INVESTIGATING THE SUSTAINABILITY OF THE SHEA INDUSTRY AMONG RURAL WOMEN IN NORTHERN GHANA

by

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DECLARATION

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ABSTRACT

Following the persistent decline of the cocoa industry in Ghana during the early 1970s, the government of Ghana focused on the promotion of shea nuts and butter as one of the non-traditional crops to diversify the country's foreign exchange earnings. The shea industry in Northern Ghana is a formidable sector in serving as a conduit for job creation and a source of income for the thousands of rural women shea actors involved. In order to remedy the persistently low shea nut and butter revenues, the shea export policy which was a structural adjustment program was implemented by the Government of Ghana in the late 1980s and early 1990s. This policy consisted of the privatization of public enterprises, liberalizing trade to increase exports and the introduction of institutional reforms to relax and reduce the state's involvement in the industry.

In spite of the significant strides the industry has achieved as a result of this policy, the inherent gender bias and patriarchal system in Northern Ghana coupled with the dynamics of the execution of this policy produced fertile grounds for the continued gender inequality and the exploitation of rural women. This study identified a gap in information on the sustainability of the industry among rural women as a result of the above transformation of the shea industry to a different economic niche and sought to bridge this gap.

The feminist standpoint theory and Sustainable Livelihoods Framework, the two theoretical frameworks undergirding this study, proved indispensable in understanding the livelihoods of rural women primary producers of shea nuts and butter and the institutions that shape their livelihoods. These frameworks supported this study in uncovering and acknowledging the contributions of rural women to the shea industry through the recounting of their experiences. This study uses a mixed methodology and utilized a number of methods; including literature review, case study, participatory approaches – mainly interviews and focus groups – and causal loop diagrams. The data generated through these methods were used in answering the objectives of the study. The first objective determines the challenges encountered by rural women in the shea industry in Ghana. The second objective identifies policies in the industry. The final objective constructs a causal loop diagram to investigate the sustainability of the shea industry among rural women as a result of the shea export policy.

The results of this study indicate the myriad challenges rural women shea nut processors and shea butter extractors encounter in their various activities of processing shea nuts and/or butter from

tree to table. Successive governments in Ghana from 2002 to 2017 through the annual budget statement and economic policy have proposed and implemented several policies and strategic interventions to revamp the shea industry after the implementation of the shea export policy. These policies and interventions were systematically analyzed. The results of this study identifies the chasm and the lack of cohesiveness between policies and interventions at the national level and rural development agendas at the regional level. Other factors such as the lack of coordination and support in enacting policies, and the sexist cultural attitudes prevalent in Northern Ghana posed as challenges affecting the feasibility, acceptability, and effectiveness of the policies and interventions. The purpose of the causal loop diagrams in this study conceptualizes the complexities inherent in the shea industry and explicitly illustrates how the variables interact. Developing the causal loop diagrams enables the identification of leverage points for strategic interventions to maximize benefits while minimizing negative impacts. It illustrates two important attributes of the industry namely that it is a complex industry that has five reinforcing loops, and also that achieving desired outcomes requires strategic interventions. A shea framework of interventions is proposed in this study and consists of a shea actor multi-platform business model and a shea nut and butter regulatory framework to contribute to the sustainability of the shea industry in Northern Ghana.

OPSOMMING

Na die aanhoudende agteruitgang van die kakaobedryf in Ghana gedurende die vroeë 1970's, het die regering van Ghana gefokus op die bevordering van sheanut en botter as een van die nie-tradisionele gewasse om die land se buitelandse valuta-verdienste te diversifiseer. Die shea-industrie in Noord-Ghana is 'n formidabele sektor wat dien as 'n kannaal vir werkskepping en 'n bron van inkomste vir die duisende landelike vroulike shea-akteurs wat betrokke is. Ten einde die aanhoudende lae shea-neut- en botterinkomste reg te stel, is die shea-uitvoerbeleid, wat 'n strukturele aanpassingsprogram was, in die laat 1980's en vroeë negentigerjare deur die regering van Ghana geïmplementeer. Hierdie beleid het bestaan uit die privatisering van openbare ondernemings, die liberalisering van die handel om uitvoere te verhoog en die instelling van institusionele hervormings om die staat se betrokkenheid by die bedryf te verslap en te verminder.

Ten spyte die beduidende vordering wat die bedryf as gevolg van hierdie beleid behaal het, het die inherente geslagsvooroordeel en patriargale stelsel in Noord-Ghana, tesame met die dinamika van die uitvoering van hierdie beleid, vrugbare gronde gelewer vir die voortgesette geslagsongelykheid en die ontginning van vroue in landelike gebiede. Hierdie studie het 'n leemte in inligting oor die volhoubaarheid van die industrie onder vroue in die platteland geïdentifiseer as gevolg van die bogenoemde transformasie van die shea-industrie na 'n ander ekonomiese nis en probeer om hierdie gaping te oorbrug. Die feministiese standpuntteorie en Sustainable Livelihoods Framework, die twee teoretiese raamwerke wat hierdie studie onderlê, was onontbeerlik om die lewensbestaan van landelike vroulike as die primêre produsente van sheanut en botter en die instellings wat hul lewensbestaan vorm, te verstaan. Hierdie raamwerke het die studie ondersteun om die bydraes van vroue in die platteland tot die shea-industrie te ontbloot en erken deur om hul ervarings te vertel. In hierdie studie word 'n gemengde metodologie en 'n aantal metodes gebruik, insluitende: literatuuroorsig; gevallestudie; deelnemende benaderings - hoofsaaklik onderhoude en fokusgroepe; en oorsaaklike lusdiagramme. Die data wat deur hierdie metodes gegenereer is, is gebruik om die doelstellings van die studie te beantwoord. Die eerste doelstelling bepaal die uitdagings wat vroulike plattelandse vroue in die shea-industrie in Ghana ondervind. Die tweede doelstelling identifiseer beleid in die bedryf. Die finale doel is om 'n oorsaak-lusdiagram op te stel om die volhoubaarheid van die shea-industrie onder vroue in die platteland te ondersoek as gevolg van die shea-uitvoerbeleid.

Die resultate van hierdie studie dui op die talle uitdagings wat vroulike shea-neutverwerkers op die platteland ondervind en shea-botterekstraktore tydens hul verskillende aktiwiteite vir die verwerking van shea-neute en / of botter van boom tot tafel. Opeenvolgende regerings in Ghana van 2002 tot 2017, deur middel van die jaarlikse begrotingsverklaring en ekonomiese beleid, het verskeie beleidsrigtings en strategiese ingrepe voorgestel en geïmplementeer om die shea-industrie op te knap ná die implementering van die shea-uitvoerbeleid. Hierdie beleid en intervensies is stelselmatig ontleed. Die resultate van hierdie studie identifiseer die kloof en die gebrek aan samehang tussen beleid en intervensies op nasionale vlak en agendas op die plattelandse vlak. Ander faktore soos die gebrek aan koördinering en ondersteuning in die uitvoering van beleidsrigtings, en die seksistiese kulturele houdings wat in Noord-Ghana heers, is uitdagings wat die uitvoerbaarheid, aanvaarbaarheid en effektiwiteit van die beleidsrigtings en intervensies beïnvloed. Die doel van die oorsaaklusdiagramme in hierdie studie konseptualiseer die kompleksiteite inherent in die shea-industrie en illustreer eksplisiet hoe die veranderlikes in wisselwerking is. Deur die oorsaaklusdiagramme te ontwikkel, kan die hefboompunte vir strategiese intervensies geïdentifiseer word om voordele te maksimeer, terwyl negatiewe gevolge geminimaliseer word. Dit illustreer twee belangrike eienskappe van die bedryf, naamlik dat dit 'n komplekse industrie is wat vyf versterkingslusse het, en dat ook die bereiking van gewenste uitkomste strategiese ingrepe benodig. 'n Shea-raamwerk van ingrypings word in hierdie studie voorgestel en bestaan uit 'n multiplatform-sakemodel vir shea-akteurs en 'n regulatoriese raamwerk vir shea-neut en botter om by te dra tot die volhoubaarheid van die shea-industrie in Noord-Ghana.

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B – Balancing

BSEP – Budget Statements and Economic Policies

CAQDAS – Computer Assisted Qualitative Data Analysis Software

CBEs – Cocoa Butter Equivalents

CBP – Cocoa Borehole Project

CBR – Cocoa Butter Replacement

CEO – Chief Executive Officer

CLD – Causal Loop Diagram

CO_2 – Carbon Dioxide

COCOBOD – Ghana Cocoa Board

COCOSHEA – Cocoa, Coffee and Shea Association

CRIG – Cocoa Research Institute of Ghana

CRP – Coffee Revamping Program

DFID – Department of International Development

EDIAF – Export Development and Agriculture Investment Fund

EPA – Environmental Protection Agency

ERP – Economic Recovery Programme

EU – European Union

FAO – Food and Agriculture Organization

FAOSTAT – Food and Agriculture Organization Statistical Databases

FFAs – Free Fatty Acids

FORIG – Forest Institute of Ghana

G – Grams

GASIP – Ghana Agriculture Sector Investment Programme

GAD – Gender and Development

GADS – Gender and Agriculture Development Strategy

GASIP – Ghana Agriculture Sector Investment Program

GCCSFA – Ghana Cocoa, Coffee and Shea nut Farmers Association

GCMB – Ghana Cocoa Marketing Board

GDP – Gross Domestic Product

GEPA – Ghana Export Promotion Authority

GH¢ – Ghana Cedi

GLSS – Ghana Living Standard Survey

GoG – Government of Ghana

GPRS – Ghana Poverty Reduction Strategy

GSA – Ghana Standards Authority

GSA – Global Shea Alliance

GSGDA – Ghana Shared Growth and Development Agenda

GSS – Ghana Statistical Service

Ha – Hectare

HIPC – Heavily Indebted Poor Countries

ICRAF – World Agroforestry Centre

ILO – International Labour Organization

IMF – International Monetary Fund

IOI – Industrial Oxygen Incorporated

ISO – International Standards Organization

ISSER – Institute of Statistical Social and Economic Research

Kg – Kilogram

Km^2 – Square Kilometre

LAP – Land Administration Project

LBA – Local Buying Agents

MASLOC – Microfinance and Small Loans Centre

MELR – Ministry of Employment and Labour Relations

MESTI – Ministry of Environment, Science, Technology and Innovation

Mg – milligrams

Mga^{-1} – Megagram carbon per hectare

Mm – Millimetre

MoFA – Ministry of Food and Agriculture

MoFEP – Ministry of Financial and Economic Planning

MoGCSP – Ministry of Gender, Children and Social Protection

MOTI- Ministry of Trade and Industry

NDPC – National Development Planning Commission

NGOs – Non-Governmental Organization

NGP- National Gender Policy

No. – Number

NTAEs – Non-traditional Agricultural Exports

NTFP – Non-timber Forest Product

Oct – October

PBC – Produce Buying Company

PIP – Pilot Investment Program

PNDCL – Provisional National Defence Council Law

PRA – Participatory Rural Appraisal

PSI – Presidential Special Initiative

R – Reinforcing

SADA – Savannah Accelerated Development Authority

SAPs – Structural Adjustment Programmes

SDB – Shea Development Board

Sept – September

SHEDS – Shea Development Strategy

SL – Sustainable Livelihoods

SLA – Sustainable Livelihood Approach

SLF – Sustainable Livelihood Framework

SMEs – Small and Medium-Scale Enterprises

SNG – Shea Network Ghana

SNV – Stichting Nederlandse Vrijwilligers

SPSS – Statistical Package for Social Sciences

SSA – Sub-Saharan Africa

SSI – Semi-Structured Interview

Tc – ton Carbon

Tc/ha – ton Carbon per hectare

TCP – Tree Crop Policy

UDS – University of Development Studies

UK – United Kingdom

UN –United Nations

UNDP – United Nations Development Programme

UNRISD – United Nations Research Institute for Social Development

USAID – United States Agency for International Development

USD – United States Dollar

VC – Value Chain

WATH – West Africa Trade Hub

WB – World Bank

WCED – World Commission on Environment and Development

WDF – Women in Development Fund

WDI – World Development Indicator

WIAD – Women in Agricultural Development Directorate

WID – Women in Development

WIEGO – Women in Informal Employment: Globalizing and Organization

YEA – Youth Employment Agency

% - Percentage

^{o}C – Degree Celsius

CHAPTER 1: WOMEN IN SHEA

1.1.Introduction

Most rural women in Northern Ghana and the shea industry are mutually linked to each other's existence (Carette *et al*., 2009 and Collins *et al*., 2014). The implementation of effective policies with both short and long term positive impacts strengthens this link; which is currently characterized by exploitation, economic disparities, and oppression.

Women play a major but seldom recognized role in their contributions to the economy of Ghana. As of 2012, women produced 70 per cent of Ghana's subsistence crops, accounted for 52 per cent of the labour force and contributed 46 per cent of the total Gross Domestic Product (GDP) (The Ministry of Environment, Science, Technology and Innovation, 2012: Section 2 Policy Context 2-6). Women tend to be responsible for household supplies, collecting firewood or charcoal-making for cooking and are highly dependent on natural resources for their livelihoods. A Ghana Agriculture Sector Investment Programme (GASIP) report in 2014, indicated that while formal sector employment in Ghana is highly dominated by men, women far outnumber men in non-farm and private informal employment where earnings are relatively low. It estimated that average hourly earnings of women in the informal economy[1] in Ghana as at 2014, was 57 per cent of the earnings of men regardless of the type of employment, education, age, and in some instances their position or activity in a product's value chain (Republic of Ghana, 2014: 33-34). One of such product value chain situated in the informal sector in Ghana in which processing activities are dominated by rural women is the shea nut and butter value chain.

