving the source trees, which are often unproductive and difficult to cultivate, the changing land tenure systems which increasingly limits women's access to Shea trees do exist(Fox et al., 2016). The difference in quality of the butter and also women's limited access to market information as well as credit to purchase labour saving devices and promote the crop are also significant challenges (Economic Commission for Africa, 2010).

2.14 Non-Governmental Organization in the Shea Butter Industry in Ghana

According to Lovett (2013), a number of initiatives have been introduced by non-governmental organization in the Shea producing areas of northern Ghana due to the potential of the industry to provide increased benefits to the rural poor thereby reducing poverty as well as promoting development. A great number of non-governmental organizations (NGOs) have contributed to the development of the Shea industry in Ghana. Examples of some of these non-governmental organizations are; Stichting Nederladse Vrijwilligers (SNV), Technoserve Ghana Africa 2000 Network, Japan International cooperation agency (JICA) the united national development programme (UNDP), the Africa Business Council among others. These organizations have contributed in various ways to the development of the industry including linkages to markets, assistance with obtaining technology and training skills, improved resource management, trade facilitation,

market awareness and increased Shea butter production. Specifically, the activities of some of the NGO's include the following;

(a) **The West African Trade Hub (WATH)** The West African Trade Hub is a USAID financed center established to enhance West Africa's as well as Africa trade competitiveness. This organization supports Shea products through trading activities. WATH has recently chosen Shea butter as a focus area. A database of interested Shea importers and buyers in the United States (US) is also being developed. Furthermore, suggestions for WATH's strategy on Shea butter include improvement of processing methods, training of producers' facilitation of producer organization, and the development of a certification system (Global Shea Alliance, 2017).

West Africa Trade Hub and African Partners Network (2017),Shea nuts grow in traditionally managed parklands generally tended and harvested by women over 3 million square kilometers of Africa, a belt that includes several West African countries, including Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Nigeria, and Togo. Both kernels and the butter made from them have found eager markets in European confectionary and global cosmetics and pharmaceuticals. In 2012, an estimated 350,000 MT of kernels were exported from Africa, with a market value of approximately US$120 million, while demand for West African Shea butter rose by 1,200% over the last decade. About 80% of traded Shea is exported as a raw commodity; only about 20% of the harvest is processed in Africa and exported as Shea butter (Ololade &Ibrahim, 2017).

The Trade Hub partners launched under the previous Trade Hub project to unite producers, traders and buyers behind a platform to promote sustainable sourcing and quality of life for the women who gather and process Shea. To increase price premiums paid to producer groups, the Trade Hub supports the GSA's ongoing efforts to have Shea butter accepted in the U.S. as a cocoa butter substitute, allowing it to be used in making chocolate and other candy, and significantly expanding Shea export opportunities for West African producers. The Trade Hub is also building the capacity of national Shea industry associations and helping the GSA improve its West African members' capacity to export more and higher-quality Shea nuts. The fourth Women's Entrepreneurship Forum in Abidjan, Côte d'Ivoire on April 27, 2017, joining over 54 participants, including women entrepreneurs in the agriculture and apparel sector(Women's Entrepreneurship Forum, 2017).

(b) **The Shea network (SN) and project d'Appui Technique a' la filie're Karite' (Prokarite**):This organization was established as an outcome of an international workshop on Shea processing and trade held in Dakar in March 2002 with stakeholders from all Shea producing countries in Africa. Shea Network is an informal network of Shea butter producer groups, marketing associations, support organizations and other Shea stakeholders with the following objectives, which are to be obtained through collective action of network members and exchange of practical information. The Shea network is committed to work for improved Shea butter production based on decentralized small scale production with maximum ownership and management by rural women. The network focuses on quality and on serving local needs for Shea nuts and butter before attending to external markets.

Besides, Shea network concentrates on conservation and sustainable management of Shea trees and woodland (www.theSheanetwork.net).

(c) **Techno Serve – Ghana**: Techno serve Ghana is a nonprofit international business development organization supported by USAID (Aduse-Poku et. al., 2017). It is involved in developing appropriate technologies for women producing Shea butter in order to improve the quality of the Shea butter and reduce the drudgery of the women. Some of these technologies are solar dryers, sun boilers, crushers and roasters. Besides this, they provide grants and link women to domestic and foreign markets. Furthermore, they produce Shea butter for a Ghanaian company Hyamor Cosmetics in Accra and for an American company producing a brand of Shea based skin and hair care products sold in the US (African Vision). The role played by NGO's in the Shea industry can be said to be commendable considering their effort to alleviate poverty among Shea butter processors who are mainly women (Dary & Kuunibe, 2012).

It is, however, worth noting that the NGO's level of achievement in developing the Shea industry should be seen as a function of major government policies and programmes, as government will have to pave the way and indicate the general direction as well as give a platform for others to follow and therefore a call on government to do more.

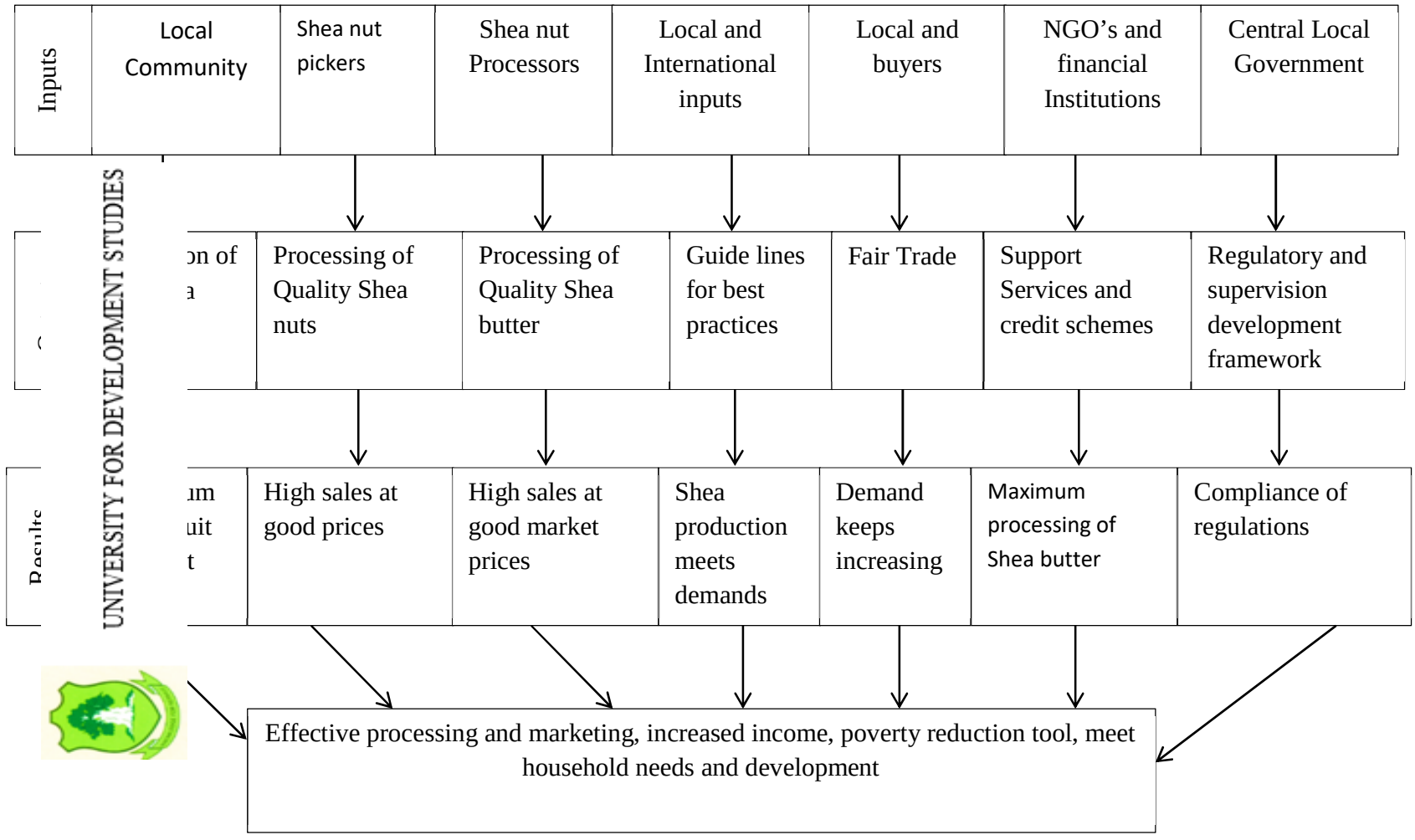
(d) **Global Shea Alliance (GSA):**Global Shea Alliance (GSA) is a non- profit industry association with 390 members from 30 countries including women's groups, brands and retailers, suppliers and non-governmental organizations. Through public-

private partnerships, the GSA promotes industry, sustainability, quality practices and standards and demand for Shea in food and cosmetics. Role of the Shea industry includes women empowerment, nutrition, income, parkland, biodiversity, perhaps environment conservation.

2.15 Conceptual Framework

Prior discussions therefore established typical features or characteristics of the Shea industry, its positive contributions, constraints, challenge as well as shortfalls. Though processing and marketing is indispensable, the role of key stakeholders is relevant for the success of effective marketing of Shea butter. It is against this background that the conceptual framework carved an integrated approach for processing and marketing of Shea butter in the northern region of Ghana. The conceptual framework is premised on the basis of the stakeholder analysis which identified key actors in the Shea industry system and their respective interests and contributions towards the development of the entire industry.

Figure 6: Shea Industry Development Framework



Authors: Own Construct, June 2016

This part further provides an insight into the concepts that are relevant to the subject matter. A number of concepts have been propounded around the effects and marketing by various authors.

2.16 The Concept and Evolution of Livelihood

"A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living as well as a sustainable when it can cope with and recover from stresses and shocks" (Chambers and Conway, 1991). Livelihood means adequate stocks and flows of food and cash to meet basic needs (WCED, 1989). A livelihood in its simplest sense is a means of gaining a living. Livelihood thinking dates back to the work of Robert Chambers in the mid 1980's but further developed by Chambers, Conway and others in the early 1990s (DFID, 1999). The term sustainable livelihood came to prominence as a development concept in the early 1990s drawing an advances in understanding famine and food insecurity during the (1980's), UNDP, Oxfam, CARE and IISD were some of the early adopters of sustainable livelihoods methodologies. In the late 1990s, the sustainable livelihoods approach gained momentum in the UK's Department for International Development (DFID) with investments in research, workshops and the publication of guidance sheets and other papers.

2.17 Sustainable Livelihoods Framework

According to Institute of Development Studies (IDS) (2017), sustainable livelihoods framework have five (5) key indicators. Sustainable livelihoods are achieved though access to range of livelihood resources (natural, economic, human, agricultural and migration). Central to the framework is the analysis of the range of formal and informal organizational and institutional factors that influence sustainable livelihood outcomes. Four dimensions

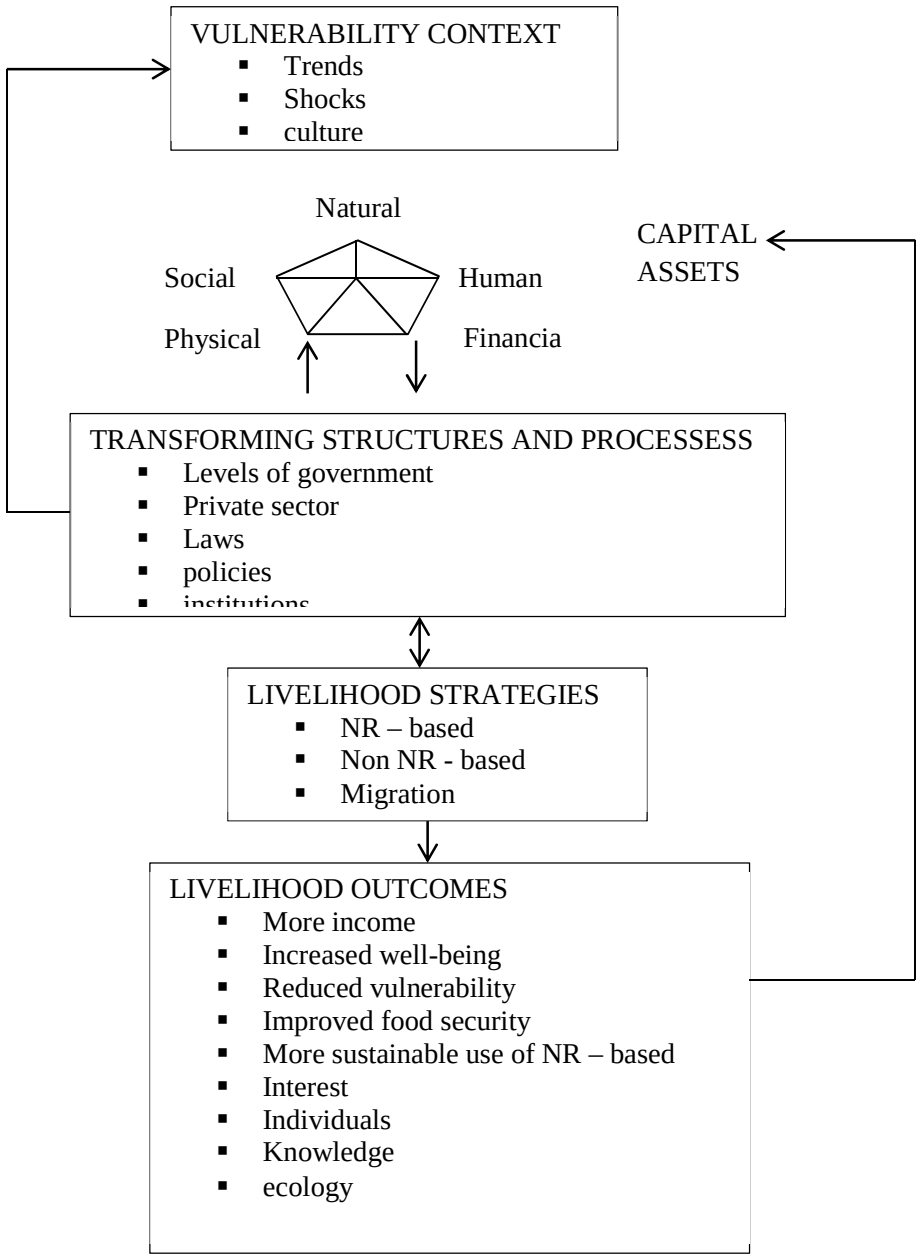
of a new politics of livelihoods are suggested: a politics of interest, individuals, knowledge and ecology.

The conceptual framework that informs this study traces its roots from CARE'S household livelihood security. The household livelihood security embodies three fundamental attributes. The possessions of human capabilities are included; education, skills, health, psychological orientation, access to tangible and intangible assets and the existence of economic activities. The interaction between these three attributes defines livelihood and income strategy a household will pursue. However, contrary to CARE'S household livelihood security is the DFID'S sustainable livelihoods framework that presents five main factors which has a direct and indirect effects of the resources of people's livelihood as well as make a typical relationship between them instead of the three attributes as in household livelihood security. It is observed that CARE's Household Livelihood Security Supports primarily the community level. It puts particular emphasis on strengthening the capacity of poor people especially women to enable them to take initiatives to secure the own livelihoods. It therefore stresses empowerment as a pillar or fundamental dimension of its approach. Perhaps, livelihoods are a vital lens on rural development. The relationships between livelihoods and sustainability are based in four elements of a new politics of livelihoods; interest, individuals, knowledge and ecology (Scoones, 2015).