Shea, also called "nkuto", Karite, Galam butter, and other local names, depending on which part of West Africa it is found, is one of the few products where picking of shea fruits and/or nuts, and the extraction of butter from shea kernels are under the purview of women (Lipp and Anklam, 1998: 81; Lovett and Haq, 2000: 287; Casadei, 2002: 113; Kapseu and Ngongang, 2002: 81; Hatskevich *et al*., 2011: 223; Pouliot and Elias, 2013: 212; Simon *et al*., 2014: 373). The product has acquired the name "woman's gold" (McLymont, 2005; Fold, 2008: 110; Perakis, 2009; Grenée, 2011, and Pouliot, 2012) due to the supplementary money its sale generates for rural women involved. The shea industry has a prominent presence in, and

[1] The informal economy, formally called the informal sector was a phrase coined in Ghana in 1971 by a British anthropologist; Keith Hart; who studied the economic activities of low-income communities in Accra (Hart, 1973).

interaction with the environment, socio-political, economic, technology and governance (Pouliot and Elias, 2013; Wardell and Fold, 2013). The proceeds from processing shea nuts into shea butter can promote not only economic growth in terms of exports but also contribute towards poverty reduction, improving and sustaining the livelihoods of rural women involved in its activities in Northern Ghana (Hatskevich *et al*., 2011; Hatskevich *et al*., 2014).

Economically, shea nuts and butter are promising commodities that have been internationally recognized stemming from their economic value and beneficial properties. Shea nuts and shea butter are exported and used widely as a prized ingredient in the confectionery, cosmetics and pharmaceutical industries (Glew and Lovett, 2014: 74; Laube *et al*., 2017). The butter extracted from shea nuts contains two main components, namely stearin and olein. Stearin, a creamy fat, is used industrially as a cocoa butter equivalent (CBE) in chocolate production[2] or as a Cocoa Butter Replacement (CBR) in confectionaries and in edibles such as sweets (Hall *et al*., 1996, Lipp and Anklam, 1998: 74; Lovett, 2004; Elias *et al*., 2006: 52). Olein, on the other hand, is used by cosmetic manufacturers in the production of body and hair formulations (Pouliot, 2012: 238).

Socially, activities in the shea industry confer on women a level of respect and power that they do not possess in other economic sectors. Furthermore, through meticulous observation and participation in shea nut and butter processing activities, indigenous knowledge imbued during the process is transmitted inter-generationally from one woman to another. The traditional extraction method for extracting shea butter from the shea nut is a valuable technical knowledge and excelling in this practice is a source of pride to many rural women shea nut processors and shea butter extractors (Masters, 2002: 23; Elias and Saussey, 2013). Processing of shea nuts and/or kernels into butter has been recognized by many researchers (Greig, 2006: 466; Pouliot and Elias, 2013: 212; Wardell and Fold, 2013: 373; Collins *et al*., 2014: 16; Simon *et al*., 2014) as an avenue for households to increase their income to attain financial freedom, acquire skills, and improve the quality of their livelihoods. The consumption and commercialization of shea butter also contribute to food security; it provides a supplementary source of income in between the harvesting of other crops for many poor households (Pouliot, 2012: 238; Hatskevich *et al*., 2014). Thus, shea fruit and/or nut picking and shea butter extraction are viewed as attractive and lucrative activities to women, who are marginalized in

[2] Up to 5% content by weight of CBEs is allowed under European Union (EU) regulations in chocolate manufacturing (Lovett, 2004).

terms of ownership and access to farmlands, especially in Ghana's Northern Regions (Chalfin, 2004a: 7; Wardell and Fold, 2013: 373).

Environmentally, shea nut is a major non-timber forest product (NTFP) in Ghana and contributes to the sustainability and conservation of the environment (Jasaw *et al*., 2015: 3593). Shea trees provide carbon sinks and storage[3]; improve soil fertility, promote better yields in agroforestry systems, and the roots of the tree provide protection against the forces of erosion (Lovett, 2013). The tree improves soil fertility when returned to the soil as compost leading to better yields. Research promoting the roles of rural women (Greig, 2006; Al-hassan, 2012) and sustainable development (Chalfin, 2004b; Lovett, 2010; Collins *et al*., 2014; Tsikata and Darkwah, 2014; Ganle *et al*., 2015) has supported the growing global demand for shea nut and butter and measures to ensure that this natural resource is sustained for future generations.

Activities in this industry are the main source of sustenance and income for thousands of rural women in the three Northern Regions of Ghana and for many of these women, it is their primary and only source of income (*News Ghana*, 2012; Ziem, 2012). While research has been conducted on various aspects of the shea industry in Ghana, there is a paucity of research focusing on the sustainability of the shea industry among rural women in Northern Ghana. There is also limited research on the shea industry as a complex system using a systems approach entailing causal loop (or influence) diagrams (CLDs). The rationale for developing causal loop diagrams was to map the dynamics in the shea industry in order to determine the relationships between the elements or parts that constitute the industry.

This chapter so far has provided a brief account of the contributions of women, specifically rural women, to the agriculture sector. The shea industry has been introduced and a link established between its significance and the livelihoods of rural women in Northern Ghana. Building on this, this chapter briefly presents the shea industry as a complex and dynamic industry as well as the rationale for utilizing the systems approach. This chapter also presents the research questions, objectives, goals, and motivation of the study. The definition of some key terms and the chapter layout conclude this chapter.

[3] Carbon is stored in the soil and decreases the build-up of greenhouse gas emissions in the atmosphere. However, when the land is degraded, it releases this stored-up carbon contributing to the effects of global warming (Ministry of Environment, Science, Technology and Innovation, 2012: 3).

1.1.1. The Shea Industry as a Dynamic Complex Industry

Systems in the world are characterized as having inherent complexities or social messes (Nowotny, 2002; Batie, 2008: 1176). The shea industry is made up of a collection of elements of the environment, socio-political, economic, technology, and governance which are interconnected, interdependent and act in a dynamic way to function as a whole or a unit. This industry is subject to evolution, reflecting changes in society due to internal and external pressure. For relevance, research needs to report on, explore these complexities, and provide recommendations for policies and strategic interventions with minimal undesirable or pervasive outcomes. The characteristics of complex systems are diverse and, are presented by Cilliers (2004: 24-5) as;

i. open systems interacting with their environment;
ii. functioning under circumstances which are not at equilibrium;
iii. consisting of many components or a large number of elements;
iv. The components of the system are interconnected and interdependent;
v. display behaviour that results from the interaction between components and not from characteristics inherent in the components themselves. These interactions are dynamic, changing over time. Not only do they evolve through time, but their past has a bearing on their present behaviour;
vi. The state or behaviour of the system is determined by the values of the input and output. The output of components is a function of their inputs. This means that the resulting outcome of a component or part of the system is dependent on its input (initial information);
vii. Some of these interactions provide feedback. This feedback can be positive (stimulating or enhancing) and negative (distracting or inhibiting);
viii. More than one description of a complex system is possible. This means that in describing the system using causal loop diagrams, there is no one specific diagram that captures the complexity of the part of the system under study. The understanding conveyed by any description of a complex system is always in relation to the standpoint from which the description was made. This does not imply that one description is as good as any other. It is merely the result of the fact that only a limited number of characteristics of the system can be taken into account by any specific description.

Corrado (2019: 1-2) stated that “to understand the behaviour of a complex system, it is important to understand not only the behaviour of the constituent parts but how they act

together to form the behaviour of the whole". Effectively conceptualizing and communicating this behaviour in a clear way is both essential and fruitful in pointing the way towards progress in understanding the properties of complex systems. Thus, the need for causal loop diagrams as a tool for presenting the behaviour of the shea industry.

The various actors involved in the shea industry – ranging from shea growing communities, shea nut pickers, shea processors, butter extractors and private interest groups – interact and are interconnected by their reliance on each other for the flow of goods (shea nuts and shea butter) and services (transportation and marketing) (Hatskevich *et al*., 2014: 3186). Traditionally, people of the Northern parts of Ghana regarded shea trees as a woman's crop and the shea trade a woman's business (Kubo, 2017). It is estimated that the industry supports, directly and indirectly, the livelihoods of over 2 million people in Ghana. About 1 million women are active in the shea industry either through shea nut processing and/or shea butter extraction (Al-hassan 2015). Shea nuts and butter have become a multimillion-dollar business contributing to foreign exchange revenues and significantly to economies (Chalfin, 2004b). According to an executive brief by the World Food Programme in 2010, the gathering and processing of shea nuts and butter is an important source of income accounting for a third (33 per cent) of the household income of rural women in Northern Ghana (World Food Program, 2010: 24-5).

This transformation of the shea industry into a multimillion-dollar business has been attributed to the privatization of public enterprises, trade liberalization to increase exportable goods and the introduction of institutional reforms to reduce and relax state control in industries (Baah-Boateng, 2004: 4). Through the liberalization of shea nut and butter marketing chains and the activities of middlemen, the weights and the equivalent value of shea nuts and butter exports have witnessed incremental increases since 2005 from 648,089 kilograms valued at USD 940,514 to 83,182,243 kilograms valued at USD 64,034,036 in 2015 (GEPA, 2017). The aim of the implementation of the shea export policy in the late 1980s and early 1990s by the Government of Ghana has been considered successful by some research (Moore, 2008; Kubo, 2017, Laube *et al*., 2017), as far as increases in the global visibility of shea nut and butter, increases in commercialization as well as in the intensification of trading activities. However, there is a dearth of research on the impact of this at the micro-level and specifically among rural women shea actors. This study seeks to bridge this gap in knowledge.

1.2. Problem Statement

In the late 1980s and early 1990s, following the global economic crisis, the Ghanaian government introduced the shea export policy within the framework of structural adjustment programs (Kubo, 2017). The shea industry transformed under these reforms from state control to an oligopolistic market (Chalfin, 1996; Moore, 2008). This transformation brought about the removal of price regulations and buying restrictions in the marketing of shea nuts and butter in 1991 and this attracted private enterprises and international companies (Nash, 2005; Scholz, 2009; Glew and Lovett, 2014). Additionally, the integration of shea nuts and butter into global commodity chains and the inclusion of these private entities led to increases in commercialization, product visibility and subsequent global demand for shea nut and butter (Moore, 2008).

According to Chalfin, the aim of this transformation in the shea industry was to improve the livelihoods of the indigenous shea traders in the new economic processes and changing market conditions (Chalfin, 1996). It was also to stimulate rural development, enhance employment and economic opportunities especially for rural women who were involved in the shea nut and butter industry (Chalfin, 2004b). In spite of the benefits of the shea export policy nationally (Fold, 2008; Wardell and Fold, 2013), there is a remarkable gap in information on its impact at the micro level especially among rural women in Northern Region with its inherent cultural gender bias and patriarchal systems (Al-hassan, 2012; Awo, 2018). In response to this gap in knowledge, this study investigates the sustainability of the shea industry among rural women in Northern Ghana by utilising a mixed methodology and methods; including literature review, case study, participatory approaches – mainly interviews and focus groups – and causal loop diagrams.

1.3. Objectives of the Study

1.3.1. General Objective

To investigate the sustainability of the shea industry among rural women in Northern Ghana.

1.3.2. Specific Objectives

i. To determine the challenges facing rural women shea actors in the shea industry in Ghana.
ii. To identify policies and interventions by the government in Ghana's shea industry.

iii. To develop a causal loop diagram to explore the sustainability of the shea industry among rural women as a result of the implementation of the shea export policy.

1.4. Motivation for the study

This study investigating the sustainability of the shea industry is relevant and apt for several reasons. Most literature on the shea sector in Ghana do not tackle complex and ingrained issues affecting rural women shea actors holistically. Additionally, there are limited studies on the sustainability of the shea industry among rural women in Ghana. Strategies and policies recommended or formulated in previous studies on the shea industry are usually short-term interventions which are often misdirected and piece-meal. The findings of this study provide a resource for policymakers to guide the formulation and implementation of policies and interventions to revamp the industry and contribute to its sustainability in order to enhance the livelihoods of rural women in Northern Ghana. Similarly, these findings reveal the gaps where policies are needed to determine future development and research directions.

A lot of activities take place in the informal sector of the economy; however, information on this sector and its activities are seldom collected or recorded. The number of studies that use causal loop diagrams as a tool for assessing the shea industry is limited. This study focused on developing causal loop diagrams (CLDs) to conceptualize the structure of the industry and the complexities within due to the shea export policy in order to understand the behaviour of the industry. This study examines the interrelations and interconnectedness of the elements in the shea industry and the full range of feedbacks in operation. This study also forms part of a corrective to the continuous focus on and priority given to traditional export commodities over non-traditional export commodities such as shea.

The shea industry is a burgeoning research field (Lovett and Haq, 2000; Kavaarpuo, 2010; Lovett, 2010; Collins *et al*., 2014), but there is a dearth of literature especially focusing on the empowerment of women, and the equitable distribution of income from shea nut and butter. A major issue identified by Ghana's medium-term national development policy framework in 2014 was the limited accessibility of pertinent data on gender issues in all sectors of society (National Development Planning Commission, 2014: 154). This study aims to narrow the gap in the body of literature on the shea industry and uncover the valuable contributions of rural women shea actors to the industry. It also aims to increase the level of social consciousness about the issues of rural women shea nut and butter producers in the shea industry.