Furthermore, DFID's sustainable livelihood framework works at the community level and also emphasises that tackling policy environment, micro, macro-economic reforms, and legislation is equally important for effective poverty reduction. Thus, for DFID, although the analysis of people's livelihoods usually takes place at a household level, the aim is not just to identify constraints or opportunities that could be remedied at that level but equally

important is getting an understanding of how policies and other institutional factors can improve upon people's livelihoods at the local level, but have to be addressed at higher policy levels. This argument reinforces the choice of the DFID's framework. Therefore, the study adapts the sustainable livelihoods framework of the department for international development (DFID) to assess the natural assets in the northern region of Ghana, an area considered as one of the poorest regions in Ghana and by low endowments of the five capital assets (natural, social, human, physical and financial capital of livelihoods) with seasonal unemployment and rural power leading to the drifting of many of the youth from the region to the south of the country in search for non-existent jobs. The framework is not intended to be an exact model of reality but to provide an analytical structure to facilitate a broad and systematic understanding of the various factors that constrain or enhance livelihood opportunities and to show how they relate to each other.

Figure 7: DFID's Livelihood Framework



***Source**: Scoones, 2015*

The sustainable livelihood approach shows the variety of activities that people carry out often in combination, to make a living. The sustainable framework is built around five principal categories of livelihood assets as indicated earlier to underline their

interconnections and the fact that livelihoods depend on a combination of assets of various kinds and not just from one category. These are human (skills, knowledge, good health), social (networks, social relations and interaction, affiliation, association), financial (savings, credit remittances, susu groups, market takings), physical (basic infrastructure such as transport and shelter, production equipment, tools, technology) and natural assets (trees, forest, soil, water, air, genetic resources) (Scoones, 1998).

Therefore, in order to create livelihoods, as well as income, people must combine the "capital". These assets constitute livelihoods building blocks. The framework offers a way of assessing how organizations, policies institutions, cultural norms and beliefs, shape livelihoods, both by determining who gains access to which type of asset, and defining what range of livelihood strategies are open and attractive to people (Institute of Development Studies,2015).

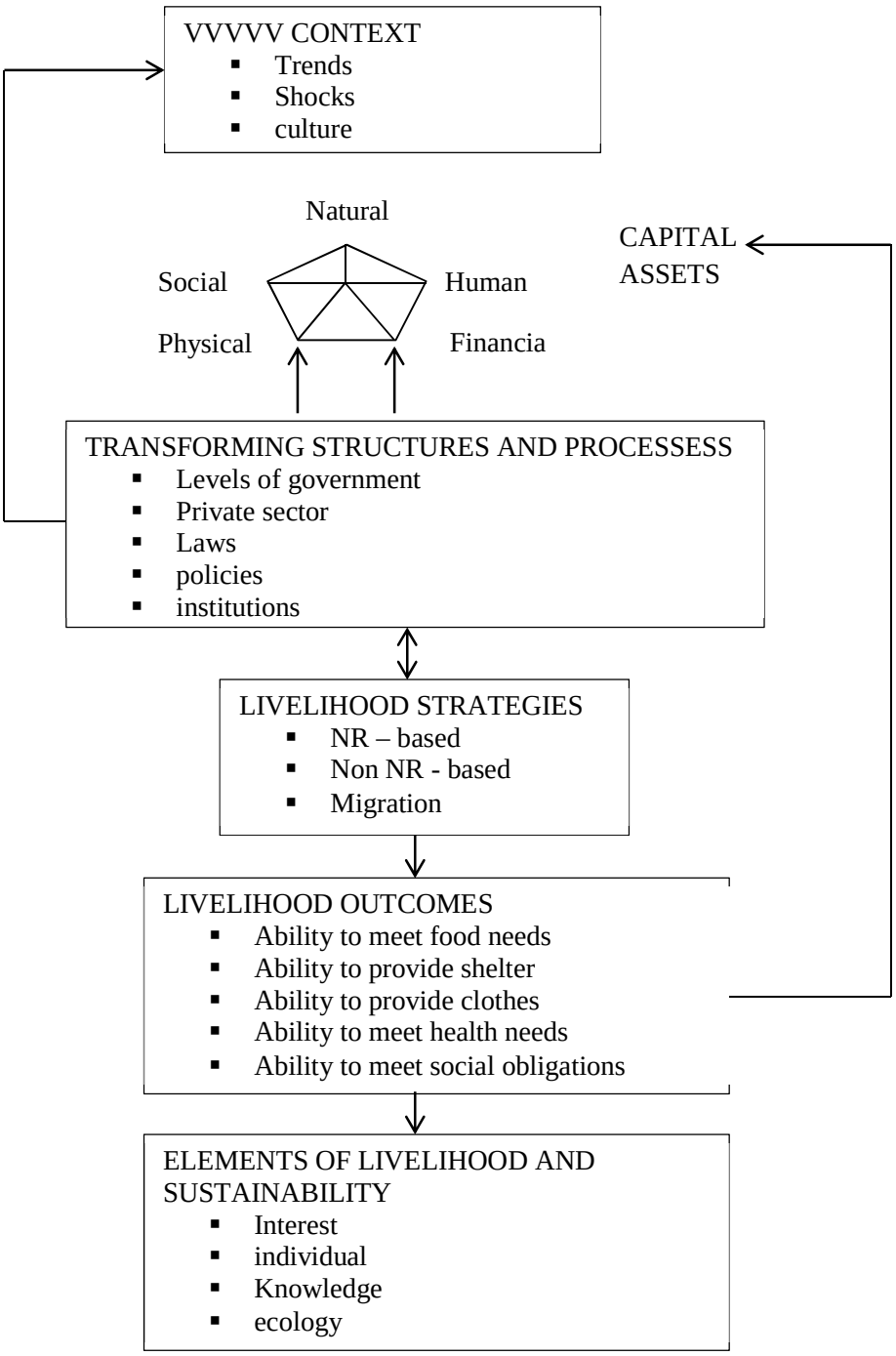
The study area is endowed with natural capital or asset such as the Shea butter tree which is a major source of livelihood for the rural poor in the study area. The effects of this natural capital or asset are the livelihood outcomes that are enjoyed by those engaged in the Shea butter trade, increased income, general well-being, reduced vulnerability, and increased food security among others. However, within this environment, there are several challenges which constrain the efficient utilization of the natural capital asset and thus the livelihood outcomes (Gonzalex et al., 2012).

Consequently, the effects of these challenges are that it could lead to negative livelihood outcomes on those engage in the Shea butter as well as Shea nut business or trade such as reduced income, reduce well-being or standard of living, food insecurity, increased

vulnerability among others. These challenges make those engaged in the Shea butter trade vulnerable because of the negative impact on their livelihood outcomes. The vulnerability leads these Shea butter traders to adopt strategies to meet their basic needs or certain necessities of life.

Finally, the coping strategies adopted by people results in livelihood outcomes which are the output of their livelihood. However, for the purpose of this study, the framework will be adapted and some modifications made to the livelihood outcomes to include; food, shelter, healthcare, education, social and cultural obligations. The differences in scope of the livelihood outcomes may be due to environmental differences and also variables adopted by the original.

Figure 8: A Modified Version of DFID's Livelihood Framework



***source**: Adapted from Scoones, 2015*

2.18 Definitions of Concepts

In the context of the current study, the following concepts would need clarifications: Industry, rurality/rural people, effects, basic needs, market and livelihood.

(a) **Industry:** Industry has been defined as arena or playing field made up of companies that focus on solving the problems and serving the needs of discrete groups of customers (Haines, 2009), Futher, the term is also composed of companies who focus on the same market segments with similar solutions within a sector or economy. In the livelihood context, the study will use industry in a more focused manner to mean all those engaged in the processing and production of Shea butter for sale to earn a living.

(b) **Rural:** According to the 2000 population and housing census in Ghana, a location is classified as urban or rural in Ghana on the basis of its population size. A population of 5000 is urban and less than 5000 being rural. For the purposes of this study, this definition will be adopted.

(c) **Effects:** the word "effect" is defined to mean result, consequences, outcome or repercussion. In this study, effect will be used to mean both positive and negative impact caused by something or somebody.

(d) **Basic Needs:** According to Denton (1990), a traditional list of immediate "basic needs" consist of food (including water), shelter, and clothing. Many modern lists emphasis the minimum level of consumption of basic needs of not just food, water and shelter, but also sanitation, education as well as good health care. Similarly, the Business News, (2009), defines basic needs to include food, shelter, and clothing, safe drinking water, sanitation, public transport, health and education. Participation

and human rights are included in the definition of basic needs. For the purpose of this study, basic needs will be defined to include the following: good, shelter, clothing, good health care system and quality education for everybody.

(e) **Market:** A city or other fairly spacious site where traders set up stocks and buyers browse the merchandise. It is also an organized, often periodic trading event at such site. The market is a process, actuated by the interplay of the actions of the various individuals cooperating under the division of labor. A group of potential customers for one's product. A geographical area where a certain commercial demand exist. Formally organized sometimes monopolistic, system of trading in specified goods or effects. The sum total traded in a process of individuals trading for certain commodities. For the purpose of this study, market will be defined as a system of trading in specified goods, or trading for certain commodities as at spacious site base in a group of potential customers for one's product.

(f) **Livelihood:** The word "livelihood" has been used by Chambers and Conway (1991), to refer to capabilities, assets (including both material and social resources) and activities required for a means of living. According to an advisory panel of the World Commission on Environment and Development (WCED, 1989), for the purpose of this study, livelihood means a means of gaining a living.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section provides the framework of which the research goals and objectives are realized. From the literature review, it has been established that there are several stakeholders in the Shea industry, for that matter it is necessary to adopt a methodology that would enable the researcher solicit the views of all the actors in relation to processing and marketing of the Shea butter industry to inform effective development initiatives. The section consists of the profile of the study area, research approach and process, research design, data gathering instruments and scope and data analysis.

3.1 Study Area

The Northern Region, which occupies an area of about 70,383 square kilometers, is the largest region in Ghana in terms of land area. It shares boundaries with the Upper East and the Upper West regions to the north, the Brong-Ahafo and the Volta Regions to the south, and two neighboring countries, the Republic of Togo to the east, and La Cote d'Ivoire to the west. The land is mostly low lying except in the north-eastern corner with the Gambaga escarpment along the western corridor. The region is drained by the Black and white Volta with and their tributaries, rivers Nasia, Daka among others (Ghana statistical service, 2010).

The climate of the region is relatively dry, with a single rainy season that begins in May and ends in October. The amount of rainfall recorded annually varies between 750mm to 1050mm. The dry season starts in November and ends in March/April with maximum

temperature occurring towards the end of the dry season (March-April) and Minimum temperature in December and January. The harmattan winds, which occur during the months of December to early February, have considerable effect on the temperatures in the region, which may vary between 14^{o}C at night and 40^{o}C during the day. Humidity, however is very low, mitigates the effects of the day time heat. The main vegetation is classified as vast of grassland, interspersed with the guinea savannah woodland, characterized by drought resistant trees such as the acacia, baobab, Shea nut, dawa-dawa and mango(Ghana Statistical service, 2010).

The total population of Ghana as at 26th September, 2010 was 24,658,823 which increased by 30.4 percent over the 2000 population figure of 18,912,079. The recorded annual intercensal growth rate in 2010 was 2.5 percent as against 2.7 percent recorded in 2000. The total population of the Northern region in 2010 is 2,479,461 representing 9.9 percent of the population of Ghana. The Tamale Metropolis accounts for 371,351 of which male are (185,995) and female (185,356) (Ghana Statistical Service, 2010).

Tamale Metropolitan area is the capital town of the Northern Region of Ghana. Tamale is Ghana's fourth-largest city (Pufaa,2010). It has a 2013 projected population of 360,579 according to the 2010 census and is the fastest-growing city in West Africa (Mongabay, 2014). Tamale is located in the Northern region and more precisely in the Kingdom of Dagbon. The local (neighbourhood) chiefs and the district chief of Tamale are subservient to the Dagomba Paramount Chief (King) in Yendi (Ghana Statistical Service, 2017).Tamale serves as a hub for all administrative and commercial activities in the Northern region, doubling as the political, economic and financial capital of the Northern

region. The centre of Tamale hosts regional branches of financial institutions and a considerable number of international nongovernmental organizations.

Tamale is located on the crossing of three ancient trade routes; it started to grow as a commercial centre for the Northern region centuries ago. The north-south road from Paga and Bolgatanga to Salaga had raiders passing, whilst other merchants brought their goods into Tamale. Salt came from Daboya, to the north-west of Tamale, and followed a road that continued to Yendi. A third road linked Gushegu to the capital of the Gonja kingdom, Damongo (Deutscher, 2016).

Tamale features a tropical wet and dry climate under the Köppen's climate classification (Wennberg et al., 2010). The metropolis experiences one rainy season from April to September or October, with a peak in July and August. The mean annual rainfall is 1100 mm within 95 days of rainfall in the form of tropical showers. Consequently, staple crop farming is highly restricted by the short rainy season. The dry season is usually from November to early April. It is influenced by the dry north-easterly (Harmattan) winds, while the rainy season is influenced by the moist south-westerly winds. The mean daytime temperatures range from (December to mid-April) to (March, early April) degrees Celsius, while mean nighttime temperatures range from (December) to (February, March) degrees Celsius. The mean annual daily sunshine is about 7.5 hours (Wiki Loves Africa, 2017).

According to Deutscher (2016), Tamale has council government system in which the mayor is vested with extensive executive powers. The mayor is appointed by the Ghana president and approved by the town council. Tamale is served by Tamale Airport, located

about 11 km (6 nmi; 7 mi) from downtown Tamale, the airport is mainly used by commercial airlines along with other regional capitals (Wiki Loves Africa, 2017).

3.2 Research Design

The Descriptive Survey Research Design approach was adopted. For any investigation, the selection of an appropriate research design is crucial in yielding valid result and findings (Saunders, 2011). The survey research studies both large and small populations to discover the relative incidence distribution and interrelation between variables (Grinnel et al., 2010). It also provides a broad overview of a representative sample of a large population and analyzing data in order to answer a hypothesis or describe set characteristics (Rahi, 2017).

Surveys are primarily concerned with conditions or relationships that exist, opinions that are held, processes that are going on, effects that are evident or trends that are developing. Survey research is an attempt to fully describe and explain conditions of the present, involving many subjects through either observation, questionnaires and interview though at times it does consider past events as well as influences as they relate to current conditions (Hair et al., 2010).

This study involved a relatively large population with a sample frame consisting of both literates and non-literates. However, majority of women who are Shea butter business are illiterates. The study also involves taking a sample and then making statements about the population on the basis of the sample analysis or analyses due to the difficulty in studying the whole population coverage. Perhaps, questionnaire surveys, interviews and focus group discussions were employed as of data collection for this study, a situation that fits well into survey research. Hence the use of the approach specifically, data was collected from rural

women and non-governmental organizations in the Shea butter processing areas as well as markets in the Tamale Metropolis, as well as other districts of the Northern Region in order to describe relevant characteristics and variables. Inferences were drawn from the analyzed data from the Shea butter processers in the study area (Johns, 2010).

In terms of sampling, both probability and non-probability sampling techniques were used for the study. Also, literature was reviewed from earlier works done in books, journals, thesis, magazines and other sources in relation to the subject matter (Collings & Husssey, 2013).

Two main sampling techniques used in various research studies were adopted as well as applied for the study. These are probability and non-probability sampling.

Probability sampling gives every item in the universe an equal chance of inclusion in the sample. Under this approach, the study used the simple random sampling technique. This technique was used to sample a number of communities engaged in Shea butter processing in each community within the selected districts as well as from where households or respondents were then selected for households' interview. Probability sampling is chosen because it ensures the law of statistical regularity which states that if an average of the sample chosen is random, the sample will have the same composition and characteristics as the universe (Rahi, 2017).

Further, the technique also involved writing the communities numbers of all the groups engaged in Shea butter processing in each community on pieces of paper, then put the pieces of paper into a bowl or a container, mix or shake thoroughly and then pick from the

bowl without looking into it until the sample size for the community is obtained. This process was replicated in the other districts as well as Tamale Metropolis of the study areas.

Non-Probability Sampling such as purposive and accidental procedures were employed. The researcher purposively chose the study districts, metropolis from northern, the region based on the high prevalence of economic activities in the Shea butter production and processing in these areas, that is, based on higher-processing of Shea butter and Shea nut. This same technique was also used in the selections of various communities within the Tamale Metropolis, Savelugu, Kumbungu, Tolon, Sagnarigu and Nanton in the Northern Region of Ghana on the basis that the small mass that they selected out of a huge one will be of typical or representative of the whole (Cohen & Morrison, 2013).

Also, with the assistance of key informants, the number of communities that are into Shea butter processing in each community within metropolis the and the districts was determined. Similarly, the same process was used to enlist the number of households engaged in Shea butter production in each community. The process of enlistment continued until all households engaged in Shea butter processing in each community were exhausted. The choice of key informant method was informed by the lack of information of a sample frame for the study area. In order to avoid confusion as to which household respondent to interview from a house, accidental sampling was used for the selection of the respondents from the sampled houses for interview.

Given this background information and the need for the identification of the various Shea butter processing and producers' communities or groups, intermediary's policy makers and

implementers and Non-governmental Organization (NGOs) that are into Shea butter, purposive sampling technique was used to identify them in the selected communities.

Target Population

The population for the study are as follows; communities or groups who are engaged in the Shea butter processing from the rural areas in Tamale metropolis, Sagnarigu, Savelugu, Tolon, Kumbungu, Nanton district, intermediaries within the metro and the district, non-governmental organization (NGOs) engaged in the Shea industry, District Assemblies as well as officials from the Ministry of Trade and Industries.

Sources of Data

Primary Sources

Accordingly, combination of data collection techniques was employed for gathering data on the research topic. The techniques employed included interviews, focus group discussions, structured and semi-structured questionnaires. These sources were primarily used to collect household data as well as institutional data, specifically on the contribution of Shea butter to household basic needs, the challenges faced by those engaged in the Shea butter industry as well as what can be done to improve upon the Shea butter industry to enhance women socio economic status. Details of how these approaches were applied in the research are outlined in the subsequent discussions below.

Secondary Sources

A broader understanding and conceptualization of the subject matter under consideration to ensure a myriad of documented materials were further consulted for information related to the subject matter of the research. Reports, journals, newspapers, textbooks, articles,

magazines, the internet as well as the other earlier researches on the subject matter were the main sources referred to for data to review the literature for the researcher topic.

Data Collection Instrument

Various instruments are used for collecting data. However, for the purpose of this study, questionnaire, interview as well as survey approach were the primary instruments used for data collection as previously indicated. These instrument ensured a thorough examination and understanding of the contribution of Shea butter processing to household basic needs and the challenges faced by those engaged in Shea butter processing and marketing as well as measures that can be put in place to improve upon Shea butter processing in the study area effectively. In addition, the instruments also served as value check on each other through the principle of triangulation to test for consistency and reliability of the data composed.

Questionnaire

This format involved administering questionnaires to sample households within the Shea butter processing communities in the study area. These questions consisted of open and close ended questions. Generally, this approach was to generate as well as to collect both quantitative and qualitative data from Shea butter processing centres in all the selected communities in the study area. Further the open ended questions produced mainly qualitative and opinion related information, whereas the questions generated quantitative as well as factual information issues. The questionnaires approach was employed to get information on respondents (Shea butter processors) background, the contribution of Shea butter to household basic needs, challenges encountered by those engaged in Shea butter processing as well as strategies to improve upon the Shea butter industry to enhance women

livelihood effectively. One Hundred and Eleven (111) Shea butters processors responded to the questionnaires but One Hundred and Twenty (120) were directed to make ways for any circumstances that may arise.

Before the administration of the questionnaires on the field, ten (10) questionnaires were pre-tested in the Sagnarigu district in the Northern Region of Ghana. This facilitated early detection of wrongly worded questions as well as those that could be difficult for understanding and amendments were made.

Interview

The interview method was used to solicit information from the various Shea butter processing communities key informants and other individuals on specific issues on the Shea butter industry. This was carried out through the use of oral questions. Among those interviewed were managers, workers and selected women within the various communities in the processing centers, Non-governmental organizations as well as the Ministry of Trade and Industry. Responses were tape recorded and supplemented with note taking. The use of the interview technique was to ensure in-depth explanation of relevant issued on the Shea industry (Rahi, 2017).

DATA COLLECTION METHOD

Focus Group Discussion

The approach was very important in obtaining data from the various women groups who are engaged in Shea butter processing (communities) in the study area. It is like an interview perhaps an extension of individual interview. In this methodology, there was a group setting with semi-structured questionnaire, perhaps the interviewer used many of the

same one to one technique. Hence, the focus group discussion presented an opportunity to capture the opinions of these women groups on key issues related to the topic under study. In all the six districts, focus group discussion were organized, but one from each community. The focus group discussion (FGD) is a rapid assessment, semi structured data gathering method in which a purposively selected set participants (Non Governmental Organizations and women groups) gather to discuss issues and concerns based on a list of key themes and objectives drawn up by the researcher or facilitator (Kumar, 1987).This qualitative research technique was originally developed to give marketing researchers a better understanding of the data from quantitative consumer surveys(Krueger,1988).It provides a fast way to learn from the target audience(Debus 1988,US Department of Health and Human Services 1980).

Sample Size Determination and Distribution

A mathematical method and procedure was used to determine the sample size of 111 from the population of One Thousand and Seventy Eight (1,078) Shea butter processing groups and the communities at 0.095 margins of error and 90.5% confidence level. The sample size calculation and distribution are shown as;

$$n = \frac{N}{1+N\,(e)^2}\ (Yamane, 1967)$$

n = Sample size

N = Sample Frame

E = Error Margin

$$n = \frac{1078}{1+1078\,(0.095)^2}$$

$$n = \frac{1078}{1079\ (9.026)}$$

$$n = \frac{1078}{9.737}$$

n = 110.7

n = 111

Even though, the sample size is One Hundred and Eleven, One Hundred and Twenty people were interviewed to make provisions for replacement, but all the 120 questionnaires were good. Analysis was thus based on responses from 120 respondents. This is in reference to table two (2) and three (3) respectively.

Table 2: Shea Butter Processing Communities in Northern Region

METRO/DISTRICT	COMMUNITIES	SAMPLE FRAME OF HOUSEHOLDS ENGAGED IN SHEA BUTTER PROCESSING	SAMPLE SIZE OF HOUSEHOLDS ENGAGED IN SHEA BUTTER PROCESSING	PROPORTION	SAMPLE AT 90% CONFIDENCE LEVEL	FOCUS GROUP DISCUSSION
Tamale	ekaf (Kasalgu)	145	15	14%	15	1
Sagnar	ehisuma (Gurugu)	135	14	13%	14	1
	unteiya (Jisonayili)	85	9	8%	9	1
	raining centre (Malshegu)	105	11	10%	11	1
	raining Centr (Sagnarigu)	125	13	11%	13	1
	Ialtiti (Katariga)	110	11	10%	11	1
Kumbu	umo	100	10	9%	10	1
Savelu	hebu	98	10	9%	10	1
Tolon	li Fon	90	9	8%	9	1
Nanton	Bohali Fon	85	9	8%	9	1
Total	10	1078	111	100%	111	10

Source: Field Survey, October, 2016

Table 3: Shea Butter Processing Communities and Determination of Sample Size

DISTRICTS/METROPOLIS	COMMUNITIES	POPULATION	PROPORTION	SAMPLE AT 90.5% CONFIDENCE LEVEL
Tamale	1. Sekaf (Kasalgu	145	14%	15
Sagnarigu	1. Tehisuma (Gurugu)	135	13%	14
	2. (Tunteiya (Jisonayili)	85	8%	9
	3. Training centre (Malshegu)	105	10%	11
	4. Training Centr (Sagnarigu)	125	11%	13
	5. Maltiti (Katariga)	110	10%	11
Kumbungu	1. Gumo	100	9%	10
Savelugu	1. shebu	98	9%	10
Tolon	1. Nayili Fon	90	8%	9
Nanton	1. Bohali Fon	85	8%	9
Total	**10**	**1078**	**100**	**111**

Source: Field Survey, December, 2016

Data Handling and Analysis

The research data was coded and edited based on the communities selected for the study. By using Statistical Package for Social Sciences (SPSS, version 16), the research data was then entered with references to the coded communities in the questionnaires. With reference to the objectives as well as the theoretical framework underlying the study, data analysis was done. The data was coded into thematic areas for analysis and the qualitative and quantitative data was also screened. The qualitative and quantitative was then blended for analysis in to presentation using basic statistical tools such as charts, graph, frequencies, percentiles, averages as well as tables among others.

The objectives were therefore analyzed as follows;

(a) Contribution of Shea butter processing to household basic needs in the Northern Region of Ghana.

In order to achieve this objective the questionnaire approach was used to solicit information from the respondents of the Shea butter processing communities. These serve as a tool because the choice of the questionnaire method or approach was to generate quantitative data that could be expressed in a statistical forms which involves graphs, charts, tables using statistical package for social science (SPSS, Version 16) as well using Microsoft excel.

(b) Challenges faced by women who engaged in Shea butter processing in the Northern Region.

To achieve this set objective, Focus Group Discussion was selectively applied in the data collection process to collect information from the Shea butter processing and marketing communities within the study area. The questionnaire approach was

also again used to obtain information from Shea butter producers and marketers in the study area. The Focus Group Discussion and the Questionnaires approach were for the purpose of validation from the other techniques used. The data was then analyzed using statistical package for social sciences (SPSS, version16) and Microsoft excel.

(c) Policies can be done to improve Shea butter processing and marketing in the northern region of Ghana.

In order to achieve these objectives a number of stages of data collection were used. These stages were conducted in three phases;

The Reconnaissance Stage

The objective of the reconnaissance survey was to equip the researcher with exact locations or communities of the Shea butter processing and marketing within the study area as well as the existing communities or organizations for easy accessibility during the actual survey. The stage is also based on the initial visits to familiarize as well as socialize and establish linkages within the communities. It promotes rapport as well as builds good relationship with the communities and organizations engage in Shea butter processing and marketing activities within the study area. The secondary source of information at this stage was also reviewed. This stage or the phase aid the researcher was to provide useful information and also selection of the Shea butter processing and marketing communities.

The Main Stage

This stage is based on the actual collection of data through the use of tools, techniques and methods on the objectives of the study such as the contribution of Shea butter processing and marketing to household basic needs, the challenges faced by those engaged in Shea

butter processing and marketing as well as the policies in Shea butter processing and marketing.

The In-depth Stage

At this stage, additional or supplementary information was collected in the government agencies and non-government organizations in the follow-up visits in other to beef up the relevant data. This stage or phase is also a buildup of the relevant previous knowledge (RPK) in the previous two phases or stages.

Ethical Issues in the Research

The objectives of the research were explained to the respondents of the Shea butter processing communities. Permission was first and foremost granted through writing before the actual work commenced. The respondents were made aware that they had the right to choose to participate in the study or not. They were also free to answer any question or free to refuse to answer any question they did not want to answer as well as drop out of the study any time they wish. The respondents were assured of a number of assurances such as; privacy, confidentiality of personal information and anonymity from respondents.

Conclusion

Based on the data collected on the Shea butter processing and marketing from the study communities, non-governmental organizations as well as some government agencies, the data attempts to look at the effects of Shea butter processing and marketing on women in the northern region of Ghana. The results are aimed at establishing a relationship between Shea butter processing and marketing as well as its contribution to household basic needs in the northern region of Ghana; the challenges faced by processors and marketers in the

Shea industry and some policy issues. The research seeks to draw linkages between Shea butter processing and marketing on women and relationship between household basic needs, challenges and also sought to elaborate the role of government policy interventions if perhaps any, on the Shea butter processing and marketing.

Consequently, the chapter discussed how data was collected to achieve the stated objectives of the study. The analysis and results of this data is next.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF RESULTS

4.0 Introduction

This chapter contains the results and the discussion on the study. Specific areas considered under the chapter include the socio-economic and demographic characteristics of the sampled Shea processors, the contribution of Shea butter processing and marketing to the household basic needs, challenges faced by those engaged in Shea butter processing and marketing in the Northern region, and the suggested policies that can be formulated and implemented to improve upon the processing and marketing of Shea butter in the Northern region.

4.1 Socio-Economic and Demographic Characteristics of Respondents

This section presents the age distribution of respondents, educational status, household size, and experience in Shea butter production, processing and marketing, as well as their engagement in other economic activities.

4.1.1 Age

Table 4.1 presents the age distribution of the sampled Shea processors. It is indicated in the table that majority of the respondents were between the ages of 30 and 39 years. An insignificantly lower percentage of the respondents had the maximum age of 50 years old. The average age of the respondents was found to be 37 years. This implies that all the respondents were within the working age group, which further indicates that they would be very active in the Shea butter production and marketing processes.