The rhetoric of empowerment, especially for rural women and women in general, has mainly consisted of platitudes. This study contributed to changing the narrative and outlook of research respondents as objects for and of research. It sought to encourage and promote the acknowledgement of rural women, who are vested with the rich generational and indigenous knowledge of the shea industry, as knowledge producers. This study advocated for policies and interventions that fulfil regional rural agendas that aim to produce change on social differentiation and marginalization in Ghana's underdeveloped North. Research methodologies that include rural women as knowledge co-producers in the research process to ensure that empowerment becomes a process that emerges from them and not a pseudo-process that is done to or for them in isolation motivated this study.

1.5. Research Strategy and Scope of the study

The research strategy is presented in Figure 1.1. This flow diagram presents the chapters and the stages undertaken in this study in investigating the sustainability of the shea industry among rural women in Northern Ghana. It includes the critical review and analysis of empirical research centred on the shea industry, rural women primary producers, sustainable development, and the development of causal loop diagrams. This facilitates a holistic understanding of the shea industry, its contribution to the economy, to the livelihoods of rural women, and conversely, the contribution of rural women to the industry. The feminist standpoint theory and the sustainable livelihoods framework are adopted as the theories underpinning this study. The rationale for utilizing the feminist standpoint theory is to empower rural women in the shea industry who have been silenced and ignored the opportunity to recount their stories and experiences in order to contribute to social change. The SLF which has been identified as a dynamic framework by Ashley and Carney (1999), assists in assessing the dynamic livelihoods and institutions that shaped the lives of rural women. These two frameworks undergirding this study are adopted to evaluate the livelihoods of rural women shea actors with regards to the implementation of the shea export policy. This study utilizes a mixed methodology and methods including literature review; case study; participatory approaches which include rural women in the research process as knowledge co-producers. The data generated through the use of this methodology and methods are used to answer the research objectives of this study.

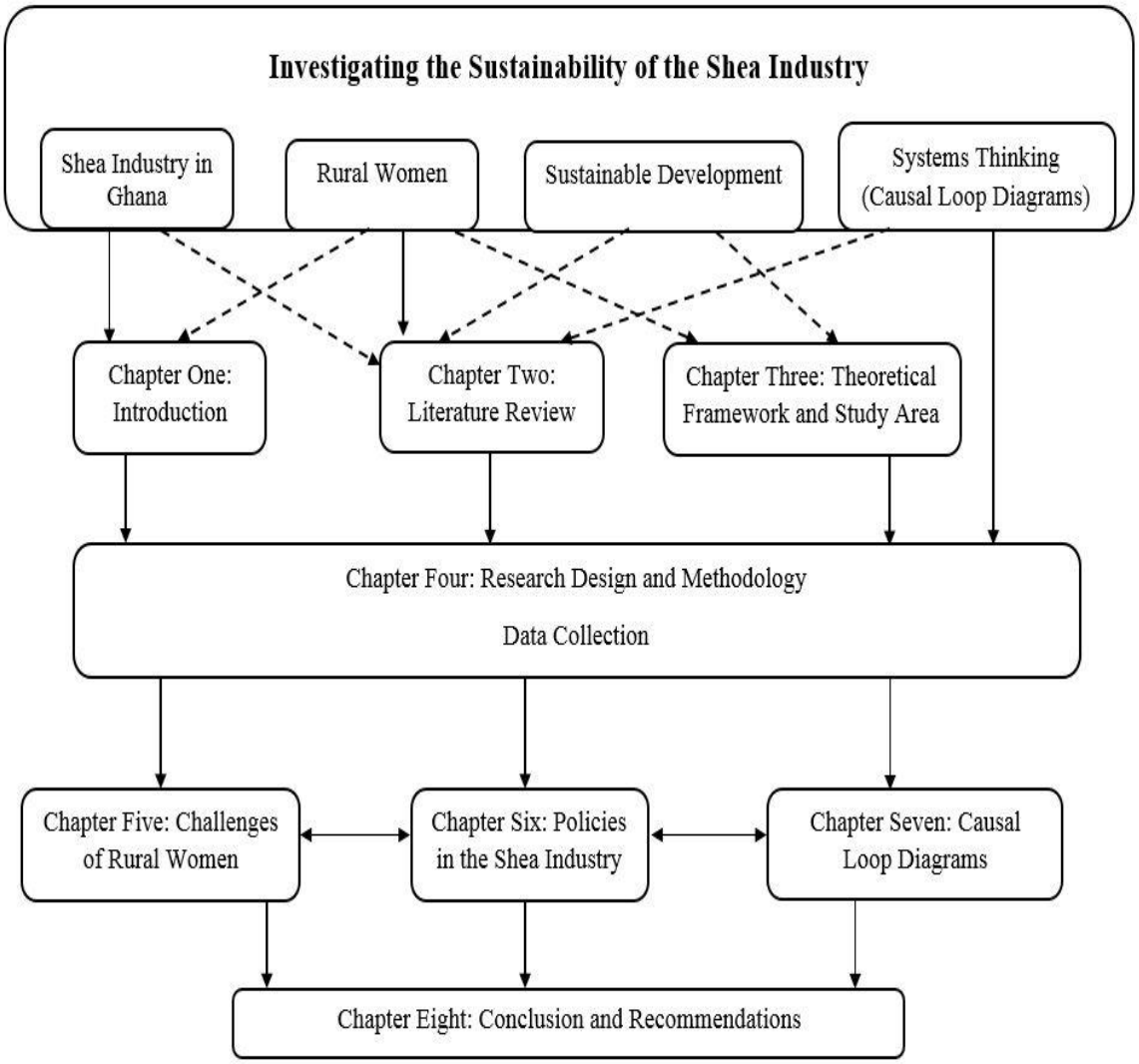


Figure 1.1: Analytical framework and structure of the study.

1.6. Definition of Key Terms

i. **Sustainable Development:** the Brundtland report by the World Commission on Environment and Development (WCED) defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Van Ettinger *et al.*, 1991: 110; World Commission on Environment and Development, 1987: 43).

ii. **Rural Women:** According to the United Nations, rural women are active agents of change economically, socially and environmentally. They are restricted in their different activities in the various sectors of the economy (United Nations, 2012).

iii. **Causal loop diagrams (CLDs):** Causal loop diagrams; also known as influence diagrams; according to Sterman (2000: 137-8) are an important tool for representing the feedback structure of systems. These diagrams consist of variables connected by arrows denoting the causal influences among the variables in the system.

iv. **System**: A system has been stated by Maani and Cavana (2007: 7) as the "collection of parts that interact with one another to function as a whole"

v. **Complexity:** Wade and Heydari (2014: 2-3) presents the categories that define complexity.

- Behaviourally, "the system is viewed as a black-box and the measures of complexity are given based on the outputs of the system*"* (Wade and Heydari, 2014: 2-3)
- Structurally, a large number of components or elements constitute a complex system, therefore complexity centres on the interconnectedness and interactions between these elements.

1.7. Chapter Layout

This study is organized into eight chapters as already shown in the analytical framework in Figure 1.1. Chapter 1 gave the background to the research problem and addressed the problem statement to provide greater insight into the dynamics of the shea industry among rural women in Northern Ghana. This chapter also outlined the research objectives and goals, motivation, research strategy, and the chapter layout. Chapter 2 presents the literature review, which is a discussion drawn from empirical research on the shea industry in Ghana and on other African countries where shea is found. This is a discussion that holistically covers areas such as the historical perspectives on the shea industry, the shea value chain, marketing linkages, and the dynamics of middlemen among others. Chapter 3 presents and discusses the feminist standpoint theory and the sustainable livelihoods framework (SLF) as the guiding theoretical frameworks. The study area for this study is also discussed in Chapter 3. Chapter 4 discusses the data-collection process with the various shea actors in the shea industry in Ghana. It explains the research design, fieldwork, data-gathering tools used during fieldwork and ethical considerations among other things. Chapter 5 is the first results and discussion chapter which answers with data generated through both qualitative and quantitative methods. This chapter identifies and discusses the challenges of rural women primary shea nut and butter producers as well as the cost structure of shea nut and butter income distribution. The second objective of the study is answered with data from the content analysis of secondary data and the results

are discussed in Chapter 6. This presents an analysis of policies and interventions for the shea industry contained within the yearly budget statement and economic policies of Ghana from 2002 to 2015. Chapter 7 which was the last results and discussion chapter, presented the causal loop diagram. As a result of developing the CLDs, leverage points where small levels of interventions caused large changes in the behaviour of the shea industry are identified and strategic interventions are proposed. Data from the review of literature and case study are incorporated into the VENSIM software package to develop the causal loop diagram. This study concludes with Chapter 8, which summarizes the research findings, conclusions, recommendations and areas for further research for the study.

CHAPTER 2: LITERATURE REVIEW

2.1.Introduction

To study a complex system, it is necessary to understand the systems' complete environment. This chapter is a build-up of Chapter 1. It synthesizes preliminary research on the shea industry within and outside Ghana. This chapter begins by discussing the historical perspectives on the shea industry in Ghana and analyzes the pre-colonial, the colonial and the present state of the industry. The socio-economic realities of rural women in their social setting in the Northern Region of Ghana is discussed. It critically assesses the industry before and after the implementation of the shea export policy. Empirical research is analyzed to determine how the shea industry aligned with the environment, socio-political, economic, technology and governance dimensions. This is then juxtaposed with the impact of the shea export policy on the livelihoods of rural women primary producers. The characteristics of the industry as a home-based work in the informal economy is also discussed. The study of the shea value chain is undertaken to attain a holistic understanding of the shea kernel and butter commodity marketing chains and the various actors involved. The chapter also discusses the underlying aspects of the shea industry and the characteristics of the actors found at the various levels of the value chain. Analyzing the interconnectedness and the interrelation between the elements in the industry assists in understanding the impact of the implementation of the shea export policy on the sustainability of the shea industry.

2.2. The Shea

Shea (*Vitellaria paradoxa* C. F. Gaertn f.)[4] has been described in research projects (Masters, 2002: 15; Chalfin, 2004a: 9; Lovett, 2005: 273; Pouliot and Treue, 2013: 182; Wardell and Fold, 2013: 368) as an all-purpose, wild (and in some cases semi-domesticated), and spontaneously occurring species strongly associated with human settlements. It is the second most important oil crop after the oil palm tree in West Africa (Hatskevich, *et al*., 2011). Occurring naturally, it can be found in 21 countries in West, East and Central Africa (Hatskevich *et al*., 2011: 223 and Naughton *et al*., 2015: 217). These countries form the shea

[4] Historically, the shea tree has been known by a number of botanical names. It has been known as *Vitellaria paradoxa* by Van Gaertner in 1807, then *Bassia parkii* by George Don in 1838, *Butyrospermum parkii* by Theodore Kotschy in 1865; *Butryospermum paradoxum* by Hepper in 1962, and finally *Vitellaria paradoxa* of the family Sapotaceae in 1966 by van Gaertner (Kapseu and Ngongang, 2002: 82).

belt of Africa stretching from the west of the continent to the east as shown in **Error! eference source not found.** (Elias and Carney, 2007: 38).

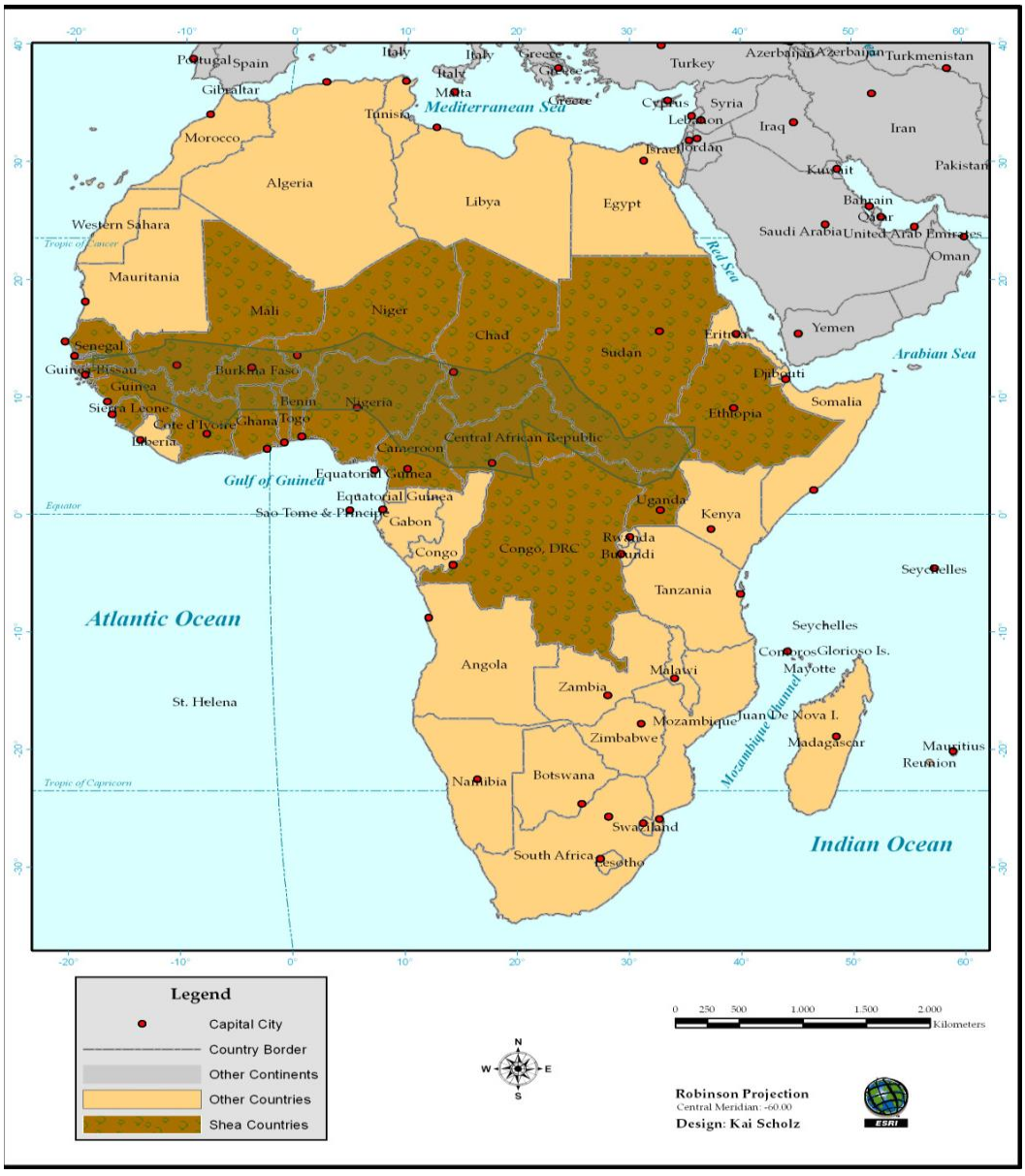


Figure 2.1: The shea belt (Source: Elias and Carney (2007: 31); Scholz (2009: 25))