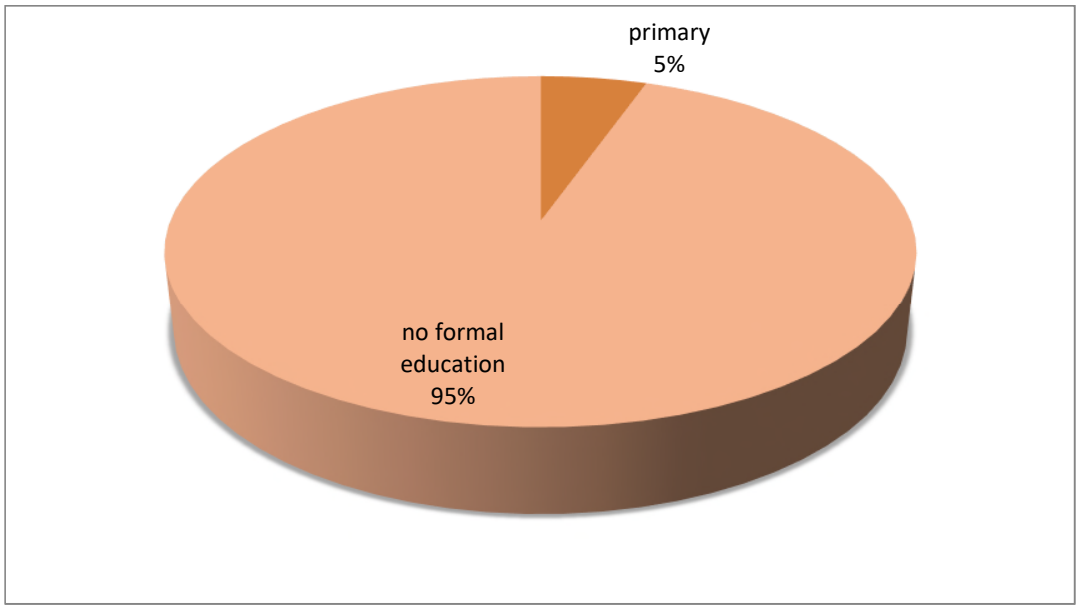
Table 4.1: Age distribution

Age	Frequency	Percentage
20 – 29	9	8.1
30 -39	61	55.0
40 – 49	39	35.1
50 – 59	2	1.8
Total	**111**	**100.0**
Mean	37	
Minimum	27	
Maximum	50	

4.1.2 Educational status

The educational qualification of the respondents is presented in Figure 4.1 below. The results indicate that 95% of the respondents had no formal education with the remaining 5% having only primary educational qualification. It therefore, implies that the respondents did not have any formal business management skills, which may have negative implication on the effective running of their Shea processing and marketing businesses. However, the Shea industry of Ghana is noted for being dominated by poor and vulnerable rural women, most whom are illiterates (SNV, 2013). Also, the processing of Shea is more traditional which requires more experience than formal education, in order to be successful.

Figure 4.1: Distribution of educational status



4.1.3 Household size

Table 4.2 presents the distribution of the household membership of the respondents. From the table, the minimum household membership was 6, with the maximum being 15, whilst the mean was 10 members. The relatively higher average household membership presents a challenge on one hand, and an opportunity on another hand. Higher household membership may imply that there is a higher labour force for the household if majority are within the active working age category. However, if majority of the members are largely children and aged people, who cannot help in any activity, then they constitute the dependent group of the household which implies that they will be more mouths to feed than the hands that provide the food. The latter argument applies if majority of the household members are in school.

Table 4.2 Distribution of respondents' household size

Number of persons	Frequency	Percentage
6	2	1.8
7	18	16.2
8	14	12.6
9	8	7.2
10	17	15.3
11	12	10.8
12	16	14.4
13	16	14.4
15	8	7.2
Total	**111**	**100**
Mean	10	
Minimum	6	
Maximum	15	

4.1.4 Duration of engagement in Shea processing and marketing

Table 4.3 presents the distribution of the respondents' years of experience in Shea processing and marketing. With higher experience, the producer is likely to be effective and efficient in managing resources in the production process, since she might have observed and learnt about it over the years. As indicated by Al-hassan (2012) long years of experience in Shea butter processing among women is expected to position them to produce quality butter to meet the standards of the market. It is indicated in Table 4.3 that

majority (45%) of the women had 5 to 10 years of experience in the production and marketing of Shea butter, followed by those who have been in the business for over 10 years' (25.2%), and then those who have been in the business since childhood, with the least proportion being those who had less than 5 years' experience in the Shea butter business.

Engagement in Shea processing is a crucial strategy in contributing to the issues of livelihood options. Fortunately, in recent times, Shea products have become indispensable in international trade. For instance, the butter is a substitute for cocoa butter in Europe but not in the USA and there is increasing demand for Shea butter and nuts in Europe. There has been a documentation of best practices for the export of Shea butter products to the US, Europe and other Western markets (Ademola et al., 2012). Thus, besides the local Shea market, Shea processors, in recent times have access to the international markets. However, since the processors are mostly illiterates and rural dwellers, middlemen are largely engaged in accessing the international market. With the recent trend of increasing demand for industrial purposes both locally and internationally, it is a fact that the Shea industry is predominantly a women's industry which is small-scale in nature. Composite supply of Shea products has been low because of the small-holder nature of the Shea industry. The role of women within the industry has been the major reason why Shea has been contributing immensely to poverty reduction in the three regions of the North (Kavaarpuo, 2010).

Table 4.3: Distribution of respondents' years of experience

Period	Frequency	Percentage
Since childhood	18	16.2
Less than 5 years	15	13.5
Between 5 and 10 years	50	45
Over ten years	28	25.2
Total	**111**	**100**

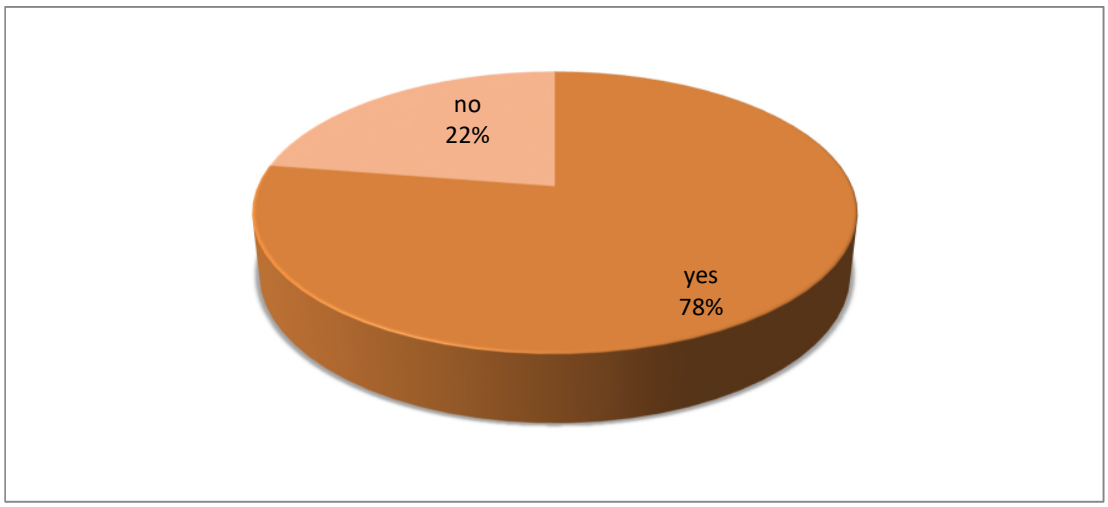
4.1.5 Involvement in other economic activities

Figure 4.2 shows the proportion of the sampled respondents who were engaged in other economic activities besides the Shea butter business. It indicates that on the average 77% of respondents were engaged in other economic activities, whilst only 23% of them were not engaged in any other activities. The implication is that, majority of the producers and marketers are into other activities and would therefore have divided attention for their Shea processing activities. However, the engagement in other economic activities is a way of diversifying income sources which largely guards against the folding up of business units in times of losses. The economic activities that most of the Shea processors and marketers engage in as additional source of income include sale of maize, sale of clothing, sale of cooked food, rice processing, "kulikuli" and "koko" selling among others.

Like any economic activity, diversification is characterized by costs and benefits, and ultimately, a firm's performance must depend on how managers achieve a balance between costs and benefits in each concrete case. Management researchers are of the view that diversification prolongs the life of a firm. Diversification can improve debt capacity of a

firm, reduce the chances of bankruptcy by going into new product (Higgins and Schall 1975), and improve asset deployment as well as profitability (Teece 1982). Under diversification, skills developed in one business transferred to other businesses, can increase labor and capital productivity. A diversified firm can also transfer funds from a cash surplus unit to a cash deficit unit without transaction costs (Bhide 1993). It is, therefore beneficial for the shea processors engaging in other economic activities, provided they can manage and apportion their time efficiently.

Figure 4.2 Engagement in other businesses besides Shea processing and marketing



4.2 Contribution of Shea butter processing and marketing to the basic household needs

This section contains the results and discussion on whether or not the processors and marketers make profits. It also presents the findings on the average amount of profit earned

by an average producer at the end of a production cycle, as well as how the income from the Shea business is spent.

4.2.1 Frequency at which profit is made by the producers

The distribution of the frequency at which the producers of Shea butter make profit is presented in Table 4.4. From the table, 29.8% of the Shea butter producers indicated that the amount of profit they earn depends on the quality of Shea nuts used. The second highest proportion of the respondents (25.2%) indicated that they earn their profit at the end of each production cycle. Also 13.5% of the respondents indicated that they do not make profit quite often, whilst the least proportion (2.7%) of the respondents indicated that they make profit once every month. This suggests that the frequency at which majority of the respondent make is quite uncertain. That is, profit making by the Shea butter producers is uncertain. The implication of the finding is that continuity of the Shea business may be hampered by the erratic nature of earning profit.

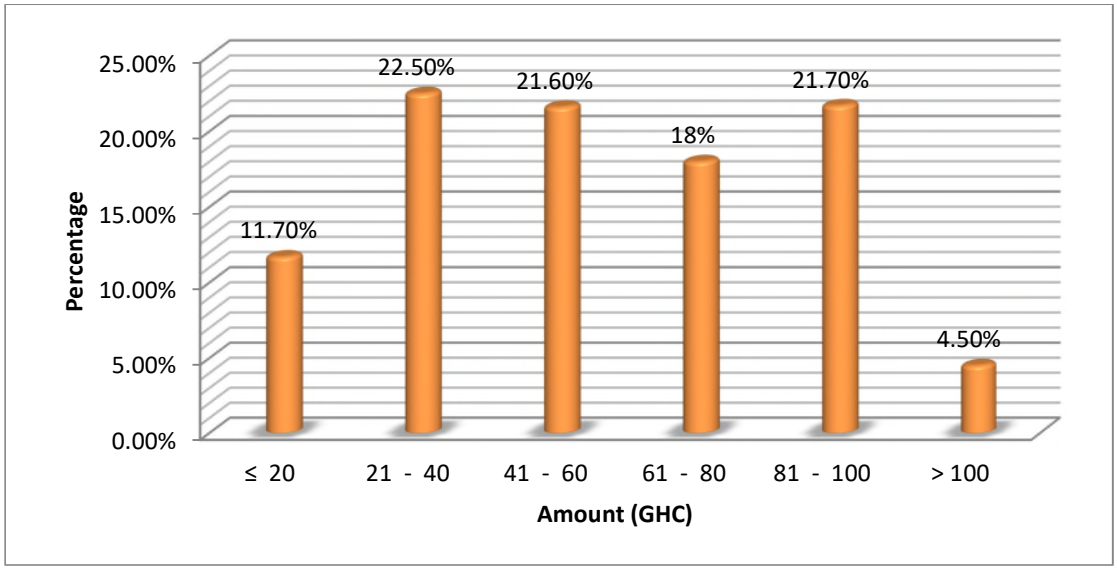
Table 4.4: Distribution of how profit is made

Response	Frequency	Percentage
At the end of every cycle	28	25.2
It dependence on the season	13	11.7
It depends on the quality of Shea nuts	33	29.8
It depends on the quantity Shea nuts used	19	17.1
Not quite often	15	13.5
Once a month	3	2.7
Total	111	100

4.2.2 Average amount of profits earned by processors

The distribution of average amounts of profit earned by a producer as indicated by the respondents is shown in Figure 4.3 below. The results indicate that majority of the respondents earn an average profit of about GHC40. However, a producer can earn as high as GHC60 at the end of a cycle, depending on the factors that are reported in Table 4.4. The estimation of average profit was done by considering the average cost incurred in production and the average revenue realized as reported by the respondents. The respondents also explained that an average production cycle lasts for about six (6) hours if all materials and equipment are available. They indicated that the quantity of shea nut used in each production cycle ranges from 100kg to 250kg. Given the economic status of the producers, mostly vulnerable women, the average profit earnable by a producer, as shown in this study is quite significant to ensure improved standard of living. That is, if they have regular access to Shea nuts, they can make a significantly higher monthly profit, given the average time spent on each production cycle. Thus, the possibility of the producers satisfying their basic needs is higher. The findings conform to the findings of Seweh (2011) who reported that small scale local shea processors raked second profitable after the large scale processors.

Figure 4.3: Average profit per production cycle



4.2.3 Use of Shea profit

Table 4.5 presents the distribution of how the producers use the profit they earn from the Shea production business. On the average, the majority of the respondents use greater proportion of their profit for general expenses, which according to them ranges from satisfying the respondent's personal needs and wants to catering for the entire household. They also indicated that the general expenses are most unexpected expenditures. Specifically, however, the respondents spend greater chunk of their profit on food, clothing, educational and medical expenses respectively. The finding conforms to the argument by Techno-Serve (2004) that Shea butter producers are women who spend their incomes to provide food, health care as well as shelter for their families. This also, suggests that most of the Shea producers play greater roles in managing their households. It can also be said that engagement in Shea picking and processing can be a reliable tool for poverty alleviation for the rural folk, especially women. In a similar study, Aboyella (2002) argues that Shea nut / butter processing plays a vital role in reducing poverty as well as increasing

food security. He indicates that any measure taken to boost production of nuts and butter will eventually raise the income of Shea nut / butter processors, and such measures should therefore be enforced to the latter. On the contrary, ISSER (2015) indicates that the Ghana's Shea industry in its current state cannot be a tool for reducing poverty, as Shea pickers are denied fair prices by Agents of PBCs. The argument by ISSER (2015) suggests that the Shea industry has a potential of alleviating poverty, but the institutions in the industry should be transformed.

Table 4.5: Distribution of usage of Shea Profit

Cost item	very high		high		moderately high		low		very low		mean
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
General expenses	73	66	22	20	13	12	3	3	0	0	1.5
Food expenses	8	7.2	53	48	40	36	10	9	0	0	2.5
Clothing expenses	3	2.7	48	43	24	22	0	0	36	32	3.2
Educational expenses	20	18	20	18	16	14	18	16	37	33	3.3
Medical expenses	0	0	26	23	25	23	39	35	21	19	3.5

4.2.4 Alternative uses of income from Shea processing

According to some of the respondents, they do not spend all the income they earn from the Shea business on consumables. They also channel the income into long-term business ventures. Table 4.6 shows distribution of responses by the respondents on whether or not they invest their Shea incomes in other productive ventures. Apart from saving the income

from the Shea business to be ploughed back into the same business, some of the respondents indicated that they engage in crop and livestock farming. However, the proportion of those who invest their Shea incomes is relatively low, which further justifies the argument that most of the producers are poor and greatly contribute to daily upkeep of their respective households (Techno Serve, 2004).

Table 4.6: Use of Shea income for long-term investment

Response	Frequency	Percentage
Yes	32	28.8
No	79	71.2
Total	**111**	**100**

4.3 Challenges faced by those engaged in Shea butter processing and marketing in the region

This section presents the challenges faced by the Shea butter producers and marketers. Specifically, challenges such as tediousness in the production process, labour and other input requirements, storage process and availability of storage facilities, marketing and its dynamics, among others.

4.3.1 Reasons for tediousness of Shea production

Table 4.7 presents the views of the respondents on how tedious the Shea butter production is. Majority of the respondents indicated that they get tired after carrying out the daily production activities. Some of the respondents stated that the myriad of activities that a producer has to go through in every production cycle leads to general body pains and

weakness. This implies that Shea butter production largely engages the producers which partly deprives them the time and energy to manage other businesses. According to Al-hassan (2015), the Shea butter processors spend sleepless nights to perform some activities such as fetching of water, kneading of the nuts, grinding, cooling and packaging. This partly explains the extent to which the Shea production can be tedious.

Table 4.7: Responses on tediousness and Shea production

Reason	Frequency	Percentage
Beating to remove the shells, heating, transportation and milling are cumbersome	10	9
I get tired in the night after a day's production	45	40.5
It goes through a lot of processes like washing, frying	5	4.5
It leads to pains and weakness	38	34.2
It takes long time to process	13	11.7
Total	**111**	**100**

4.3.2 Effects of limited labour on the Shea production

The finding on how limited labour affects the Shea butter production business is presented in Table 4.8. Majority of the respondents indicated that less labour leads to lower production and eventually, less profit. It was also obvious from observations on the field that the Shea butter production process is highly labour intensive, which explains the extent to which insufficient labour can adversely affect the output and income of producers. In line with this finding, Al-hassan (2015) stated that the Shea butter production is labour intensive, given the activities that are carried out in the process.

Table 4.8: limited labour and Shea production

Effect	Frequency	Percentage
Greater fatigue	7	6.3
Low profit	21	18.9
Lower production	83	74.8
Total	**111**	**100**

4.3.3 Shea butter storage process and sufficiency of storage facilities

Another crucial aspect of the Shea butter production process is the storage, since poor storage strategy can lead to great post-production losses. According to the respondents, after the butter is obtained, it is solidified and wrapped in rubbers or rags in containers and kept in a room with lower temperature or under any shed. However, majority of the respondents indicated that they do not have sufficient storage facilities, especially for storing large quantities of Shea butter for a longer time period. This discourages large scale production and its attendant benefits. Similarly, Al-hassan (2015) argued that the Shea butter processors do not have the capacity to produce in large quantities which leads to higher average cost of production and eventually limits their capability to take full control of the market, especially in terms of setting prices for the Shea butter.FAO (2011) also asserts that the issue of post-production food losses is of high importance in the efforts to combat hunger, raise income and improve food security in the world's poorest countries. The phenomenon has an impact on food security for poor people, on food quality and safety. This suggests that in order to ensure increased food security and improved incomes in the share industry, the provision of proper and adequate storage facilities for Shea processors should be indispensable.

Table 4.9: storage of Shea butter

Response on sufficiency of storage facility	Frequency	Percentage
Yes	45	40.5
No	66	59.5
Total	**111**	**100**

4.3.4 Market for Shea butter

Table 4.9 presents the responses of the interviewed producers on whether or not there is ready market for the Shea butter they produced. Majority of the respondents gave positive indications about the availability of ready market for their produce, with some specific answers being “there is a ready buyer in our community”; “we have an organized buyer”; “we send it to our business partners to buy, who are always available”. Others who responded negatively indicated they sometimes find it difficult to get their Shea butter bought. According to Al-hassan (2015), one main challenge which bedevils Shea butter production is limited market. He further indicated that the problem is largely attributable to inadequate institutional support to link the Shea processing groups to markets; and the groups’ poor entrepreneurial ability to innovate and explore improved Shea processing and market accessibility.

Table 4.10: Availability of ready market for Shea butter

Response on whether there is ready market	Frequency	Percentage
Yes	74	66.7
No	37	33.3
Total	**111**	**100**

4.3.5 Competitive Shea butter prices

All the respondents indicated that the buyers of their Shea butter are local/internal buyers. Also, they all indicated that prices are tied to quality, which encourages them (producers) to be mindful of the quality of Shea butter produced. As shown in Table 4.10, 72.1% of the respondents indicated that they enjoy competitive price for their Shea butter. Al-hassan (2015) however, indicated that in most cases, production processes are pre-financed by the buyers, which partly reduces capability of the producers to set prices for their Shea butter. It implies that the seeming satisfaction of the produces about the prices may be short-lived since they do not set the prices.

Table 4.11: availability of competitive price for Shea butter

Response	Frequency	Percentage
Yes	80	72.1
No	31	27.9
Total	**111**	**100**

4.3.6 Information on market demands/standards

According to the respondents, lack of information about the market demand and standards discourages the production of high quality Shea butter which eventually leads to low prices and sales. The results in Table 4.11 suggest that majority of the respondents indicated that ignorance about the market demand and standards negatively affect the Shea processing business. Al-hassan (2015) indicated that access to market remains one of the serious challenges faced by the Ghana's Shea industry. The low access to market coupled with ignorance on the part of some processors does not encourage growth of individual shea processing businesses and growth of the shea industry at large (Al-hassan, 2015). Refreshingly, the respondents in this study indicated that with the significant experience that they have in running their shea businesses, the issue of ignorance is reduced to the barest minimum.

Table 4.12: ignorance about market demands/standards and Shea business

Response	Frequency	Percentage
Yes	84	75.7
No	27	24.3
Total	**111**	**100**

4.3.7 Effects of less business skills on the Shea processing business

Similar to the information about market demand and standards is the endowment of Shea processors with general entrepreneurial business skills. Table 4.12 presents the responses by the women processors on the effects of low entrepreneurial skills on the Shea processing business. According to the respondents, less business skills leads to poor quality of Shea

butter produced which causes low prices of the butter and eventually lower profits. Given the relatively lower formal educational status of the respondents, it is highly possible that they may lack some basic entrepreneurial knowledge which may affect them adversely. Al-hassan (2015) indicated that majority of the Shea processors in the Northern region, especially the women, do not have formal education; and hence there is higher level of illiteracy among them which influences their entrepreneurial capabilities negatively.

Table 4.13: business skills and Shea production

Effect	Frequency	Percentage
Poor quality of Shea butter	58	52.3
It affects price	16	14.4
It affects profit	37	33.3
Total	**111**	**100.0**

4.3.8 Causes and effects of low sales of Shea butter

Another challenge identified in the Shea processing business is the general low sales of Shea butter. In spite of the admissions by most of the respondents that there is ready market and competitive prices for their Shea butter, they also admitted that low sales has serious effects on the business, and is caused by a number of factors some of which are inherent in the business. Table 4.13 presents some of the causes of low sales and the effects of such causes on the Shea processing business. Among some of the causes are poor business management skills, poor quality of output and lack of co-ordination among producers. The effects as identified also include low morale of producers, low earnings, and inability to continue in the business. The chi-square statistic of 100.53 which is statistically significant

indicates that there is a significant difference between the causes of low sales and their effects on the Shea processing business. That is, effects of low sales are not statistically dependent on the causes identified as shown in Table 4.14.

Table 4.14: Low sales and Shea production

Effects of low sales	Causes of low sales of Shea butter				
	Poor production quality	Inadequate access to market information	Poor business management skills	Lack of coordination among producers	Chi-square
Inability to continue to be in business	17	5	15	0	$\chi^2 = 100.53$
Low earnings for processors	6	21	24	6	Df = 6
Low morale of processors/producers	0	0	0	17	Sig. (p = 0.000)
Total	**23**	**26**	**39**	**23**	

4.3.9 Specific challenges faced by Shea producers and processors

In addition to the general constraints on the Shea butter business identified earlier, Table 4.15 presents some specific challenges that were identified by the respondents. Notable among the challenges is inadequate water, finance and equipment and storage facilities. The most pressing of these challenges, according to the respondents, is inadequate finance, since all other materials and equipment can be acquired with sufficiently available income. In line with this, Quartey (2002) asserted that access to finance significantly influences the growth of a firm positively.

Table 4.15: other challenges in Shea production

Challenges	Frequency	Percentage
Inadequacy of equipment and high cost of water and firewood	8	7.2
Inadequate equipment and finance	15	13.5
Inadequate equipment, water and finance	31	27.9
Inadequate water and difficulty in selling	21	18.9
Inadequacy of water, and materials such as basins, pots and containers	13	11.7
Inadequate storage facilities	23	20.7
Total	**111**	**100.0**

4.4 Policies put in place to improve upon the Shea butter industry

This section contains an assessment of the general operations of the Shea industry in the Northern region and how these operations can be influenced by both governmental and non-governmental organizations. It also assesses the extent to which policies are formulated to guide operations of the Shea industry.

4.4.1 Operations of NGOs in the Shea industry of Northern region

A number of Non-governmental organizations have been engaged in the Shea processing in the Northern region. Most of these NGOs are more development oriented institutions which have general objectives of ensuring that the vulnerable groups of people, especially, women in deprived areas are empowered to care of their basic needs as well as their families'. In view of this, some staff of local NGOs which are directly involved in the Shea processing industry was interviewed. It was then disclosed by the interviewed staff that

some objectives of such institutions are to ensure that the women are adequately equipped with requisite entrepreneurial knowledge of training the women processors on group formations skills, business skills, how to improve upon the quality of their Shea butter and other Shea products among others. According to some of the staff, their institutions mostly collaborate with some major international NGOs, some of which include the Africa 2000 Network, JICA, UNDP, SNV, NBSSI, SFC, TECHNOSERVE, and USAID among others. They also collaborate with district assemblies, other Shea processing groups as well as buyers. The collaborations help the local NGOs to assist the women in diverse ways such as finance, information, skills, and general capacity building which eventually help to improve their operations. This indicates that networking is an essential component which has a potential of making the Shea industry improved and beneficial to the women processors (Al-hassan, 2015)

4.4.2 Policies to be put in place to promote Shea processing and marketing

The interviewed staffs of the local NGOs in the Shea processing industry, some government regulations which guide operations of the Shea industry are mostly the general state mechanisms which regulate any production institution in a country, such as the Registrar General Department's registration of Standards Authority, the Food and Drugs Authority's certification among others. They however indicated that there is no clear-cut policy which has been formulated and successfully implemented to ensure that the Shea processing industry grows. They also suggested that as a policy direction, the government of Ghana should establish a National Shea Board to directly formulate policies and programs that can regulate the industry and ensure that the potentials of the industry are

realized. In their opinion, scholarship schemes for the producers should be instituted to make the industry more attractive.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the study, conclusion and recommendations based on the major findings.

5.1 Summary

The study assessed the effects of Shea butter processing and marketing on rural women in the northern region of Ghana. Specifically, the study analyzed the contribution of Shea butter processing and marketing to the household basic needs in the Northern Region of Ghana; identified the challenges faced by those engaged in Shea butter processing and marketing in the region; and assessed the extent to which policy can help improve upon the Shea butter industry and marketing in the region and Ghana at large.

In order to address the objectives, the Descriptive Survey Research Design approach was adopted. Data for the study were obtained by using both questionnaire and interview tools to solicit primary data from the sampled women producers and local NGO staff respectively.

It was shown by the study that the sampled producers were within the working age with an average age of 37 years. However, they were found to be largely illiterates with only 5% having primary education which was the highest educational qualification of the sampled producers. The sampled producers were also found to have relatively large household sizes and considerably higher levels of experience in the Shea processing and marketing business.

The study also showed that incomes earned and profits made by the Shea processors from the business are relatively higher and significantly helps them to satisfy most of their needs and wants such as food, clothing, educational and health. It was however revealed that the profits earned from the Shea business is erratic due to variation in nut quality and seasonality of the business.

Furthermore, the study showed that Shea processing and marketing business is faced with some challenges. Notable among the challenges as indicated by the study are tediousness of the production process, limited availability of labour, insufficient storage facilities, low sales, inadequate water, inadequate equipment and most importantly insufficient funds.

It was also shown that there is considerable sense of collaboration in the Shea industry between processors, NGOs and district assemblies. However, there is no deliberate policy put in place by the government to ensure improved and sustained growth of the industry. The respondents then suggested that government should ensure that a National Shea Board is established to regulate the operations of the Shea sub-sector.

5.2 Future Research

The objective of this study was to assess the effects of Shea butter processing and marketing on rural women in the Northern Region of Ghana. The evaluation of materials needed to supportShea butter processing communities revealed many variables involved in Shea butter processing , firewood usage that has not been properly investigated. These fire woods should not be overlooked when evaluating improved technologies for producers. It is important to understand how working in groups, communities, adapting quality training, and properties of the wood selected can change the amount of material inputs required throughout Shea butter processing. This study concludes that Shea processing business is

a reliable venture that can help alleviate poverty among the vulnerable women processors of the Northern region and Ghana at large. The study also identified the need for Shea producers or processors to have access to tools and materials such as crushing machines, but did not assess the interventions impacts beyond time and energy savings. When implementing improved technologies, it is important to consider the entire life cycle of the investment, ownership, maintenance, as well as its social, and cultural aspects. The potential of Shea processing and marketing in the northern Ghana has yet to be reached.

5.3 Conclusion

Given the major findings of the study, it is concluded that the Shea processing business is a reliable venture that can help alleviate poverty among the vulnerable women processors of the Northern region and Ghana at large. However, the industry is bedeviled with a myriad of challenges which limit the success that can be chalked by the direct players and beneficiaries (women processors). It is therefore, necessary that policies and programs are put in place to ensure that prospects of the Shea tree/nut are well harnessed to the betterment of the direct players and the entire society.

5.4 Recommendations

Following the major findings and conclusion of the study, the following policy recommendations are made:

1. Measures should be put in place to ensure that enough Shea nuts of higher quality are made available all year round. This will ensure that production is continuous throughout the year, which will eventually increase profit making which characterizes the Shea butter production and marketing business. The provision of

quality Shea butter can be done by ensuring that processors adopt best practices in extraction, packaging and storing. This may be achieved through training of processors.

2. In order to curb post-production losses, government and other stakeholders in the Shea industry should ensure that adequate storage facilities are provided for the producers to store their produce. The producers should also be informed about the relevance of formation and strengthening of cooperative societies which they can collaborate to construct a common structure to store their produce. Availability of adequate storage facilities will not only reduce post-production losses but also, the producers can respond adequately and timely to variations in market prices due to fluctuations in demand.
3. Government and other stakeholders in the Shea processing sub-sector should ensure that credit is made accessible and affordable to the local processors of Shea, especially, for those who belong to co-operative societies. Given the relatively vulnerable state of the rural and peri-urban processors, the request for collateral securities by financial institutions before issuingcredit to them may be too costly. Thus, alternative means of making credit affordable and retrievable should be devised by the financial institutionsto help the poor and vulnerable women processors who have the desire to make their lives better.
4. Given that the Shea butter production process is quite demanding and tedious; the producers rarely have time to engage in other income generating activities besides the Shea butter production. As a result, NGOs which are into improvement of the Shea industry should ensure that the women are well educated and trained on how

they can further extract other commodities from the same process, since the Shea nut is a composite resource with which products such as pomade, soap, among others can be produced.

5. In a nutshell, there should be deliberate policies and programs put in place by government of the republic to ensure that the Shea industry of Ghana is well developed, regulated and protected to enable all stakeholders derive the maximum benefit from the existence of that rich natural resource – the Shea tree/nut.

REFERENCE

Aboyella, C.(2002). "An economic analysis of sheanuts and cashew production in the Bawku East District". A Bsc. Dissertation submitted to the Department of Economics & Agribusiness, University of Ghana.