The shea tree was first acknowledged in the 1950's as an important tree resource; economically and nutritionally (Goreja, 2004: 1; Masters, 2002: 13). The ripening of the shea fruit occurs within the lean season when food supplies are at their lowest in households (Bromley, 2011: 27). The fleshy, edible, and sweet pulp contains 0.7-1.3g of proteins, 41.2g of carbohydrates and is a particularly rich source of vitamin B and ascorbic acid (196.1mg/100g in shea fruit compared with 50mg/100g in oranges) (Fobil, 2002). The iron and calcium content of shea fruit compares favourably with that of raspberries (1.93mg/100g in shea fruit as against

0.92mg/100g in raspberries for iron, and 36.4mg/100g in shea fruit as against 26mg/100g in raspberries for calcium) (Fobil, 2002). At the core of this fruit shown in Figure 2.2, is the shea nut containing the shea kernel from which shea butter, a fatty extract rich in edible oils and fats, is derived. Each sturdy, oak-like tree is capable of providing up to 45 pounds (20.4 kilograms) of butter per shea season.[5]

Shea Trees Shea Leaves Shea Fruits

Figure 2.2: Shea trees (Source: SNG, 2017)

In Ghana, the shea tree, a non-traditional[6] export crop, grows extensively in the Northern Savannah of the agro-ecological zone and covers a landmass of about 77, 670 square kilometres in the Northern, Upper East, and Upper West Regions (MoFA, 2015: 7). In these regions the tree can be found in abundance in Western Dagomba, Southern Mamprusi, Western Gonja, Lawra, Tumu, Wa and Nanumba with Eastern Gonjo having the densest stands. It is also sparsely found in the Sudan savannah, specifically in the Brong Ahafo, Ashanti, Eastern and Volta regions in the southern parts of the country. Interestingly, the shea tree in Ghana is mainly located in extreme poverty-stricken areas and its significance lies in the fact that the transformation of shea (from fruit and/or nuts to kernels, and from kernels to butter) is

[5] This "unusual tree", according to Goreja (2004: 3), grows between 10 to 15 meters high and starts flowering in its 20th year. The tree reaches maximum productivity at the age of 50 years and remains fully productive for more than a century. In Northern Ghana, the annual shea nut picking activities commence in April and ends in August (Fobil, 2002).

[6] Since the independence of Ghana in 1957, the government has actively been promoting non-traditional agricultural exports (NTAEs) in an attempt to reduce the country's historical dependence on cocoa (Ampadu-Agyei, 1995: 2).

exclusively undertaken by women (Lamien *et al*., 1996; Lovett and Haq, 2000: 273, Lovett, 2005: 273; Bromley, 2011: 21 and Hatskevich *et al*., 2014: 3186).

Even though almost all parts of the tree have economic values, it is well known for its shea butter which is extracted from the kernels by rural women in Northern Ghana through a series of laborious processing stages. According to the Food and Agriculture Organization statistics from 2009 to 2014, among the West Africa Trade Hub (WATH) major exporters of shea nuts, Ghana was the world's second-biggest shea producer after Burkina Faso. This statistics is presented in Table 2.1.

Table 2.1: Major shea-exporting countries in West Africa

	Year and Value (metric tons)						
Country	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**Average**
Burkina Faso	47210	65000	53847	47000	45000	47350	50901.17
Ghana	69913	71400	32655	33310	33630	34300	45868
Ivory Coast	29820	32631	33216	34000	34000	33680	32891.17
Nigeria	33277	32561	32600	33000	32500	32427	32727.5
Mali	23214	19970	20800	21000	19500	20575	20843.17
Benin	14971	12800	13000	14000	15000	14650	14070.17
Togo	10900	11250	11200	12000	12800	12480	11771.67

Source: FAOSTAT, 2014

2.3. Historical Perspective on Shea

The historical perspectives on shea and its development has been linked to the North/South divide and particularly to its introduction into global markets as a more profitable and viable market alternative to local or domestic markets (Wardell and Fold, 2013: 381). As discussed, shea butter is attaining the status of a valued commodity in Western countries and is gradually becoming a priced ingredient in cosmetic formulations (Elias and Carney, 2007: 37). Strategically found in African countries which are part of the South, it has the potential to contribute to narrowing the poverty gap as well as the North/South divide.

2.3.1. The North/South Divide

In the 1980s, the global South sank into a developmental crisis which rendered Sub-Saharan Africa (SSA) debt-ridden and commodity-dependent. According to Harris (2000: 1), this crisis was attributed to the minimal provision of funding allocated for economic and social advancement by the imperial and colonial powers that controlled the world in the nineteenth and early twentieth centuries. Countries in Sub-Saharan Africa emerged worse than their counterpart East Asian countries, China and India. Stokke (1991: 24) noted that the unequal allocation of benefits and the sharply opposing conditions of life between the North and South constituted disparities at the global level.

In Ghana, there are variations and imbalances in the distribution of development among the ten[7] regions. The North/South divide in Ghana varies greatly in terms of geography, the pre-colonial relationships between kingdoms and tribes, colonization that took place in the 17th century and politics after independence in 1957 (Fobil, 2002). The pre-colonial relationships between the North and South (Ashanti kingdom and Northern ethnic groups) established a hierarchy of dominance which still has lingering traces to this day (Shepherd *et al*., 2006: 1). Wardell and Fold's (2013) study posited that the British colonial Labour Reserve Policy of 1907 was one of the strong catalysts of the North/South divide in Ghana. By promoting the three Northern regions (Northern, Upper East, and Upper West) as a labour reserve for the mines and plantations in Southern Ghana, this policy of exploitation extracted able-bodied men from Northern Ghana to work in other parts of the country. Geographically, the majority of the valuable natural resources such as gold and diamonds were concentrated in the mid-South, hence most infrastructural development was concentrated in the Southern regions (Moore, 2008: 210). This resulted in the severe underdevelopment of the originally less endowed and geographically harsh Northern regions as well as rendering households short of labour for agricultural production (Zaami, 2010: 9).

Consequently, the three Northern Regions[8] developed the status of the poorest among all the regions in Ghana. Doss (1999: 4), in discussing the lessons and implications of research on

[7] At the time of this study, Ghana was made up of ten (10) regions namely, Northern, Upper West, Upper East, Volta, Central, Western, Eastern, Ashanti, Brong Ahafo and Greater Accra. The country is currently made up of 16 administrative regions. The 6 new regions added are Oti, Western North, North East, Ahafo, Savannah and Bono East regions.

[8] According to the 2010 Housing and Population Census carried out by the Ghana Statistical Service (GSS), the poverty head count (the number of people living below the poverty line) in Ghana was highest for Northern Ghana (Upper West (69.4 per cent), followed by Upper East (45.9 per cent) and thirdly by Northern region with (44.2 per cent)) (Ghana Statistical Service, 2015: 7).

women farmers in agriculture, pointed out the many changes in the gendered[9] division of tasks. These changes as a result of the increases in the outmigration of men from agricultural communities witness women taking over the tasks of these men. As men leave agricultural communities in search of higher earnings elsewhere, women become de facto heads of households and automatically take over many of the traditional male tasks. This contributed to the solidification of the domestic roles of rural women in Northern Ghana which is a highly patriarchal society. According to Tamale (2014), patriarchy draws an artificial line separating the domestic (private) arena from the public arena. The public arena represents men and is the locus of socially valued activities such as politics and business, while the private sphere is representative of domestic activities centred on the family. Women are confined to the domestic arena, a space where men rule as heads of the family as well as spend most of their time in the public realm.

2.3.2. Patriarchal Values in Northern Ghana and its Effect on the Agency of Rural Women

In Deniz Kandiyoto's work, "Bargaining with Patriarchy" (1988), he noted that the term 'patriarchy' evokes an overly monolith conception of male dominance which is treated at a level of generalization that obscure rather than reveal the distinct cultural and historical arrangements between genders (Kandiyoto, 1988: 274-5). Similarly, Akoto noted that while patriarchy defines women in terms of domesticity, it simultaneously draws an artificial line to separate the domestic (private) arena from the public arena (Akoto, 2013). According to Tamale (2014), in Africa, the process of separating the public sphere from the private spheres preceded colonization but was precipitated, consolidated and reinforced by colonial policies and practices. Colonial structures and policies focused on delineating a clear distinction guided by an ideology that perceived men as public actors and women as private performers. Akoto (2013) corroborates Tamale's position when he argues that the public sphere represents men and is the locus of socially valued activities such as politics and business, while the private sphere, designated to women, entails domestic activities. A major deduction can be drawn from the bifurcation of society into public and private. Society is configured in such a way that social relations are informed by the gendered stratification. In most cases, this social binary, put in

[9] Jolly and Reeves (2005: 6) define gender as connoting "the differences and commonalities between women and men which are set by convention and other social, economic, political and cultural forces".

place by a patriarchal system, is oppressive to those (women) across the social line (private sphere).

The patriarchal systems in Northern Ghana perpetuate forms and levels of economic inequality that impede equal participation in socio-economic activities. These institutions accommodate social arrangements that institutionalize deprivation, exploitation, and asymmetrical distribution of wealth, income, among other benefits. The oppressive patriarchal system in Northern Ghana is driven by the institutionalized patterns of cultural values that do not express equal respect for all participants or the equal opportunity for promoting social equity. These value patterns systematically undermine certain groups of people and their qualities associated by burdening them with excessive ascribed "difference" or fail to recognise their distinctiveness.

Research has provided evidence on the limited protection of rights afforded to women under customary law[10] in Ghana. In fact, it is noted that customary law is formulated in such a way that it reinforces an oppressive gendered binary against women (Kuenyehia, 2006: 390). For instance, the case of marriage, in countries such as Ghana where there are different ways to be legally married (customary law, under the Marriage Ordinance and, under the Marriage of Mohammedans Ordinance), a substantial asymmetry exists between the rights of intending couples (Kuenyehia, 2006: 390; Davies and Dagbanja, 2009 and Bowan, 2013: 53). In other words, the type of marriage that a couple contracts determines the rights. According to Davies and Dagbanja (2009: 303), the source of the legal validity of customary law is the cultural expression of the particular society where it is practised. As a body of laws rooted in tradition and historical experiences in Northern Ghana, customary law is fraught with inherent problems that render its application disadvantageous to women, especially in the area of marriage and succession (Kuenyehia, 2006). The mandates of customary law give men precedence over women. Such gender inequality relegates women to subordinate and subservient positions, which in turn affects their agency and access to resources that could be used to their advantage. This subordination, imposed by traditional customary conceptions of marital rights, goes as far as undermining women acquisition of family wealth, regardless of the position of statutory law. Consequently, patrilineage appropriates both women's labour and renders their work and contributions to production invisible (Kuenyehia, 2006). Furthermore, labour-market

[10] Customary law may be defined as a body of rules and norms whose legitimacy is rooted in tradition and is claimed to have existed since time immemorial (Kuenyehia, 2006: 390). It was codified under colonialism leading to a more static understanding of culture and compromises with male traditional leaders.

segmentation created and bolstered by patriarchy results in the limited and often restricted options for work and the acceptance of low wages. It is plausible to argue that injustice is an outcome of the subordination, economic exploitation, social imbalance that women are victims of.

In addressing gender justice, Nancy Fraser presented gender as a two-sided category which encompasses "both an-economic dimension and a cultural dimension" (Fraser, 2007: 25). Thus to understand and redress gender injustice and to ensure equality in participation requires both distribution and recognition (Fraser, 1998: 1). It contains both a political-economic face that brings it within the scope of redistribution and also a cultural-discursive face that brings it simultaneously within the scope of recognition (Fraser 2007: 26). Each lens brings into focus an important aspect of women's subordination. A full understanding becomes available only when the two lenses are superimposed.