Ackah, C. (2013) 'Non-Farm Employment and Income in Rural Ghana', Journal of International Development 25.3: 325–39.

Adams, E. (2015). Carbon dioxide (CO 2) emissions, human energy, and cultural perceptions Associated with traditional andimproved methods ofShea butter processing in Ghana. WestAfrica. M.S: Thesis, University of South Florida, Tampa. http://scholarcommons.usf.edu/etd/5444.

Ademola AO, Oyesola OB, Osewa SO. (2012). Assessment of Shea butter processing among
rural dwellers in Atisbo Local Government Area of Oyo State Nigeria. *European Journal of Business and Social Sciences* 1(7): 1–8.

Adi, B. (2017) 'Determinants of Agricultural and Non-Agricultural Livelihood Strategies in Rural Communities: Evidence from Eastern Nigeria', Journal of Developing Areas 0.2: 93–109

Aduse-Poku, K.; Nyantakyi, F.; Atiase, V.Y.; Awuah, R.; Mensah, E.O.; Nyantakyi, D.; Owusu, H.K. and Agyenim-Boateng, B. (2017) Improving Rural Livelihoods within the Context of Sustainable Development: Case Study of Goaso District.

Afful-Koomson T, Fonta W, Frimpong S, Amoh N.(2015). Economic and financial analyses of Small and medium food crops agro-processing firms in Ghana. Accra: United Nations University, Institute for Natural Resources.

African Shea Butter Benefits". Retrieved 8 October (2017).

Agro News (2017); Shea nut & Butter Investment Opportunities; Saturday October 28, 2017 Nigeria.

Akangbe, J. A., Adesiji, G. B., Fakayode, S. B., & Aderigbe, Y. 0.(2011). Towards palm oil self-sufficiency in Nigeria. Constraints and training needs nexus of palm oil extractors. J. Hum Ecol., 33(2): 139-145.
Continuing Education and Interdisciplinary Research, University for Development Studies. M-buk CONCEPTS, Tamale, Ghana.

Akihisa, T.; Kojima, N.; Kikuchi, T.; Yasukawa, K.; Tokuda, H.; Masters, E. T.; Manosroi, A.; Manosroi, J. (2010). "Anti-inflammatoryand chemopreventive effects of triterpene cinnamates and acetates from shea fat". Journalof Oleo Science. 59 (6): 273–80. PMID 20484832. doi:10.5650/jos.59.273.

Alhassan, Z. & Jafaru, M., Y. (2011, December 19). Vice President Inaugurates Shea nut Steering committee, Daily Grahic pg. 22.

Alhassan Ishawu (2012). Effects of Shea butter processing on rural livelihood in Northern Region. Unpublished master's thesis, University for Development Studies, Tamale, Ghana.

Al-hassan S. (2015). *Ghana's Shea industry; knowing the fundamentals.* Institute for

Aniah P, Dumayiri M, Banleman K.(2014). An analysis of factors affecting women's' capacities as traditional shea butter processors in northern Ghana. *International Journal of Development Research*5: 942–948.

Aniah, P., Dmayiri, M., Banleman, K. (2014). An analysis of factor affection women capacities as traditional Shea butter processors in northern Ghana. *International Journal of Development Research*. 4(5), 942 – 948.

Arora-Jonsson S (2013) Gender, Development and Environmental Governance: Theorizing Connections, London: Routledge.

Assan, J.K. (2017) 'Livelihood Diversification and Sustainability of Rural Non-Farm Enterprises in Ghana', Journal of Management and Sustainability 4.4: 1–14, DOI:10.5539/jms.v4n4p1.

Assan, J.K. and Beyene, F.R. (2017) 'Livelihood Impacts of Environmental Conservation Programmes in the Amhara Region of Ethiopia', *Journal of Sustainable Development* 6.10: 87–105

Bello-Bravo, J.; Baoua, I. Animated Videos as a Learning Tool in Developing Nations: A Pilot Study of Three Animations in Maradi and Surrounding Areas in Niger. Electr. J. Info Syst. Dev. Countr. 2012, 55, 1–12.

Boffa, J.-M. (2016). Opport

Boffa, J.-M. (2016). Opportunities and challenges in the improvement of the shea (Vitellaria paradoxa) resource and its management. In Occasional Paper 24. Nairobi: World Agroforestry Centre http://www.globalshea.com/resources/library/163/Opportunities-and-challenges-in-the-improvement-of-the-shea-Vitellaria-paradoxa-resource-and-its-management.

Brand (2017); 5 Common Uses for Raw Shea Butter; February 7, 2017.

Bryceson, D.F. (2017) 'Agrarian Vista or Vortex: African Rural Livelihood Policies', Review Of African Political Economy 31.102: 617–29.

Business (2017); Nigeria's Shea Butter Market Can Yield $2 Billion Yearly; Nigeria Journal Of Agrarian Change 2017; Renegotiating Access to Shea Trees in Burkina Faso: Challenging Power Relationships Associated with Demographic Shifts and Globalized
Trade; Volume 17, Issue 3 July 2017 Pages 497–517;

Business Ghana(2017); Shea butter processing centres for women in Garu-Tempane District; 9thAug 2017.Accra, Ghana.

Business News (2017); Save-Ghana brings relief to Shea nuts pickers Friday, 2 June 2017 Ghana, Accra.

Business World Ghana (2016); Shea industry cries for investment; July 14, 2016.Accra, Ghana. CBI Ministry of Foreign Affairs. CBI Product Factsheet: Shea Butter in the EU and EFTA. Available online: http://www.cbi.eu/sites/default/files/study/product-factsheet-shea-butter-europe-vegetable-oils-oilseeds-2014.pdf (accessed on 15 August 2014).

Chimsah, F.A. The act of propagating shea. Available online: http://www.globalshea.com/uploads/files/conference_presentations/chimsah_francis_uds-ghana_the_act_of_propagating_shea_41.pdf (accessed 15 December 2014).

Citifmonline (2017); Garu-Tempane: World Vision trains women in Shea Butter extraction, Saturday, August 5, 2017 4:56 pm.Accra ,Ghana.

Citifmonline (2016); United States Agency for International Development (USAID) and Global Shea Alliance (GSA), injects US$13M capital into shea industry. November 8, 2016, Accra, Ghana.

. (pg. 447 – 451). Retrieved 3rd May, 2012, Global Shea Alliance (GSA), injects US$13M capital into shea industry. November 8, 2016, Accra, Ghana.

Citifmonline.com/Ghana; GEPA engages Northern Region youth on exportable products Monday, September 11, 2017 5:30 pm,Accra ,Ghana . citifmonline.com/Ghana.

Cityonline (2017); World Vision trains women in Shea Butter; Saturday, August 5, 2017 34:56 pm Accra, Ghana.

Cohen L, Manion L, Morrison K (2013) Research methods in education: Routledge.

Collins, A. M. (2014). Urban poverty in northern Ghana: Tracing the livelihood strategies of Women in the Shea butter industry. Journal of Human and Social Science Research, 3(1), 15–25.

Collis J, Hussey R (2013) Business research: A practical guide for undergraduate and Postgraduate students: Palgrave macmillan.

Dary, S.K. and Kuunibe, N. (2012) 'Participation in Rural Non-Farm Economic Activities in Ghana', American International Journal of Contemporary Research 2.8: 154–61.

Davrieux, F., Allal, F., Piombo, G., Kelly, B., Okulo, J. B., Thiam, M., Diallo, O. B. & Bouvet, J.-M. (2010). "Near Infrared Spectroscopy for High-Throughput Characterization of Shea Tree (Vitellaria paradoxa) Nut Fat Profiles. Journal of Agricultural and Food Chemistry, 58, 7811-7819.".

Derbile EK, Abubakari A, Dinye RD. (2012). Diagnosing challenges of small-scale industries in Ghana: a case of agro-processing industries in Kassena-Nankana District. *African Journal of Business Management*47: 11648–11657.

Deutscher (2016) "Klimatafel von Tamales / Ghana" (PDF). Baseline climate means (1961-1990) from stations all over the world (in German). Deutscher Wetterdienst. Retrieved 18 October 2016.

Debus, M.(1988).A handbook for excellence in focus group research .HEALTHCOM project special Report Series. Washington, D.C, Porter: Novelli.

Didia B, Zakpaa HD, Mills. Ro- bertson FC. Iddrisu (2018) Enzyme Assisted Traditional Extraction of Shea butter using different levels of pre – treated Shea kernels. Journal of Agricultural Biotechnology and sustainable development Co (i) : 1 – Co.

Economic Commission for Africa (2010). Gender and Intra African Trade: The case of West Africa. In assessing regional integration in Africa IV. Enhancing intra-African trade (4th ed.). (pg. 447 – 451). Retrieved 3rd May, 2012, from www.uneca.org.

Econstor (2017); Smallholder integration into the global shea nut commodity chain in Saharan Africa', Development Policy Review 34.2: 197–221// Fox, L.; Haines, G.; Munoz, J. and Thomas, A. (2013) Africa's Got Work to Do: Employment Prospects in the New Century, IMF Working Paper 13, Washington DC: International Monetary Fund.
northern Ghana; ZEF Working Paper Series 153; http://hdl.handle.net/10419/162194. ZEF Working Papers, Center for Development Research (ZEF), University of Bonn.

Elias, M., & Saussey, M. (2013). “The gift that keeps on giving”: Unveiling the paradoxes of fair trade shea butter. Sociologia Ruralis, 53(2), 158–177.

Ellis, F. (2017) 'Household Strategies and Rural Livelihood Diversification', Journal of Development Studies 35.1: 1–38.

Ellis, F. and Bahiigwa, G. (2017) 'Livelihoods and Rural Poverty Reduction in Uganda', World Development 31.6: 997–1013.

Emily Adams (2015). Carbon Dioxide (CO_2) Emissions, Human Energy, and cultural perceptions associated with Traditional and Improved Methods of Shea Butter processing in Ghana, West Africa. Unpublished Master’s Thesis, University of South Florida, Florida.

Eneh, M. C. C.,(2010). An overview of shea nut and shea butter industry in Nigeria. Paper

Esinam, P. (2010). Financing the production and marketing of Shea butter in Tamale metropolis. M.S. Thesis, Kwame Nkrumah university of Science and Technology, Kumasi, Ghana – West Africa.

Faostat, (2013). http://faostat.fao.org/site/339/default.aspx, assessed June 13–21, 2013.

Financial Watch News(2017); $72m yearly potential earnings from shea nuts production untapped' April 27, 2017,Nigeria.

Fobil JN. 2015. Bole, Ghana: research and development of the shea tree and its products. Horizon International. Available at http://www.solutions-site.org.

Food and Agricultural Organisation (2011). Food losses and waste: Extent, causes and prevention. *Rome: Food and Agriculture Organization of the United Nations*.

Fox, L. and Pimhidzai, O. (2013) 'Household Non-Farm Enterprises and Structural Transformation: Evidence from Uganda', paper presented at the UNU-WIDER Conference on Inclusive Growth in Africa, Helsinki, 2–21 September 2013.

Fox, L. and Sohnesen, T. (2016) 'Household Enterprises and Poverty Reduction in Sub-Saharan Africa', Development Policy Review 34.2: 197–221// Fox, L.; Haines, G.; Munoz, J. and Thomas, A. (2013) Africa's Got Work to Do: Employment Prospects in the New Century, IMF Working Paper 13, Washington DC: International Monetary Fund.

Garba, I.D., C.N. Nwawe & I.L. Oisakede (2011). The potential of Shea Nut Tree to the Nigerian Economy. International Journal of agricultural economic economics and rural development 4(1). Retrieved 3rd April, 2012 from http: //www.ijaerd.laute-Chae-edu.com.

GBC (2017) Ghana: Shea Nut Industry; Feb 06, 2017 at 2:00pm Accra, Ghana.

GeoNames (2014) "Ghana – Largest Cities". GeoNames. Retrieved 29 May 2014.

Ghana Business News 2017 Ghana Export Promotion Authority to drive governments Agenda; September 5, 2017 Accra, Ghana.

Ghana Business News (2017); Company develops 20 cosmetic products from Shea butter December 21, 2016 page298 Accra Ghana.

Ghana Business News(2016); Company develops 20 cosmetic products from Shea butter; December 21, 2016, Accra, Ghana.

Ghana Live (2017) Brings relief to Shea nuts pickers---Save Ghana Friday, 2 June 2017 Ghana Accra.

Ghana News Agency (2017); Ghana Export Promotion Authority targets $4 billion in 2017; Monday, May 22, 2017 6:05 am Accra, Ghana.

Ghana Statistical Service (2010), Ghana population and Housing Census, 2010, Accra, Ghana, GSS.

Ghanaian Times (2015); Three decades of promotion of small scale industries in Ghana. January 21, 2015 at 9:19 am ,Accra,Ghana.

GhanaWeb(2015); Addressing the Challenges of Food Security and Climate Change; Thursday, 21 May 2015,Accra,Ghana.

Ghanaweb(2017); We don't want to create white elephant factories – 1 district,1 factory secretariat ; Monday, 23 October 2017 Accra,Ghana.

Glew D, Lovett PN.(2014). Life cycle analysis of Shea butter use in cosmetics: from parklands to product, low carbon opportunities. Journal of Cleaner Production 68: 73–80.

Global Shea Alliance (GSA) news (2017); GSA is Hiring! Special Projects Manager; November 02, 2017; Accra,Ghana.

Global Shea Alliance (GSA) news (2017); GSA Supports Historic Green Climate Proposal in Ghana. September 29, 2017; Accra, Ghana.(http://www.greenclimate.fund/home).

Global Shea Alliance (GSA) news 2017; New Shea Study Released! November 02, 2017; Accra,Ghana.

Global Shea Alliance (GSA),(2017); West Africa Trade Hub and African Partners Network 2017;Trade Hub-supported sustainability pilot elevates the social standing of women in shea March 4, 2016 Trade Hub Comms.

Global Shea Alliance (2016): The Industry Unite; September 06, 2016;Accra, Ghana.

Global Shea Alliance. Industrial quality standards for shea kernel. 2013. Available online: http://www.globalshea.com/uploads/files/shea_2014_the_industry_unites_conference_documents/quality_standards_196.pdf (accessed on 14th August 2014).

Global Shea Butter Industry(2017); Global Shea Butter Market Supply, Sales, Revenue and GoGetFunding2016; Shea Butter Export Business; www.pinnacletradegh.com,Accra, Ghana.

Gonzalez, P., Tucker, C. J., & Sy, H. (2012). Tree density and species decline in the African Sahel attributable to climate. Journal of Arid Environments, 78, 55–64.

Geri P (2010). Natures Shea Bulk.

Graphic Online 2014;Shea butter industry offers employment to African women 20 November 2014 Accra,Ghana.

Graphic Online (2017); Department for International Development (DFID) supports 421 SMEs with financial, logistics support; 30 September 2017,Accra Ghana.

Graphic Online (2017); Ghanaian mother, daughter grow shea butter business in US; Graphic Online www.graphic.com.gh 13 June 2017, Accra,Ghana.

Graphic Online (2017); Department for International Development (DFID) supports 421 SMEs with financial, logistics support; 30 September 2017,Accra Ghana.