2.3.2.1. The Theory of Gender Justice

Fraser (2007: 27) conceptualises justice as centring on the "principle of parity of participation". She proposes participation equality or "parity of participation" as the essential point of departure for theorising justice (Fraser 1998: 5). According to this principle, justice requires social arrangements that permit all (adult) members of society to interact with one another "as peers" (Fraser 1998: 5). Put differently, in formulating a theory of gender justice, Fraser sought to identify a necessary condition for the possibility of social cohesion. She does this by identifying a normative foundation which she terms "parity of participation". It is believed that parity of participation provides a framework for eliminating social binaries that may otherwise negatively prejudice the desired outcome of social participation. An overview of two main categories of Fraser's theory of gender justice will further illustrate position.

The first category addresses concerns traditionally associated with the theory of distribution. From the distributive perspective, gender is a basic organizing principle of the economic structure of society. All things being equal, distribution of material resources must be such as to ensure participants' independence and "voice" (Fraser, 1995: 79). On the one hand, it structures the fundamental division between paid "productive" labour and unpaid "reproductive" and domestic labour, assigning women primary responsibility for the latter. On the other hand, gender also structures the division within paid labour between higher-paid, male-dominated, manufacturing and professional occupations and lower-paid, female-

dominated and domestic service occupations. The result is an economic structure that generates gender-specific forms of distributive injustice (Fraser, 1998: 2).

The second category brings into focus concerns of recognition, especially concerns pertaining to the order of society and to culturally defined hierarchies of status. According to Fraser (2007: 25), a major feature of gender injustice is the authoritative construction of norms that privilege traits associated with masculinity and the pervasive devaluation and disparagement of things coded as "feminine". When these norms are institutionalized, women, especially rural women in this study, suffer gender-specific status injustices such as exclusion or marginalization in public spheres. According to Apusigah (2009: 54-5), in Northern Ghana, land is treated as a divine entity that must be worshipped, and this divine character contributes to sustaining traditional authorities that are controlled largely by male traditional authorities. The largely male custodians of land conduct transfers and expect the men in the lives of women to act on their behalf. This situation has often been found to impede women's access to land.

Whether women are able to exercise their cultural rights depends on how their interests in land are perceived and how their labour is culturally prescribed. In the transitional zones along the fringes of the Northern Region where sharecropping practices are emerging and in urban centres where land is being increasingly commercialized. Lands are traded for personal monetary gains without due deference to women's (subsidiary) interests.

Apusigah (2009: 56) has documented the problematic nature of the cultural appropriation of women's labour in relation to land as "farm hands"[11] and "non-farm hands"[12]. It is noted that under before instances, the activities of women are shaped by the cultural perceptions of their social location, gender roles and land interests. The characterization of the labour of women is problematic and minimises the diverse and important roles that women play beyond cultivation. Above all, whether as farm hands or non-farm hands, women's contributions are culturally defined as supplementing and at best, complementing men's roles. This gendered contrivance is partly maintained through the dichotomization of productive and reproductive roles, and the association of women with the latter. This results in the conflation of all women's activities

[11] Women are considered farm hands, they serve as primary producers who play both specialised and general roles in on-farm cultivation processes..

[12] Women are considered non-farm hands, their roles are perceived largely as non-productive and at best as reproductive. Under this regime, women are not obliged to carry out on-farm cultivation responsibilities

with reproductive or at best secondary activities, even when many activities clearly concern production directly. This situation explains the normalizations of gender inequalities and marginalisation of women of northern Ghana (Apusigah, 2009: 60).

Considering Fraser's participatory equality as an essential starting point challenges the oppressive structures that legitimise systemic gendered oppression in society. The dominant critique of patriarchy is that in silencing and marginalizing women it imposes generally a male-dominated social reality. Fraser's critique speaks to the crux of this study as it sheds light on how to address the problems of economic, social and political oppression of women in Northern Ghana.

2.4.Shea Industry before Structural Adjustment Programmes (SAPs)

In the 1920s shea trade was described as uneconomical because of the prices offered for shea products (Kubo, 2017). Wardell and Fold (2013: 381) contend that the British colonial officials had little if any understanding of either the importance of shea or the dominant role of women in its production and marketing. According to Chalfin (2004), even though the colonial administration recognized that shea could be important if the barriers to its development were resolved, it only encouraged local production and not the export of shea products.

After the Second World War, the colonial state's interest in oil crops focused on groundnuts, resulting in the neglect of shea in Northern Ghana and its trading activities. As emphasized by Wardell and Fold (2013), women shea producers at that time "lived in a world that did not count*"* and it can arguably be said that this situation has not changed much and women have consistently remained in the shadow of cocoa and other high export earning crops in Ghana. The cocoa industry had traditionally been the major source of foreign exchange earnings for Ghana during the 20th Century together with gold and forestry products (Moore, 2018). The rapidly increasing demand for chocolate in an industrializing Europe stimulated the cultivation of cocoa to the extent that it eventually took over as the country's major agricultural export commodity, a position it has retained to date (Fold, 2008: 103). Starting in the former oil palm growing areas, the cocoa frontier expanded substantially and spread westwards into deciduous forest areas.

Historically and culturally, the picking of shea nuts, processing of shea nuts into kernels, and the extraction of shea butter from shea kernels have been predominant in the three northern regions of the country where the shea tree resource is most abundant (Laube *et al*, 2017). Historical accounts by Wardell and Fold (2013) of shea trade in Ghana indicate that shea butter

was an important commodity of local and regional trade as far back as the mid-nineteenth century. It was an important exchange commodity between the Sahelian kingdoms in the north (Northern ethnic groups) and the Ashanti kingdoms of the south. Furthermore, periodic market days served as hubs of trade in places such as Tamale, Bawku and Yendi (all in Northern Ghana), where rural women traded their nuts and butter (Chalfin, 2004; Elias and Carney, 2007). The period after political independence in 1957 was another important historical era in shea production and trade in Ghana. Wardell and Fold (2013) noted the shifting demand for shea kernels in the global market after the Second World War. Following the persistent decline of the cocoa industry in Ghana during the early 1970s, the government of Ghana focused on the promotion of shea as one of the non-traditional crops to diversify the country's foreign exchange earnings.

The discovery and use of the vegetable fat in shea nuts as a cocoa butter equivalents (CBE) and a cocoa butter replacement (CBRs) coincided with this period (Moore, 2008: 210). This vegetable fat was a cheap substitute for cocoa butter which is still being used by many manufacturers of chocolate in the EU, particularly by companies traditionally serving markets in the UK and Northern European countries. Prior to this, the use of CBEs was fairly limited as many South and Central European countries did not allow its use in chocolate which contributed to the chocolate wars in the 1970s (Chalfin, 1996). For several years it was a highly contested issue in the EU due to the difficulties created by different regulations for the establishment of a common market for chocolate. There were strong constituencies on both sides: global cocoa grinders and cocoa producing countries vs chocolate manufacturers and CBE manufacturers. This was resolved by the European parliament after several years of deadlock (Wardell and Fold, 2013). The CBE manufacturers are now technically and legally (by EU regulations) restricted to using a small select group of 'tropical fats' in their endeavours to produce a CBE-product with almost similar chemical and physical properties as cocoa butter. Shea nuts are preferred due to their relative abundance and low price, but demand from chocolate manufacturers fluctuate according to the price of cocoa butter; low cocoa prices normally translate into low cocoa butter prices which means reduced demand for shea nuts. Hence, shea nut prices tend to fluctuate in line with cocoa prices (Fold, 2008: 111).

The cocoa industry regulator, the Ghana Cocoa Board (COCOBOD), during this period focussed on shea with a separate shea department created as part of the Cocoa Board. Between 1970 and 1994, shea nut trade was largely controlled by the State with the Ghana Cocoa Board and its affiliate buying agency, the Produce Buying Company (PBC), being dominant players

in the shea nut trade (Laube, 2015). Despite the focus of shea as an important non-traditional crop promoted by Ghana Cocoa Board in the early 1970s, Stichting Nederlandse Vrijwilligers (SNV) (2006) argues that this move situated shea in a subservient position with respect to cocoa and reinforced an existing bias in the competition of cocoa and shea with entrenched interests in favour of cocoa.

Wardell and Fold (2013) and Pufaa (2010) noted that state regulation of the shea sector was initially undertaken indirectly through licensing and export control but progressively changed to direct involvement in purchasing operations. The government's inability to regulate the shea trade effectively cemented the transition to governance by oligopoly (Wardell and Fold, 2013). The dynamics of marketing shea products changed in Ghana in the mid-1990s with the increased role of the private sector in the local and international marketing of shea nuts, and butter through the implementation of the structural adjustment programs (SAPs). SAPs were adopted in April 1983 by the government of Ghana with the support of the International Monetary Fund and the World Bank (Anaman, 2006).

2.4.1. The Structural Adjustment Programmes (SAPs)

According to Harris (2000: 3), the goal of economic development policy of international structures (International Monetary Fund (IMF), the World Bank (WB) and the United Nations (UN)) set up after the Second World War was to raise the living standards of people throughout the world. The solution of the International Monetary Fund, World Bank and major bilateral aid donors to deal with the economic problems of third world countries since the late 1970s has been in the practice of formulating and implementing structural adjustments. This has been described by Stokke (1991) and Odutayo (2015: 15) as a new rewording for modernization and development regardless of the difficulties or cost. O'Brien and Leichenko (2000: 222) noted that, in theory, such changes were expected to foster economic growth, since the assumption was that everyone would benefit from the diminishing trade barriers and favourable foreign investment policies.

Baah-Boateng (2004: 4) noted that the introduction of these programs in Ghana in 1983 was seen as a remedy to the deep economic crisis which plagued the country in the late 1970s into the early 1980s. During that period Ghana's economy plummeted, recording an annual average growth rate of -2.2 per cent, an average inflation rate of 64.9 per cent, and a balance of payments deficit of USD 6.8 million between 1975 and 1985 (Baah-Boateng, 2004: 4). It was established that the causes of Ghana's economic decline during that period were due to poor

internal economic management as well as undesirable externalities. Poor internal economic management was characterized by factors such as a "large fiscal deficit and heavy government intervention through administrative control of prices, distribution and import controls, and massive expansion of the public sector" (Baah-Boateng, 2004). State involvement and interventions lowered prices, reduced market opportunities and consequently lowered household incomes, resulting in an economic decline (Konadu-Agyemang, 2000: 479; Wardell and Fold, 2013: 471). The undesirable externalities included the severe drought of 1980, a decline in international commodity prices, high-interest rates on international markets, and oil price hikes. These adjustment programs were designed to change the economic structures and enhance growth in the economy (Baah-Boateng, 2004). They consisted of policies such as privatization of public enterprises and trade liberalization to increase exportable goods and introduce institutional reforms to relax and reduce the state's involvement in the economy.

However, critics (Stokke, 1991: 17; Wardell and Fold, 2013) have described these programs as a cover-up and concerted conditionality policy directed at encouraging de-regulation and privatization rather than addressing the underlying weaknesses of institutions in the economy. Furthermore, a study by Baah-Boateng (2004) pinpointed a major flaw in the implementation of these programs in Ghana. He reported on the neglect of the social dimensions of the program during the initial phases of the reforms. Reform measures to address employment and poverty dimensions were not explicitly incorporated into policy formulation and implementation. Hence, the performance of the economy deteriorated after 1989. This was due to the negative and undesirable consequences of the adjustment programs, which included persistent exchange rate depreciation, the exposure of infant domestic enterprises to unfavourable external competition and rising interest rates (Chalfin, 1996; Baah-Boateng, 2004). This, in turn, led to the crippling and in some cases the closing down of many industrial enterprises and agricultural ventures in Ghana. Inequalities arose in incomes and education among others between genders. Benefits at the micro-level were a matter of considerable debate resulting in adverse conditions that were particularly more pronounced among women than men. The shea export policy which was one of the structural adjustment programs (SAPs) was rolled out to address the issues of low shea income of rural women in the shea industry in Ghana (Kubo, 2017).

2.5. Shea Export Policy

The shea export policy, which was devised within the framework of structural adjustment reforms, was introduced by the government of Ghana in the late 1980s and early 1990s,

following the global economic crisis (Kubo, 2017). This shea export policy consisted of trade liberalization to increase exports and the introduction of institutional reforms to relax and reduce the state's involvement in the economy. According to Kubo (2017: 1), this move liberalized the shea market and was expected to foster economic growth through reducing trade barriers and implementing favourable foreign investment policies. The market liberalization policies of the past 25 years in Ghana have transformed the agricultural sector in many ways. In spite of the pressures of export development, the anomaly of the survival of rural women, who are the primary and major actors in this sector, is a cause for concern (Chalfin, 2004a: 2). The limitations on private company exports were eliminated and the shea chain changed considerably. Carr and Chen (2001: 9) highlighted that with globalization came the breakdown of social contracts between employers and employees, and in the wake of this was the gold rush mentality that prevails when there are no structures and regulations. The impact of trade liberalization is not automatically beneficial and, particularly from a gendered perspective, this largely disadvantages women more than men (Al-hassan, 2012: 7). The change from state to market governance led to the involvement of private interest groups in the shea industry. As a result of this change, these interest groups started to exploit the benefits of unrestricted access. While women in the rural areas undergo the strenuous primary tasks of shea nut picking and processing into butter, the intermediaries or middlemen exploit rural women shea primary producers of shea through support services to engage in trading activities in the shea nut and shea butter commodity chains.

A core finding of a research study on the shea value chain by Scholz (2009: 45) identified that traders in shea exploited rural women shea pickers and processors by underpaying or buying on credit and paying at their convenience to the women shea actors. According to Carr and Chen (2001: 14), part of this problem stems from the level of technology available to rural women shea processors. While their current level of technology is adequate for processing shea nuts for the needs of local markets, a product of much higher quality is demanded in international markets. This means that women shea processors who cannot meet this quality requirement must sell unprocessed shea nuts directly to middlemen for export to countries where advanced technology is available. Figure 2.3 illustrates the trend of export quantities of shea nuts and butter from Ghana over a period of twenty years (1995 to 2015). This figure shows the staggering quantities of shea nuts exported with very minimal value addition as compared to the quantities of shea butter in the same period.