Graphic Online (2017); Ghanaian mother, daughter grow shea butter business in US; Graphic Online www.graphic.com.gh 13 June 2017, Accra,Ghana.

Graphic online, (2017). Hazardous chemical contaminates Shea butter. 17 March, 2017; Accra, Ghana.

Grinnell Jr, RM, Unrau YA (2010) Social work research and evaluation: Foundations of evidence-based practice: Oxford University Press.

GSS (Ghana Statistical Service) (2017) Ghana Living Standards Survey Round 6 (GLSS 6) Haggblade, S.; Hazell, P. and Reardon, T. (2010) 'The Rural Non-Farm Economy: Prospects for Growth and Poverty Reduction', World Development 38.10: 1429–

Hatskevich, A.(2011). Shea industry – a means of poverty reduction in Northern Ghana.Agriculture TropicaEtsubtropica, Vol. 44 (4), Pp. 223 – 226

Hair JF, Black WC, Babin BJ, Anderson RE, Tatham R. (2010) Multivariate Data Analysis, (7th e d.), Pearson publishers, USA.

Hatskevich A, Jeníˇcek V, Antwi Darkwah S. (2011). Shea industry – a means of poverty reduction in Northern Ghana. Agric. Tropica Subtropica 44: 223-228.

Hausmann, R., Tyson, L. D., & Zahidi, S. (2012). The global gender gap report. Geneva: The World Economic Forum.Google Scholar.

HawaiiNewsNow2017; Global Shea Butter Market 2017 Industry Analysis, Share, Growth, Sales, Trends, Supply, Forecast to 2022; Monday, November 27th 2017, 3:31 am PST

Higgins, R. C., & Schall, L. D. (1975). Corporate bankruptcy and conglomerate merger. *The Journal of Finance*, *30*(1), 93-113.

Hoetu, P. (2017) Mainstreaming Youth: The Key to Effective Youth Development in Ghana, Friedrich Ebert Stiftung Parliamentary Briefing Paper.

Höhn, A.K.; Neumann, K.(2013) Shifting cultivation and cultural landscape development during the Iron Age (0–1500 AD) in the Sahel of Burkina Faso, West Africa—Insights from archaeological charcoal. Quat. Int. 2012, 249, 72–83.

Holt JB, Huston SL, Heidari K, Schwartz R, Gollmar CW, et al. (2015) Indicators for chronic disease surveillance - United States, 2013. MMWR Recomm Rep 64: 1-246.Holt et al 2015.

Honfo, F. G., Akissoe, N. H., Linnemann, A. R., Soumanou, M., & van Boekel, M. A. J. S. (2014). Nutritional composition of shea products and chemical properties of shea butter: A review. Critical Reviews in Food Science and Nutrition, 54, 673–686.

Honfo, F. G., Linnemann, A. R., Akissoe, N. H., Soumanou, M. M., & van Boekel, M. A. J. S. (2012). Indigenous knowledge of shea processing and quality perception of shea products in Benin. Ecology of Food and Nutrition, 51, 505–525.

Houehanou, T.D.; Kindomihou, V.; Stevart, T.; Tente, B.; Houinato, M.; Sinsin, B.(2013) Variation of Loranthaceae impact on Vitellaria paradoxa C.F. Gaertn. fruit yield in contrasting habitats and implications for its conservation. Fruits 2013, 68, 109–120.

Iddrisu, A.M. (2013). Biochemical and Microbiological analysis of Shea nut cake. A waste Product from Shea butter processing. Unpublished master's thesis, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

IDS Bulletin (2017): 'Africa's Youth Employment Challenge: New Perspectives'; Vol 48 No. 3 May 2017; IDS Bulletin © Institute of Development Studies | DOI: 10.19088/1968-2017.130, Brighton BN1 9RE, UK.

Institute of Development Studies (IDS) (2015), Sustainable livelihood and rural development

International Journal of Development and Sustainability (2013); Shea butter and its processing impacts on the environment in the Tamale Metropolis of Ghana ISSN: 2168-8662 – www.isdsnet.com/ijds ISDS Article ID: IJDS13060301 Volume 2 Number 3 (2013): Pages 2008-2019.

Israel MO (2015) Shea Butter: An Opposite Replacement for Trans Fat in Margarine. J Nutr Food Sci S11:001. doi: 10.4172/2155-9600.1000S11-001// Journal of Nutrition & Food Sciences 2015.

Issahaku H, Ramatu A, Sarpong BD. (2011). An analysis of allocative efficiency of shea butter processing methods in the Northern Region of Ghana. Journal of Development and Agricultural Economics 4: 165–173.
Institute of Statistical, Social and Economic Research (ISSER, 2015), "Peasants autonomy and capture in times of increasing integration of global food markets" the Ghanaian Times Newspaper.

Jasaw, G. S., Saito, O., & Takeuchi, K. (2015). Shea (Vitellaria paradoxa) butter production and resource use by urban and rural processors in northern Ghana. Sustainability, 7, 3592–3614. doi:10.3390/su7043592.

Jibreel, M.B., Mumuni, E., Al-Hassan, S. and Baba, N.M. (2013), "Shea butter and its processing impacts on the environment in the Tamale Metropolis of Ghana", International Journal of Development and Sustainability, Vol. 2 No. 3, pp. 2008-2019.

Johns R (2010) Likert items and scales. Survey Question Bank: Methods Fact Sheet 1.

Kanwaljit KC, Ramon B, Rosalia A, Galina G, Anna NW (2010) Shea butter contains no IgE-binding soluble proteins. J Allergy Clin Immunol. 127: 680-682. kanwaljit et al 2010.

Kavaarpuo AVE. (2010). Development implications of the shea industry as a lead cash crop for Northern Ghana: Case studies in Bole, Wa-west and Bongo districts. MSc. Ph. D. Thesis, Kwame Nkrumah University of Science and Technology, Ghana, 110 p.

Kabeer, N. (2012). Women's Economic Empowerment and inclusive Growth: Labour Markets and Enterprise Development. Report for the United Kingdom Department for international Development and international Development Research centre (Canada).

Kent R, Bakaweri C, Poole N.(2014). Facilitating entry entry into shea processing: a study of two interventions in northern Ghana.

Kent R, Bakaweri C. (2010). Mechanisms to ensure participation in shea value chain: a case study of two interventions in northern Ghana. FAO Trade and Markets Division workshop on institutional innovations and policy interventions in support of smallholder markets participation, 3–4 June 2010, Rome, Italy.

Konaté L. (2012). Creating competitive market models Burkina Faso: the case of Nununa Women's Shea Butter Federation. SNV Netherlands Development Organisation: Case Studies Burkina-Shea.

Krueger, R.A.(1988).*Focus groups: A Practical guide for applied research*. Newbury Park, California, U.S.A., Sage Publications, Inc.

Kumah, K.(1987).*Conducting Focus group interview in developing countries*. A.I.D. Program Design and Evaluation Methodology Report No.8.Washington, D.C. U.S. Agency for International Development

Lewis, M.P., Simons, G.F., & Fennig, C.D. (Eds) (2016). Ethnologue: Languages of the World, Nineteenth edition. Dallas, Texas: SIL International. Online version: http://www.ethnologue.com

Lovett, P.N. (2013). Industry assessment and potential for public private partnerships in development of trade in shea nuts and butter (Lulu) in South Sudan. USAID South Sudan.

Lovett, P.N. Lovett Sourcing Shea Butter in 2010: A Sustainability Check. In Global Ingredients and Formulation Guide 2010 The Green Book of Cosmetics; Verlag für chemische Industrie, H. Ziolkowsky GmbH: Augsburg, Germany, 2010; pp. 62–68.

Lovett, P.N.; Haq, N.(2013).Progress in developing in vitro systems for shea tree (Vitellaria paradoxa C.F. Gaertn.) propagation. For. Trees Livelih. 2013, 22, 60–69.

Malachi OI (2014) Effects of topical and dietary use of Shea butter on animals. *American Journal of Life Sciences;* 2: 303-307.

Malik, K. (2013). Human development report 2013: The rise of the South: Human progress in a diverse world. New York: United Nations Development Programme.

Mongabay(2014) "The largest cities in Ghana, ranked by population".. Retrieved 1 May 2014. ghanaweb.com.

Mynewsdesk (2017); Global And China Shea Butter Market Research Report 2017; Apr 24, 2017 03:57 GMT;

Nagler, P. and Naudé, W. (2014) Non-Farm Entrepreneurship in Rural Africa: Patterns and Determinants, IZA Discussion Paper 8008, Bonn: Institute for the Study of Labor (IZA).

Naila, K, Sudarshan , R. and Milward, K. (2013). Organizing Woman in the informal Economy: Beyond of the weak zed press: London – UK.

Natcher, D. C. (2015). Social capital and the vulnerability of aboriginal food systems in Canada. Human Organizations, 74(3), 230–242.

Naughton, C. C. (2016). Modeling food security, energy, and climate and cultural impacts of a process: The case study of shea butter in sub-Saharan Africa. PhD Dissertation: University of South Florida, Tampa http://scholarcommons.usf.edu.

Naughton, C. C., Lovett, P. N., & Mihelcic, J. R. (2015). Land suitability modeling of shea (Vitellaria paradoxa) distribution across sub-Saharan Africa. Applied Geography, 58, 217–227. doi:10.1016/j.apgeog.2015.02.007.

Naughton, C. C., Zhang, Q., & Mihelcic, J. R. (2017). Modelling energy and environmental impacts of traditional and improved shea butter production in West Africa for food security. Science of the Total Environment, 576, 284–291. doi:10.1016/j.scitotenv.2016.10.059.

Naughton, C., Lovett, P. (2015). Land suitability modeling of Shea (Vitellaria paradoxa) distribution across sub-Saharan Africa. Applied Geography.

Naughton, C.C., Deubel, T.F. & Mihelcic, J.R. Food Sec. (2017) 9: 773. https://doi.org/10.1007/s12571-017-0706-y

Naughton, C.C.; Lovett, P.N.; Mihelcic, J.R. Land Suitability Modeling of Shea (Vitellaria paradoxa) Distribution across Sub-Saharan Africa. Appl. Geogr. 2015, 58, 217–227.

Nde Bup D.(2010). Physical properties, moisture sorption isotherms and the indirect solar drying of sheanut kernels. Ph.D. thesis, ENSAI, University of Ngaoundere, Ngaoundere, Cameroun, 252 p.

Nde Bup D., Fon Abi C, Tenin D, Kapseu C. Tchiégang C, Mouloungui Z.(2013). Effect of Cooking on Moisture Sorption Isotherms of Sheanut (Vitellaria paradoxa Gaertn.) Kernels: Evidence from Light and Scanning Electron Microscopy. Food Bioprocess Technol. 6: 1897–1906.

New America Media 2017;The Shea Butter Economy: Big Money and Exploitation: Nov 4, 2017 ;209 9th Street, Suite 200, San Francisco, CA 94103.

Niehof, A. (2017) 'The Significance of Diversification for Rural Livelihood Systems', Food Policy 29.4: 321–38

Nifor(2013). Shea diagnostic survey in Nigeria 2013. Nifor Progress report, Nigeria, pp 100-119.

Nku (2016). All about Shea butter

Ojo, O. A. & Adebayo, T. A., (2013). Bio-deterioration of shea butter fruit (Vitellaria paradoxa) in storage and its effects on the nutrient composition. Rep opinion 2013;5(12): 13. http://www.sciencepub.net/report. Retrieved August 17, 2015.

Okiror P. Agea JG, Okia CA, Okullo JBL.(2012). On-farm management of Vitellaria paradoxa C.F. Gaertn. In Amuria District, Eastern Uganda. Int. J. For. Res. 768946: 8 p.

Ololade, L. S. & Ibrahim, F. A.,(2014). Assessment of the contribution of shea butter processing to poverty reduction among women in Kwara State, Nigeria. J. of Sustain. Dev.in Afr. 16(3): 1-12. OMOWUNMI, O., 2013. Role of Nigerian export promotion council in sheanut/ butter development. Global Shea Alliance Conference, 2013. Pp 1-42.

Organization of American States(OAS).(2015)Developing the Shea value chain for wealth creation in Nigeria: *Journal of Biology, agriculture and Health Care*:ISSN 22243208(paper).ISSN 2225−093× (*online*).vol.3.NO. 5,2013.

Owoo, N. and Naude, W. (2014) Non-Farm Enterprise Performance and Spatial Autocorrelation in Rural Africa: Evidence from Ethiopia and Nigeria, IZA Discussion Paper 8295, Bonn: IZA World of Labor.

P.c. Aculey, S.T. Lowor, Winifred O. Kumi and M.K. Assuah (2012). The effects of Traditional Primary Processing of the Shea Fruit on the kernel, Butter yield and quality. *American Journal of Food Technology, 7:73-81.*

Pouliot, M. (2012). Contribution of "Women's Gold" to West African livelihoods: The case of shea (Vitellaria paradoxa) in Burkina Faso. Economic Botany, 66(3), 237–248.

Pouliot, M., & Elias, M. (2013). To process or not to process? Factors enabling and constraining Shea butter production and income in Burkina Faso. Geoforum, 50, 211–220.Accessed January 16, 2015 from: http://cleancookstoves.org/resources-files/ghana-consumer- segmentation-exec. summary. pdf. Shea Kernel. *Ghana journal of Agricultural Science 8(2)*: 149-152.

Premium Times (2017); NEXIM to help realize Nigeria's full potentials in shea production; Saturday, November 4, 2017 Abuja Nigeria. presented at the national seminal organized by Central Bank of Nigeria in collaboration with Federal Ministry of Agriculture and Rural Development and Nigeria Export Promotion Council (NEPC) Niger State; 4-5 August, 2010. Pp 1-4.

Pufaa Fe.(2010). The production and marketing of shea butter in Tamale metropolis. MSc thesis, Kwame Nkrumah University Science and Technology, Ghana.

Prachel C (2017). Introduction to Shea butter.

Quainoo K, Poudyal AM. (2012). Leaf and fruit characteristics of Shea (Vitellaria paradoxa) in
Northern Ghana. Res. Plant Biol. 3: 38−45.

Rahi S (2017) Research Design and Methods: A Systematic Review of Research Paradigms, Sampling Issues and Instruments Development. Int J Econ Manag Sci 6: 403. doi: 10.4172/2162-6359.1000403.

Reardon, T. (2017) 'Using Evidence of Household Income Diversification to Inform Study of the Rural Non-Farm Labour Market in Africa', World Development 25.5: 735–47 (accessed 22 February 2017.

Research Nester (2017); Global Shea butter market (2017 2024)- research nester; Global Shea Butter Market out Look; Industry Insights and Opportunity Evaluation, 2017--- 2024 New York.

Research Nester(2017); Research Nester www.researchnester.com www.researchnester.com/reports/herbal-beauty- products- market- global-demand-nalysis-opportunity-outlook-2024/281.

ResearchGate (2017);The characteristics of financing arrangements for the production and marketing of shea (Vitellaria paradoxa) butter in Tamale in the Northern Region of Ghana; February 2017;.

ResearchGate (2017); The Shea Industry and Rural Livelihoods among Women in the Wa Municipality, Ghana. DOI: 10.5296/jsss.v3i2.8706.Accra, Ghana.