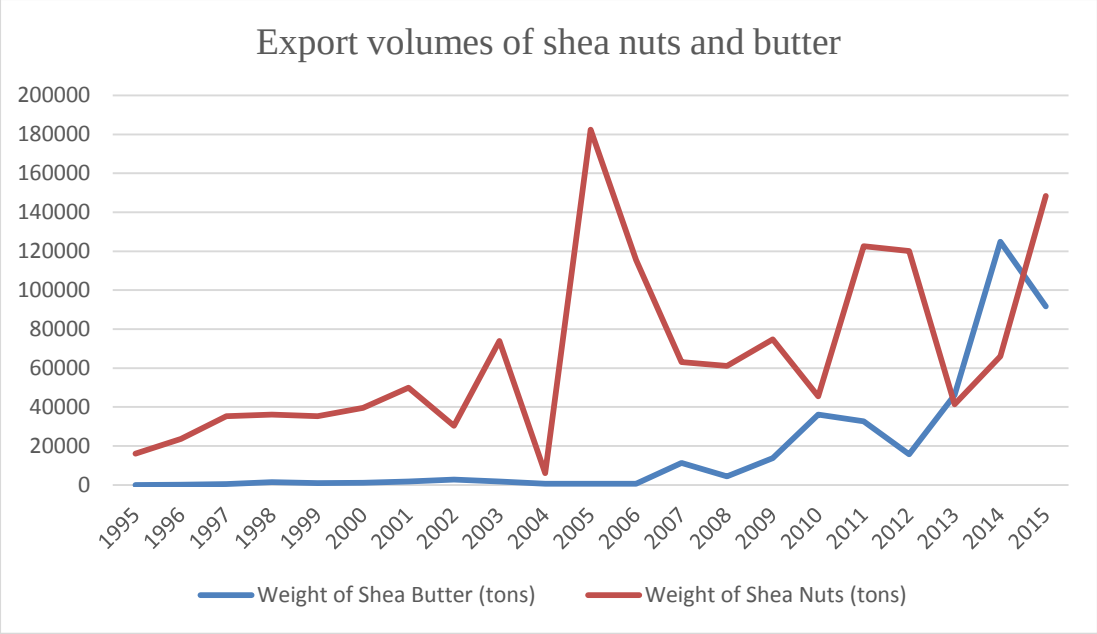


Figure 2.3: Quantities of shea nuts and butter exports (1995 - 2015) (Source: GEPA, 2016).

A careful assessment of the values in weight of shea butter and shea nuts in Figure 2.3 gives credence to the above assessment of rural women having to sell shea nuts to middlemen as a result of factors such as the low levels of processing technology and also as a means of acquiring immediate cash. Wardell and Fold (2013: 385) have also asserted that the demand which has characterized the global market since the early 1990s has currently changed the whole supply and demand balance to such an extent that the supply chain in Ghana is now clearly controlled by the buyer. Rural women who bear the brunt of the often hazardous nature of shea picking and the long hours of butter extracting end up accepting the buyers' prices for their shea.

Al-hassan (2012: 7) has posited that in terms of trade liberalization, economically, countries have the potential to benefit from structural changes in production and improved trade. Additionally, these measures are seen as a means of poverty alleviation. This is because these measures allow the exploration and harnessing of productive potential and serve as a shock insulator. On the other hand, irrespective of these socioeconomic benefits, Bebbington (1997: 1756) argued that trade liberalization equals the government shirking its social responsibilities. Similarly, Stokke (1991: 6) observed that a market trend during recent years has been the increased role of the market in deciding the direction of economic development, globally and within countries. It is believed that market forces should not be entrusted with the ultimate responsibility of the economy. This is because these forces have different objectives and priorities (profit-making) which may conflict with what serves the best interests of the

commons, and their time perspectives are usually short-term. This is further confirmed by Konadu-Agyemang (2000: 479), who have asserted that total government withdrawal or cutbacks and the surrendering of services to market forces led to spatial and socio-economic disparities.

Carr and Chen (2001: 1) argued that although an increasing amount of attention has been paid to the impact of globalization and trade liberalization, a lot of what has been documented is generalized and biased. This attention is inclined towards examining the impact on the formal economy than on the informal economy. More so, they express the view that relatively little has been documented on the impact of globalization and trade liberalization on the livelihoods of women, who are the predominant actors in the informal economy.

2.5.1. The Shea Industry after Shea Export Policy

Participation in the Global Market

One major advantage of the shea export policy which was implemented as a structural adjustment program was its macroeconomic benefits. The global visibility of shea increased as a result of the privatization of the marketing activities in the shea industry from state control to the increased role of the private sector in the local and international markets. Globalization is one of many factors that explain the persistence and expansion of the informal economy in most countries. It provides many economic opportunities for small businesses to access global markets (Carr and Chen, 2001: 2).

Shea is part of the 150 NTFPs of major significance in international trade and involves thousands of workers and producers, including many who live in the most remote areas in developing countries (Carr and Chen, 2001: 120). The shea industry in Ghana is situated in the informal sector and contributes immensely to the annual GDP of the country (Table 2.2). Hence, from being considered as a means of diversifying exports in cocoa, shea has experienced a dynamic transformation in the international market. This global visibility of shea nuts and butter and the increases in exports have been attributed to the implementation of the shea export policy and its resultant supply and demand by market forces (Moore, 2008; Laube, 2015).

Table 2.2: Annual GDP of Ghana (2017 – 2013)

Year	Annual GDP (Million USD)	GDP Growth (%)	Informal Sector Contribution to GDP (%)
2017	58,978	8.5	28.6
2016	54,989	3.7	30
2015	48,595	3.8	28.6
2014	53,173	4	28.1
2013	63,279	7.3	29.2

Source: Ghana Statistical Service, 2018:1

In terms of the dynamics of the marketing of shea nuts and butter since the implementation of the shea export policy, research (Chalfin, 1996; Fold, 2000: 97) has established that at the wholesale level, kernel trading is primarily controlled by male merchants and this dichotomy in terms of gender positions in marketing produces power asymmetries. While male merchants and middlemen are linked to the export sector, women are more engaged in the supply systems centring on local markets. However, women are related to the world market via sales of kernels to middlemen and merchants who link up with foreign companies.

According to Joekes (1999: 34-35), increasing engagement of people in exports should ultimately create employment, especially in the case of developing countries, and have an impact on the livelihoods of the poor, particularly women. Thus it could be said that the growth of export capacity such as the increases in the export quantities of shea butter over the years represents advancements in terms of women's access to employment. However, Awo and Anaman (2015) have noted that the inherent cultural gender bias and patriarchal system in Northern Ghana coupled with the dynamics of the execution of the shea export policy has produced a fertile ground for the continued gender inequality and the exploitation of rural women. Increasing research has provided evidence to this level of exploitation of shea nuts and butter producers in rural areas. Fold (2000: 98) adds that from the onset of shea nut exports from the Sahel, the level of purchasing prices has been continuously contested. Industrial processors have been unwilling to increase prices to a level ensuring the marketing of steady and increasing volumes of shea nuts. Prices have rarely been competitive compared to prices

(and labour inputs) of other cash crops and to the domestic use-value of shea nuts. Increasing research (Fold, 2000: 99; Moore, 2008; Wardell and Fold, 2013) have blamed these biases as a consequence of the policy framework of structural adjustment which included liberalization, privatization and export orientation.

2.6. Rural Foundations of Shea in Northern Ghana

Natural forests have been described as the poor man's overcoat, with landless women being the most dependent on them for survival (Westoby, 1989: 58; Agarwal, 2009: 2796). Forests and environmental resources serve as a safety net contributing to household incomes and offering a pathway out of poverty (Pouliot and Treue, 2013: 180). Shea is one of the non-timber forest products (NTFPs) and is included in the top ten non-traditional export crops in the informal economy in Ghana (Jasaw *et al*., 2015: 3593; Hatskevich *et al*., 2011: 224). According to Ghana's Tree Crop Policy, the poorest farmers who are prone to food insecurity have incomes highly dependent on crops that have strong seasonal price variations and are characterized by poor value chain organization (MoFA, 2015: 5). The trade in these crops provides opportunities to improve livelihoods and contribute to environmental sustainability (Carr and Chen, 2001). Agarwal (2009: 2795) pointed out the protectiveness women exhibit with regards to forest products. Women often express a strong sense of ownership of forests and keep an informal vigil when going about their daily work. In the comprehensive review of the importance of NTFPs for rural livelihoods, Angelsen and Wunder (2003) pointed out the attractiveness of NTFPs, especially for women. They state that with the open or semi-open access to forests and the non-forest environment, collecting wild (non-cultivated) products such as shea fruits and/or nuts is an attractive activity.

However, according to Ghana's National Gender Policy by the Ministry of Gender, Children and Social Protection (MoGCSP), the patriarchal structure of much of the society in Ghana restricts women from gaining access to equal opportunities, including to productive resources such as land, credit, education and training opportunities (Ministry of Gender, Children and Social Protection, 2015: 16). This structure breeds systemic male domination, female subordination and produces discriminatory institutions. This structure, largely manifested in the three Northern Regions of Ghana, disenfranchises women and intensifies their exclusion and the invisibility of their contributions for social change (Zaami, 2010: 2). Land tenure systems in Ghana remain customary and controlled by traditional authorities, with very few women in Northern Ghana holding legal land titles. This is not only unique to Ghana but a

common practice in some African countries. Adedayo *et al*. (2010: 440) reported on the restrictions on rural women as a result of customary land tenure in North Central Nigeria which prevents free access to most forest products from communal lands in rural communities. The nature of women's access to land and agricultural inputs is relatively complex. Rural women may use the land but do not have ownership rights, as is the case of shea picking activities in Northern Ghana. The owners of farmlands with shea trees, who are usually men, maintain the right to harvest or may sometimes give permission to rural women to pick fallen nuts, while open access rights are automatically granted in fallow or uncultivated plots (Fobil, 2002). The activities of shea which included shea picking and butter extraction are classified under the informal economy in Ghana.

2.6.1. The Informal Economy and Women

The World Bank (2014) has described the informal economy to include *"*activities and income that are partially or fully outside government regulation, taxation, and observation*"*. It presents the activities of this sector as a source of employment and a cushion for the workers involved to increase their earnings. And on the other hand, it was noted that as a result of weak to non-existent government regulation in this sector, countries register losses as a result of undeclared economic activities. These characteristics of the structure of the informal sector presented in Table 2.3 presents this sector as an environment conducive to the operation of manipulative agents. These agents, who are mostly organizations and/or individuals, serve as intermediaries for large companies that entrench poverty by exploiting rural women who produce shea. Shea kernels and/or butter produced by these rural women are purchased at low prices, undervaluing shea as a commodity.

Haug (2014: 11) advocated that if managed positively, the informal economy in Ghana, which has a large share of employment (86.1 per cent of total workforce), can have long-lasting and widespread growth. Comparing the contributions of urban women in industries in developing countries to those of rural women in the same countries, Chalfin (2000: 1005) showed that there is the potential for rural women to play an important role in the informal economy if they are given the necessary support. This is because rural women are crucial to production that serves domestic needs as well as serving international markets.

Table 2.3: The characteristics of the informal sector

Structure	**Characteristics**
Absence of state protection and recognition	Unregistered economic activities Non-taxation Lack of recognition by state
Predominance of self-employed workers	Family labour Low investment in production
Non-coverage of minimum wage and social security schemes	Inability to contribute to any pension schemes[13] Inability to invest in their business
Absence of trade union organization	Under-representation, Increase in the vulnerability of workers No bargaining power
Low and erratic income and wages	High reliance on income from daily business Low-profit margins Inability to save or invest
Little to no job security	Mostly unskilled and untrained workers Low standards of production High unit labour costs compared to selling price Lack of competitiveness

Source: ILO (2013: 1) and Haug (2014: 8)

Research has established links between the growing number of people in income-generating activities in the informal economy and low educational attainment and poverty (Carr and Chen, 2001: 3; Osei-Boateng and Ampratwum, 2011: 5). This is confirmed by the results of the 2010

[13] Most workers earn less than 6 Cedi/day (R16.25), which is the official minimum wage, preventing them from contributing to any pension schemes or investing in their businesses (ILO, 2013: 1)

housing and population census on the lack of school attendance by household members in the three Northern Regions of Ghana. The Northern Region recorded the lowest attendance for both boys and girls at 87.1 per cent, Upper East Region 83.9 per cent and Upper West Region 82.6 per cent (Ghana Statistical Service, 2013b: 24). Coupled with this is the gender gap in incomes and wages in the informal economy. Average incomes are lower in the informal economy compared to the formal economy. As a result of this, a higher percentage of people working in the informal economy relative to the formal economy are poor. Studies by Carr and Chen (2001), ILO (2013) and the Ministry of Gender, Children and Social Protection (2015: 16) have reported that this link between low incomes and the informal sector is stronger among women than men because a higher percentage of women globally work in the informal economy. It has been observed that women experience greater poverty, have heavier time burdens, lower rates of utilization of productive resources and low formal education compared to their male counterparts. Ghana's National Gender Policy indicated that the employment of women is most evident in low-paying jobs because such employment is predominately found in the informal sector (MoGCSP, 2015). It is further noted that their involvement in the informal economy with all these dynamics compounds their daily struggle against hardship and poverty. Nevertheless, the shea industry is capable of contributing to the attainment of some of the sustainable development goals.

2.6.2. Shea Industry and Sustainable Development

Although in the informal economy, the shea industry in Ghana has the potential for the attainment of several sustainable development goals (SDGs) to meet urgent environmental, political, social and economic challenges. This has been corroborated by Hatskevich and Essilfie (2013: 293) noted that the shea industry which is an indigenous traditional industry has the potential to highly support sustainable development of Northern Ghana. The sustainable development goals which the shea industry can potentially have a high impact on are the decline in poverty levels, promoting gender equality, decent work, and economic growth and reduces in inequalities.

No Poverty (Goal 1): The contribution to the decline of poverty can be facilitated using the shea industry as a medium by ensuring equal rights to economic resources, as well as access to basic services, ownership, and control over land, natural resources, appropriate new technology, and financial services. Growing inequality is detrimental to economic growth and undermines social cohesion, increasing political and social tensions and, in some circumstances, driving instability and conflicts. Building the resilience of rural women in the

shea industry, and reducing their exposure and vulnerability to climate-related extreme events, and other economic, social and environmental shocks and disasters contribute to the decline in poverty lines. According to Moore (2008: 240), Hatskevich *et al*. (2011: 225) and Rammohan (2010: 2), the shea industry has the potential to contribute to poverty reduction through the sale of shea nuts and butter domestically and globally. Research has shown that shea activities are a major income-generating activity that offers employment to rural women and an avenue to mitigate poverty.

Gender Equality (Goal 5): The shea industry is also an avenue potentially conducive for the attainment of gender equality and the empowerment of rural women shea nut processors and shea butter extractors in Northern Ghana (Awo, 2018: 24). Ensuring rural women's full and effective participation and equal opportunities for leadership at all levels of decision-making in the shea industry especially the price setting of shea nuts and butter in the marketing chains is critical to gender equality. Promoting and encouraging the use of enabling technology, in particular information and communications technology among rural women shea producers in their shea activities is capable of contributing to empowerment. Through the shea industry, modifications of the social and cultural patterns of conduct of men and women in Northern Ghana, with the view of achieving the elimination of prejudices and customary practices entrenched in patriarchy is attainable (Attah, 2015: 19).

Decent Work and Economic Growth (Goal 8): The shea industry has the potential to contribute to the attainment of this goal of sustaining an inclusive and sustainable economic growth (Rammohan, 2010). According to Moore (2008), the continuous market shifts in the shea sector from local to global consumption of shea commodities requires increasing modifications in the methods of production, as well as enhanced entrepreneurial skills, knowledge and resources to meet the new market demands. This includes achieving higher levels of economic productivity through technological upgrading and innovation, including priorities on high-value addition. The promotion of development-oriented policies that fulfil rural development agendas supporting productive activities, decent job creation, entrepreneurship, and innovation in the shea industry have the potential of attaining this SDG.

Goal 10: Reduced Inequalities: To achieve this goal there is the need to ensure equal opportunity and reduce inequalities of incomes generated from the sale of shea by ensuring that there is equal pay for work of equal value. This will include eliminating discriminatory

customary laws, policies, and practices and promoting appropriate legislation, policies, and interventions (Atta, 2015: 18).

2.6.3. Women in Shea: Home-Based Workers

In light of the basic facts about the informal sector as documented in sub-section 2.4.1, shea activities can be classified as informal and home-based[14] as well as an important source of employment for many women in Ghana's three Northern regions. This is corroborated by the 2010 population and housing census in Ghana, which was conducted by the Ghana Statistical Service (GSS). It was reported in the survey by the Ghana Statistical Service that women made up 90.9 per cent of the total population of people working in the informal sector (GSS, 2015: 79). Home-based workers carry out remunerative work in their own homes or on adjacent grounds or premises (ILO, 2013: 45). Research has shown that 86.1 per cent of the total workforce in Ghana are employed in the informal sector, with the majority living with high levels of income insecurity (Osei-Boateng and Ampratwum, 2011: 4; Haug, 2014: 2). These home-based workers remain unaccounted in official statistics and poorly understood in developmental circles.

However, women in this sector are the weakest link in the value chain for NTAEs and fail to reap much of the benefit from the boom and bust of exports. This has been confirmed by previous research carried out by Adams *et al.* (2016) on the shea industry and rural livelihoods presented the average income of shea actors in the Wa Municipality in Northern Ghana. Table 2.4 presents the minimum and maximum incomes from the sale of shea nut and butter per annum of 126 respondents as of 2015.

Table 2.4: Annual Incomes from Shea nuts and butter sales

Shea Actors	Min (GH ¢)	Max (GH ¢)	Average (GH ¢)
Shea nut pickers	20	1060	190.31
Shea butter extractors	240	5760	1211.63

Source: Adams *et al.* (2016: 51)

[14] The Women in Informal Employment: Globalizing and Organizing (WIEGO) is a global network focused on securing livelihoods for the working poor, especially women in the informal economy. It defines home-based workers as:
People working on their own account and time for remuneration and mostly utilise family labour for the production of goods and services in their homes for the market (Women in Informal Employment: Globalizing and Organizing, 2005).

The average earnings of a shea nut picker are below the poverty line of GH ¢ 1,314 which is the minimum level of income deemed adequate as of 2015 in Ghana. This income is also below the extreme poverty line of GH ¢ 792.05 which represents the state at which the standard of living is insufficient to meet the basic nutritional requirements of the household (GSS, 2018: 8). Even though the earnings of a shea butter extractor presented in the table is above the extreme poverty line, it is still below the poverty line. Vanek *et al.* (2014: 3) advocate that supporting the working poor – in particular women, who tend to be concentrated in precarious forms of informal employment – is a key pathway to bridging the poverty and inequality gap. Carr and Chen (2001) observed in their analysis of the global value chains for NTAEs that shea chains are buyer-driven and are controlled by a handful of major companies and multinationals. Increasing research (Chalfin, 1996; Baah-Boateng, 2004; Moore, 2008; Fold, 2008; Wardell and Fold, 2013) has established that the market dynamics of the shea industry, the power asymmetries and the plight of rural women are as a result of the nature of the implementation of the shea export policy. However, to date, few policymakers have explicitly addressed the opportunities and constraints faced by rural women shea actors. Thus there is the need to explore the sustainability of the shea industry in order to understand the interconnections and interactions between the actors in the shea industry as a result of the shea export policy. Accordingly, the causal loop diagram was the appropriate tool in systems thinking for this study.

2.7.Systems Thinking

Systems thinking according to Pittock *et al*. (2016: 2) is a methodology that allows the mapping of systems in order to visualize interdependencies across variables with the aim of reaching a shared understanding of the underlying functioning mechanisms. Traditional thinking breaks down the whole into parts which usually causes connections to disappear, but systems thinking is a framework for seeing whole rather than the parts of the system (Meadows and Wright, 2008 and Fan *et al*., 2015: 191). Likewise, Maani (2013: 8) described this as an approach for understanding the structure of a system and its complexities. The rationale for utilising systems thinking in this thesis was to understand the shea industry and the impact of the shea export policy on the sustainability of the shea industry among rural women in the Northern Region of Ghana.

Systems are comprised of a large number of interconnected elements/entities/parts/components and exhibit very complex behaviour as they evolve over time. The behaviour of the elements

in the structure of systems stems from the feedback loops which are the result of the interconnections and interrelations of various elements within the system (Maani and Cavana, 2007). Therefore quick fixes to problems in such a system are counter-productive or elusive because problems are usually ingrained and run deeper than often perceived superficially. Conceptualizing the shea industry provided an understanding of the relationship between the elements and the complexities resulting from the shea export policy. Additionally, this was helpful and capable of revealing insights to policymakers, contributing to policy discussions, and improving the understanding of the need for an endogenous view for effective policymaking. One of the systems thinking tools which was appropriate for this study was causal loop diagrams.

2.7.1. Causal Loop Diagram (CLD) as an Integrative Tool in exploring Complexities

A causal loop diagram is a map of a system showing the interconnections between the key variables under consideration (Sterman, 2000). By showing these interactions, a causal loop diagram reveals the structure of the system and by understanding the structure of the system, it becomes possible to ascertain the behaviour over a certain period of time (Maani and Cavana, 2007). According to Pittock *et al*. (2016), by highlighting the drivers and impacts of the issue to be addressed and mapping the causal relationships between the key variables, CLDs support a systemic decision-making process aimed at designing long-lasting solutions.

To achieve sustainable solutions to developmental problems, Saeed (1998: 409) pointed out the need to move away from adversarial views of reality to a shared world view. This shared worldview has been confirmed by many scholars (Wolstenholme, 1982: 547; Coyle, 1983: 359; Maani and Cavana, 2007; Sterman, 2000: 4; Luna-Reyes and Andersen, 2003: 271; Bouloiz *et al*., 2013: 33) as a theory of system structure connected to the study of the causal relationships between the components or elements which form the complex systems structure. According to Probst and Bassi (2014), the creation of a CLD has several purposes and benefits namely; it combines ideas, knowledge, and opinions. It also highlights the boundaries of the analysis and allows stakeholders to achieve basic to advanced knowledge of the analyzed issue's systemic properties. Additionally, CLDs have the ability to represent a complex real-world problem that requires a long narrative explanation on a single diagram. They also have the ability to stimulate discussion and understanding of the different relationships of a complex real-world problem being investigated; and the ability to enable the identification of feedback loops that may assist

in explaining behaviour or generating insights. Despite these strengths, the effectiveness of the CLDs is directly linked to the quality of the process which in turn influences the conceptualization of the CLD. On the basis of these strengths, CLDs were appropriate for this study as a tool for generating a greater understanding of the sustainability of the shea industry with a view to gaining greater insight into potential interventions or problem solutions. Studies such as Fan *et al*., 2014; Pittock *et al*., 2016 and Mqadi *et al*., 2018) have used causal loop diagrams in exploring and learning about the key feedback loops in the structure of systems.

2.7.2. Building Causal Loop Diagrams

The building blocks of CLDs include the following;

i. ***Variables***: Variables, according to Maani and Cavanna (2007: 28), describe situations or conditions or actions that influence and can be influenced by other variables

ii. ***Links/arrows***: The arrow or link reveals a causal relationship or interaction between two variables, elements or parts of the construction of the system (Sterman, 2000: 138).

iii. ***Direction of influence***: this is represented by " + ", meaning movement in the same direction or " -", meaning movement in the opposite direction (Maani and Cavana, 2007: 30)

iv. ***Type of feedback loop***: there are two types of feedback loops namely;
   - balancing feedback loop that seeks equilibrium and is represented by the loop identifier 'B' and
   - reinforcing feedback loop that amplifies change and is represented by 'R'. The loop identifier circulates in the same direction as the loop to which it corresponds (Sterman, 2000: 138).

The sequence and mutual interactions of the numerous individual cause and effect relationships make up the chains of causality of the system which are captured in a causal loop diagram. Table 2.5 presents the causal relations and polarities. If an increase (↑) in the cause drives an increase (↑) in the effect, then the link is a positive causal relation and it is indicated by " + " at the head of arrow; if an increase (↑) in the cause drives a decrease (↓) in the effect, then the link has a negative causal relationship and it is indicated by " - " (Pittock *et al*., 2016: 18). This study adopted these notations because of their ability to capture precisely the influences of information flows (Richardson, 1997: 247).

Table 2.5: Causal relations and polarity

Variable A	Variable B	Sign
↑	↑	+
↓	↓	+
↑	↓	−
↓	↑	−

Source: Pittock *et al*. (2016: 18)

Feedback Loops

According to Meadows and Wright (2008: 25), a feedback loop[15] is formed when changes in a stock affect the flows into or out of that same stock. According to Wolstenholme (1982: 548), feedback loops determine system behaviour in terms of what information is used and in which way it is used. Furthermore, it is this ability to represent natural processes of adaption that brings it closer to real-world conditions than most other approaches. Pittock *et al*. (2016) noted the causes of a problem are often found within the feedback structures of the system being studied. A feedback loop may be a balancing feedback loop or a reinforcing feedback loop.

i. Balancing Feedback Loops

This is a loop that stabilizes and regulates the system. In other words, balancing feedback loops are goal-seeking or stability-seeking loops (Maani and Cavana, 2007). These loops oppose whatever direction of change is imposed on the system. Balancing feedback loops in this study were denoted by "B".

ii. Reinforcing Feedback Loops

Reinforcing feedback loops are self-enhancing, resulting in exponential growth or collapses over time. This type of feedback loop behaves as a virtuous or vicious circle depending on the circumstances (Maani and Cavana, 2007). The loops either produce a vicious or a virtuous cycle. The reinforcing feedback loops in this study were denoted by "R".

[15] A feedback loop is a closed chain of causal connections from a stock, through a set of decisions or rules or physical laws or actions that are dependent on the level of the stock, and back again through a flow to change the stock (Wolstenholme (1982).

Time Delay

If an action could not give rise to its result instantaneously, the cause and effect relationship is associated with a time delay and the link is indicated in Figure 2.4.