Rijkers, B. and Costa, R. (2012) 'Gender and Rural Non-Farm Entrepreneurship', World Development 40.12: 2411–26.

Rousseau, K., Gautier, D., & Andrew Wardell, D. (2015). Coping with the upheavals of globalization in the shea value chain: The maintenance and relevance of upstream Shea nut supply chain Organization in Western Burkina Faso. World Development, 66, 413–427.

Rousseau, K.; Gautier, D.; Wardell, D.A.(2015) Coping with the upheavals of globalization in the shea value chain: The maintenance and relevance of upstream shea nut supply chain organization in western Burkina Faso. World Dev. 2015, 66, 413–427.

Sanogo, K., Binam, J., Bayala, J., Villamor, G. B., Kalinganire, A., & Dodiomon, S. (2017). Farmer's perceptions of climate change impacts on ecosystem services delivery of parklands in southern Mali. Agroforestry Systems,91 (2), 345–361. doi:10.1007/s10457-016-9933-z.

Saunders MN (2011) Research methods for business students: Pearson Education India. Schulz, D. E. (2012). Culture and customs of Mali. Santa Barbara: Greenwood.

Scoones (2015), Sustainable livelihood and rural development, September, 10th 2015.Institute of Development Studies (IDS) 2017; sustainable rural livelihood. A framework for analysis. IDS working paper 72. IDS library road Brighton BNI 9RE UK. England.

Seweh, E. A. (2011). *A feasibility study for the establishment of an industrial Shea nut processing facility in Wa* (Doctoral dissertation).

Shea Economic Empowerment Program (SEEP)(2017);promoting entrepreneurship for sustainable development; © Copyright 2017 adelphi research gGmbH.

Shea Network, http://www.theSheanetwork.net.Retrieved 6th May, 2012.

Shea project, www.Sheaproject.org.Retrieved 10 May, 2012.

Sidibé A, Vellema S, Dembélé F, Témé B, Yossi H, Traoré M, Kuyper TW. (2014). Women, shea, and finance: how institutional practices in a Malian cooperative create development impact. International Journal of Agricultural Sustainability 3: 263–275.

Sidibé A, Vellema S, Dembelé F, Traoré M, Kuyper TW.(2012). Innovation processes navigated by women groups in the Malian shea sector: how targeting of international niche markets results in fragmentation and obstructs co-ordination. *NJAS – Wageningen Journal of Life Sciences* 60: 29–36.

Springer Nature2017; Household food security, economic empowerment,and the social capital of women's shea butter production in Mali; August 2017, Volume 9, Issue 4, pp 773–784 197.251.176.30.

Stylecraze (2017); 28 Best Shea Butter Benefits for Skin,Hair and Health;November 3,2017;ISSA Certified Specialist and nutrition.

Teece, D. J. (1982). Towards an economic theory of the multiproduct firm. *Journal of Economic Behavior & Organization*, *3*(1), 39-63.

The Ghanaian Times (2014); World Vision Supports 400 Women In Shea Butter Processing; September 19, 2014 at 9:33 am,Accra, Ghana.

The Ghanaian Times (2015); 'Shea industry can't help reduce poverty'; May 27, 2015 at 9:41 am ACCRA GHANA.

Thiam JB, Diallo M (2010). Quality characterization of Shea tree nut Journal of

United Nations Development Program (UNDP) (2010). 2010 Ghana millennium development
goal report. UNDP, Ghana, and NDPC/GOG 2012.

United Nations Development Programme(2017); Empowering Rural Women and Alleviating Poverty by Strengthening the Local Shea Butter Industry;USA.

United Nations Sustainable Development Goals(2016); http://www.un.org/sustainabledevelopment/hunger.

United Nations Women Facts and Figures(2016); Economic Empowerment.http://www.unwomen.org/en/what-we-do/economic-empowerment/facts-and-figures.

US Department of Health and Human Services.(1980). *Pretesting in health communications methods, examples, and resource: for improving health messages and materials*. Bethesda, MD., U.S.A.: National Cancer Institute

Vanguard news, (2017). Niger exports 57% of world Shea butter production. 7 March, 2017, 3:57pm. State house of Assembly, Minna, Nigeria.

Vasco, C. (2014). Reciprocal and wage labour in rural Ecuador. A quantitative analysis. *Journal of Agriculture and Rural Development in the Tropics and Subtropics*, 115(1), 23–30.

Vitamin stuff (2017). Supplements Shea butter.

Wennberg, K. and Lindqvist, G. (2010) 'The Effect of Clusters on the Survival and Performance of New Firms', Small Business Economics 34.3: 221–41.

West Africa Trade Hub and African Partners Network (2017) West Africa Trade and Investment Hub - Accra, Ghana - contact@watradehub.com.

West Africa Trade Hub and African Partners Network (2017);Trade Hub-supported sustainability pilot elevates the social standing of women in shea March 4, 2016 Trade Hub Comms.

Wiki Loves Africa (2017); Tamale, Ghana; 30 October 2017, at 20:14.Accra, Ghana. *European Journal of Business and Social Sciences* 2012; Assessment Of Shea Butter Processing Among Rural Dwellers In Atisbo Local Government Area Of Oyo State, Nigeria. Vol. 1, No. 6, pp 1-08, October 2012. : http://www.ejbss.com/recent.aspx; 2235 -767X Nigeria.

Women's Entrepreneurship Forum (2017); business tips with female entrepreneurs May 8, 2017 Trade Hub Comms.

World Food Program. (2016). Hunger Statistics. Retrieved from https://www.wfp.org/hunger/stats.

Yamane, T. (1967). In Israel, G.D. (2009), Determining sample size, IFAS extension, University of Florida. PEOD-6, April.

Yeboah, J.; Lowor, S.T.; Amoah, F.M.; Owusu-Ansah, F.(2011) Propagating structures and some factors that affect the rooting performance of shea (Vitellaria paradoxa Gaertn.) stem cuttings. Agric. Biol. J. N. Am. 2011, 2, 258–269.

Ziem, J. (2012). Shea Industry Facing Serious Challenges – UNDP Report, Rumnet Rural Media. Accessed on 20/10/2015 at https:ll rumnet. Word press com/2012/ 01131.

APPENDIX

HOUSEHOLD QUESTIONNAIRE ON THE EFFECTS OF THE SHEA BUTTER PROCESSING AND MARKETING ON RURAL WOMEN IN NORTHERN REGION OF GHANA

HOUSE QUESTIONAIRE FOR SHEA BUTTER PROCESSORS

INTRODUCTION: The administration of this questionnaire is purely for academic purpose that leads to a partial fulfillment of the award of an M.phil in Development Studies by the University for Development Studies. Information obtained therefore shall be treated confidentially.

Please for each question in the various sections; indicate the chosen option(s) by ticking or filling the blank spaces with the most appropriate answers where applicable or necessary)

NAME OF RESPONDENT:……**TEL**……..

COMMUNITY:…….**DATE**:……

CODE:……**SERIAL**

NUMBER:……

SECTION 'A'

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

(1) Sex: 01. Male [ ] 02. Female [ ]

(2) District / Metro: 01. Tamale [ ] 02. Kumbungu [ ] 03. Tolon [ ]

04 Savelugu [ ] 05. Sagnarigu [ ] 06. Nanton [ ]

(3) Age: .....

(4) Marital Status: 01. Married [ ] 02. Single [ ] 03. Widow [ ] 04. Divorced [ ]

(5) Level of Education: 01. Primary School [ ] 02. JHS/MSL [ ] 03. Secondary [ ] 04. No Formal Education [ ] 05. Others Specify……

(6) Household size:……

SECTION 'B'

CONTRIBUTION OF SHEA BUTTER TO HOUSEHOLD BASIC NEEDS

(7) Since long have you been engaged in the Shea butter production?

0.1 Since childhood [ ] 02. Less than five years [ ] 03. Between 5 and 10 years [ ] 04. Over 10 years now [ ]

(8) Where do you get Shea kernel from?

01. Pick [ ] 02. Buy [ ] 03. Picks and buy [ ] 04. Given [ ]

(9) Do you engage in Shea butter production as a full time occupation? Yes [ ] No [ ]

(10) Apart from Shea butter processing, are you involved in any other business?

Yes [ ] No [ ]

(11) If yes to question 10 above, please mention other businesses in order of importance to you.

……

……

……

(12) What do you do with the Shea butter produced?

01. Eat [ ] 02. Sell [ ] 0.3 Eat and Sell [ ]

04. Others specify……

(13) If "sell" do you make profit? Yes [ ] No [ ]

(14) How often do you make profit?.....

(15) How much profit do you get per processing cycle anytime you make profit?.....

(16) What do you spend you Shea butter profit on? 01. To buy food [ ]

02. To buy clothing [ ] 03. General School expenses [ ]

04. Pay medical expenses [ ]

05. Others Specify……

(17) *Using the scale 1 = very high, 2 = high, 3 = moderately high, 4 = low, 5 = very low, indicate o which of the items mentioned in question 13 takes much of your profit?*

No.	***Items***	***Indicator***
a	Food	
b	Clothing	
c	General School Expenses	
d	Medical Expenses	
e	Others specify	

(18) *How do you spend your profit on the items mentioned in Question (17) above?*

No.	***Items***	***Nature of Expenditure***
a	Food	
b	Clothing	
c	General School Expenses	
d	Medical Expenses	
e	Others specify	

(19) Do you receive any remittance from any? Yes [ ] No [ ]

(20) What do you spend such remittance on?

01. Buy food [ ] 02. Buy clothes [ ] 03. Pay school fees [ ]

04. Pay medical expenses [ ] 5.Others specify……..

(21) Is your income from Shea butter used for other long time investments?

Yes [ ] No [ ]

(22) If "Yes" to question (21) which of these long term investments do you invest in?

01. Livestock [ ] 02. Cultivation [ ] 03. Shelter [ ] 04. Transportation [ ]

05. Others specify…….

(23) Does Shea butter processing have negative impact hazards on the livelihood of the processors/producers? Yes [ ] No [ ]

(24) If "No" Why?.....

(25) Please do you agree with the following issues relating to Shea butter processing?

Issues	Agree	Disagree	Uncertain
1. Tiredness			
2. Excessive heat resulting in burns and illness			
3. Tedious nature of the butter making process			
4. Excessive heat resulting in burns and deaths illness			

SECTION 'C'

CHALLENGES OF THE SHEA BUTTER INDUSTRY

Labour and Storage

(26) Do you agree that Shea butter processing is tedious? Yes [ ] No [ ]

(27) Give reasons to support your answers.....

(28) Do you employ other people to help you with the Shea butter processing?

Yes [ ] No [ ]

(29) Do you agree that limited labour during peak production periods affect the Shea butter business? Yes [ ] No [ ]

(30) Give reasons to your answers in questions (29) above……

(31) Are there sufficient storage facilities to store Shea butter? Yes [ ] No [ ]

(32) Please explain how and where Shea butter is stored……

MARKETING CHALLENGES

(33) Is there ready market for Shea butter? Yes [ ] No [ ]

(34) Explain your answers in question (33) above…….

(35) Are the prices offered by buyers competitive? Yes [ ] No [ ]

(36) Who buys the Shea butter? 01. Internal buyers [ ] 02. External buyers [ ]

(37) Is the price of Shea butter tied to quality? Yes [ ] No [ ]

(38) Do you think lack of information on market demands/standards affects the Shea business?

Yes [ ] No [ ]

(39) How does the lack of information on market demands/standard affect the Shea business?

01. Low sales of Shea butter [ ] 02. Low prices of Shea butter [ ]

03. Low quality of Shea butter [ ]

04. Others specify……

(40) Lack of access to affordable capital can affect Shea butter production.

01. Agree [ ] 02. Disagree [ ] 03. Uncertain [ ]

(41) Has inadequate business skills contributed negatively to Shea butter production?

Yes [ ] No [ ]

(42) Give the reasons for the answers in questions (41)…….

(43) Does the poor nature of road network affect the Shea butter industry?

Yes [ ] No [ ]

(44) How does the poor road network affect Shea butter production?

01. High transportation cost [ ] 02. Inability to reach market on time [ ]

03. Shea butter gets melted on the way to the market due to delays [ ]

04. Unwillingness of buyers to go to the local market [ ]

05. Others specify……

(45) Does high cost/inadequacy of inputs affect Shea butter production? Yes [ ] No [ ]

(46) Give reasons for your answer in question (45) above:……

(47) How has the low sale of Shea butter affected Shea butter production?

01. Inability to continue to be in business [ ]

02. Inability to purchase inputs for further production [ ]

03. Low earnings for processors [ ]

04. Low morale of processors / producers [ ]

05. Others specify:……...

(48) What are some of the causes of low sales of Shea butter?

01. Poor production quality [ ]

02. Inadequate to access to market information [ ]

03. Poor business management skills [ ]

04. Lack of coordination among producers [ ]

05. Others specify:……...

(49) What are the challenges you face as a Shea butter producer or processor?

…….

…….

SECTION 'D'

STRATEGIES AIMED AT IMPROVING UPON SHEA BUTTER PRODUCTION

(50) How do you think the challenges mentioned in question (49) above can be solved?

…….

…….

(51) What in your opinion can be done to improve upon Shea butter production in the region?

…….

…….

QUESIONNAIRES FOR NON-GOVERNMENTAL ORGANISATIONS WHO ARE ENGAGED IN THE SHEA INDUSTRY

INTRODUCTION: The administration of this questionnaire is purely for academic purpose that leads to a partial fulfillment of the award of an M.phil in Development Studies by the University for Development studies. Information obtained therefore shall be treated confidentially.

POSITION OF RESPONDENT……..……..

NAME OF INSTITUTION……

LOCATION……

DATE……../……./……..

ACTIVITIES OF THE ORGANISATION

1. Which year was your organization established or formed in Ghana?.....

2. Since when have you been engaged in the Shea industry in Ghana?.....

3. What are your objectives in the Shea industry?

   (a)……

   (b)……

   (c)……

   (d)……

4. What specific activities are you engaged in?

   (a)……

   (b)……

   (c)……

   (d)……

5. Do you give any other supporting services like training to Shea butter producers?

   Yes [ ] No. [ ]

6. If yes to question five (5), what type of support and how often?.....

7. What are the critical needs of Shea butter producers?.....

   ……

8. Please mention the major achievements you have made in the Shea industry especially in Shea butter processing.

   ……..…….

9. Who are your major stakeholders in the Shea industry?.....

10. Do you collaborate with players in the industry? Yes [ ] No. [ ]

11. If yes, what form does the collaboration take?.....

12. Are aware of any government policies regarding the Shea butter processing and marketing in Ghana? Yes [ ] No. [ ]

13. If yes, what are these policies?.....

…….

…….

14. In your opinion, are these policies working? Yes [ ] No. [ ]

15. If yes, give your reasons……..

16. What policies are required to promote processing and marketing of Shea butter in Ghana?

…….

…….

17. Which measures should be put in place to improve on the processing and marketing of Shea butter in Ghana?

…….

CHALLENGES OF SHEA BUTTER INDUSTRY

18. Please mention the major challenges faced by Shea butter processors in the Shea industry.

…….

…….

19. How can the challenges be overcome in your opinions?

…….

…….