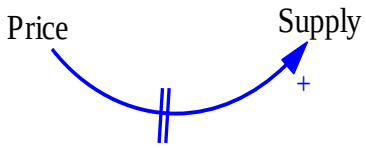


Figure 2.4: Delay mark (Source: Adapted and modified from Sterman, 2000: 150)

Sterman (2000: 13) noted that time delays between taking a decision and its effects on the state of the system are common and particularly troublesome. Delays in feedback loops create instability and increases the tendency of systems to oscillate. As a result, decision-makers often continue to intervene to correct apparent discrepancies between the desired and actual state of the system long after sufficient corrective actions have been taken to restore the system to equilibrium.

2.7.3. Applications of Causal Loop Diagrams

The rationale for developing the causal loop diagram in this study using the VENSIM software was to understand the interactions between the elements in the industry as a result of the implementation of the shea export policy. This is used to understand the ways in which the systems function, and the consequences that may follow as a result of the interconnectedness of system states. Changes taking place in one part of the system may manifest impacts in others. The dynamic systems approach differs from other applications, due to its ability to conceptualize mental modes. CLDs have an extensive application and have been widely adopted in identifying strategic interventions for decision making across various disciplines. It is also gaining recognition in accident analysis (Fan *et al*., 2014), hydro-power food supply (Pittock *et al*., 2016) and in the energy sector (Mqadi *et al*., 2018).

2.8. Conclusion

This chapter presented the analysis of empirical research on the shea industry globally and in Ghana. The social-economic realities of rural women in Northern Ghana which is a highly patriarchal society was discussed. The shea export policy, which was devised within the framework of structural adjustment reforms, was introduced by the government of Ghana in

the late 1980s and early 1990s, following the global economic crisis. This policy consisted of trade liberalization to increase exports and the introduction of institutional reforms to relax and reduce the state's involvement in the economy. The rural foundations of the shea industry in Northern Ghana was established as well as insight into the shea industry as home-based work. Causal loop diagram which is a tool in systems thinking for generating a greater understanding of the sustainability of the shea industry with a view to gaining greater insight into potential interventions or problem solutions was also discussed.

The next chapter discusses the two theoretical frameworks underpinning this study. The first theory which is the feminist standpoint theory is used as a holistic endeavour to engage gender dynamically as a category of inquiry. The second theory which is the sustainable livelihood framework upon which sustainable livelihoods are built is presented. The study area is also presented.

CHAPTER 3: THEORETICAL FRAMEWORK

3.1.Introduction

Building upon the critical analysis of empirical research in Chapter 2, an appropriate theoretical framework was needed to undergird this study. This chapter draws on the feminist standpoint theory and the sustainable livelihood framework (SLF) as the two theories underpinning this study. These theories guided the construction of the questionnaires and interview guides for this study to identify the challenges faced by rural women in the shea industry and contributed to developing variables for drawing the causal loop diagram. It is used as a guide in areas such as the contributions of rural women shea nut processors and butter extractors, the impact of the shea export policy on the shea industry and on their livelihoods in the shea industry. It enables a closer look at the implications, constraints, and opportunities for a sustainable shea industry involving women shea processors in Northern Ghana. The feminist standpoint theory which was one of the two theories underpinning this study engaged gender dynamically as a category of inquiry. This theory, characterized by its double dimensions which consisted of the construction of knowledge and the production of social change made it an appropriate theory for this study. The SLF is used to assess the impact of the shea industry on the lives of rural women shea processors. This framework answers key questions on the relevant outcome indicators of a sustainable livelihood, the livelihood resources, institutional processes and livelihood strategies that are important in enabling the achievement of a sustainable industry for rural women. The rationale for utilising the feminist standpoint theory and the sustainable livelihoods framework is to generate data (qualitative and quantitative) on the livelihood assets, strategies, outcomes, and institutions shaping the livelihoods of research participants in the shea industry. The study area for this study is also described in this chapter.

3.2.Feminist Standpoint Theory

This study adopted the feminist standpoint theory in order for research participants especially rural women in the shea industry in Northern Ghana to recount their experiences in their own voices. This was to uncover knowledge contained within the experiences of primary producers of shea nut and butter in order to bring about social change. According to Brooks (2007: 55), this theory requires the fusion of knowledge and practice. She described the feminist standpoint theory as an approach to the construction of knowledge (and in this study the rich generational knowledge of shea possessed by rural women) and a call to action for change.

The new configurations of women's needs and socioeconomic structures mean that developmental studies must be explicit about the relevance of different ideologies and historical contexts. The feminist standpoint theory emerged in the 1970s and 1980s as a feminist critical theory about relations between the production of knowledge and practices of power. Hartsock (1983: 35) described this theory as an important tool for understanding and opposing all forms of domination. According to Harding (2004: 1), the innovations implicit in standpoint theory bring into focus fresh perspectives on some of the most difficult and anxiety-producing dilemmas of society. Women play a major role in economic development and participate actively in the informal economy, as discussed in Chapter 2. As part of women's subsistence-oriented activities, they are involved in industries and trade; and are able to uniquely combine these with traditional roles of household management and childcare. Rural women by virtue of their activities in the shea industry are in prime positions to give accounts of the impact of the shea industry on their livelihoods as well as the challenges they encounter on a daily basis. This theory empowered rural women respondents who have been silenced and ignored to tell their narratives in their voices and in safe spaces.

Gurjit and Shah (1998) noted that, despite the claims of the inclusion of rural women associated with development, in actuality, the language and its practice further entrenches the invincibility of the contributions of women. It often obscures the roles of women, their needs and contributions to development making equitable participatory development an elusive goal. According to Pressley (2005), standpoints are derived from a thorough analysis of oppressive systems and institutions and are often located within a specific context. This theoretical orientation emphasizes that women's shared common set of social experiences, such as responsibility for housework and childcare, or fewer opportunities in the labour market, among other things, provides them with ways of seeing and understanding these social issues from a different perspective. Sachs (1996: 18, 25) pointed out that this theory offers particular promise for exploring women's connections to the natural environment. There should be heightened interest in women's potential for creativity and agency especially within the context of their limited option in a patriarchal the Northern Region. This holds true due to the relationship between rural women shea nut pickers and butter extractors to the shea tree resource in Ghana.

According to Hartsock (1983: 36), a standpoint is not merely an interested position (which could sometimes simply be interpreted as bias) but rather an interest in the sense of engagement. The nature of the standpoint theory in this study offers insights into the activities of the industry and the livelihoods of its primary producers through the first-hand account or

narratives from rural women in the shea industry - which has been established in research as a woman's domain. These accounts revealed the exploitation, payments below the international market value for shea and the oppression rural women endure as primary producers. Weeks (2004: 186) has emphasized that the point of focusing on women's labour is "neither to glorify work or to extol the realization or lament the loss of some genuine mode of being". However, the point is to question the social construction of specific practices whereby questions are raised about what we can do and who we can become.

Weeks (2004: 187) again noted that women's labouring practices are not only constraining but also potentially enabling. By empowering rural women shea actors in the industry to tell their stories and narratives, it exposed the rich array of knowledge contained within their experiences and narrowed the gaps on the subject of gender in the shea industry. Mensah-Kutin (2002) asserted that women believe in the significance of local knowledge and in their capacity to contribute to finding solutions to their concerns by utilizing their own experiences. The idea was that valuable concepts are embedded in local practices and must be recognized, unearthed and articulated. Although standpoint theory has been helpful in reclaiming women's experiences as suitable research areas, its criticisms have been documented by authors such as Heckman (1997) and Harding (2004) for its essentialism among others. This study addressed the issue of essentialism through the methods of generating data (mixed-method approach) (Faist, 2012). The experiences of rural women in the shea industry vary depending on the intersection of factors such as their age, religion, ethnicity, and capabilities. Even though it must be recognized that all perspectives are not the same, all are legitimate, important and valuable when it comes to the formulation of policies that empower and improve the livelihoods of rural women in the shea industry in Ghana. According to Brooks (2007: 76), women have the capability of building alliances, developing a common position and taking a stand on issues without compromising their differences. This can be achieved by rural women coming together and sharing their unique experiences and standpoints.

3.2.1. Standpoint: Participatory and Transformative Theoretical model

The feminist standpoint is also a social justice design that surrounds or flows into the mixed-method design of the research at different points (Creswell, 2014: 8). It was a constant focus of the study aimed at improving the lives and advancing the needs of the marginalized rural women in the shea industry in Northern Ghana. The feminist standpoint as a transformative model is a theoretical lens that informed the qualitative component of data collection in the

mixed-method design of this study. This used participatory research where rural women were the active participants of the research. Other actors who also had a bird's eye view of the shea industry were engaged in the research process. These actors assisted in determining the problem, collaborated in data collection and were recipients of the results of the study.

Women's work in the forest, fields and at home is not directly visible and tangible in terms of economic gains; nonetheless, it provides sustenance in quiet but essential ways and creates sufficient wealth to cater for basic needs. Shea activities undertaken by rural women in Northern Ghana are performed repeatedly, making the process well defined and routinized. According to a study by Elias (2015: 34) on the gendered management and knowledge-sharing about shea parklands in central-west Burkina Faso, men discussed the selective conservation of shea trees with their wives before eliminating any shea tree. This is because rural women are known to possess a rich knowledge of shea tree yields and nut quality than men due to their immense involvement in shea activities (Awo and Anaman, 2015). Shea activities are integral to rural life and rural women have traditionally assumed responsibility for such activities, which are both laborious and time-consuming (Laube *et al*., 2017). It is this invisible work of shea resource conversation, shea picking and butter processing by rural women in the industry that is linked to nature and needs. This invisible work conserves nature through maintaining ecological cycles (shea resource conservation) and provides (shea income) for the conservation of human life through satisfying the basic needs of food, nutrition, and water. However, it is this partnership that is destroyed when development becomes a patriarchal project threatening both nature and women.

Research has shown that prior to recent developments, shea activities were only secondary activities for rural women (Chalfin, 2004a; Schreckenberg, 2004; Elias and Carney, 2007). The production of shea was mainly for household consumption or as gifts, while only a small proportion was sold. Nonetheless, rural women in Northern Ghana still perform the laborious task of processing from which they derive supplementary income. The strengths of this theory for this study is that it challenges the various stakeholders to acknowledge and understand the dynamics of the shea industry through the recounted experiences of oppressed and exploited rural women. Based on the insight into the industry and understanding of the system, activism and social change are demanded. The second theoretical framework which supported this study in understanding the dynamics of the choices and resources available to rural women in the industry in the execution of the daily activities in the shea industry is the Sustainable Livelihoods Framework which is a build-up on the Livelihood Approach.

3.3.Livelihoods Approach

As a starting point of the Sustainable Livelihood Framework, the livelihood approach which is a build-up to the SLF is introduced. The livelihood approach embraces the works of Amatyr Sen and a growing societal awareness of environmental concerns. This growing societal awareness became popular in the form of the sustainable livelihood framework (Bammer, 2013: 20). Further works by Chambers and Conway (1991) additionally highlighted the environmental aspect from the social dimensions of development. Bammer (2013: 22) has contended that the success of this approach was partly due to growing environmental concerns that arose among the public and in academic circles. After the contributions of Chambers and Conway (1991), large-scale organizations such as the United Nations Development Programme (UNDP), Oxfam and CARE international adopted ideas from this enriched livelihood approach, incorporating them into their own approaches. The British New Labour government further assisted in the spread of this approach by incorporating it into its development policy of 1997. This approach was then operationalized by the British Department of International Development (DFID) which designed the Sustainable Livelihoods Framework (SLF).

Chambers and Conway (1991) emphasized that livelihoods comprise "people, their capabilities and their means of living, including food, income, and assets". Furthermore, Chambers and Conway state that "a livelihood is environmentally sustainable when it maintains or enhances the local and global assets on which livelihoods depend and has beneficial effects on other livelihoods". A livelihood is socially sustainable when it can manage, and recover from, stress and shocks as well as provide a livelihood for future generations. It is technologically sustainable when it relies on resources that are renewable and does not have an adverse impact on the environment.

The sustainable livelihoods handbook developed by Oxfam and Church Action noted that mainstream research on poverty often tends to view people in poverty as a homogenous group of passive and vulnerable people in need (May *et al.*, 2009: 5). The SL approach differs from other methods because it examines the various aspects of people's lives as a whole rather than focusing exclusively on their financial situation. It begins with their strengths, assets, and resources rather than their needs.

There are many different ways of defining sustainable livelihoods, but the concept adapted for this study is the one developed by Ashley and Carney (1999: 4) which focuses on the way in

which people live their lives as well as on the importance of structural and institutional changes. These core principles must be genuinely shared and commonly understood by all stakeholders. This is because developmental problems that are often rooted in adverse institutional structures are impossible to be surmounted through simple asset creation. These core principles are presented in Table 3.1.

Table 3.1: Core Principles of Livelihoods Approach

Core Principles	**Description**
People-centred	Focuses on people in poverty as agents of change rather than on the resources they use.
Dynamic	the approach has to be dynamic in order to help mitigate negative impacts whilst supporting positive effects.
Sustainable	A livelihood can be ranked as sustainable if; it is robust under external shocks and stresses, it is able to preserve the long-term productivity of natural resources, and if it does not destabilize the livelihood options of others.
Multi-level (Macro-micro links)	Development activities tend to focus on either the macro or the micro level, whereas the SLA tries to bridge the gap between the two levels.
Responsive and participatory	People must be key actors in identifying and addressing livelihood priorities and indicators.
Partnership	Recognizing the ingrained potential of both the private and public sector for the removal of constraints and the realization of potentials.

Source: Ashley and Carney (1999: 7)

It is observed that despite the stated commitment of most donor and governmental organizations in their poverty-elimination goals, their immediate focus gravitates toward the provision of facilities and structures rather than on those for whom the research is being carried out. Another concern is that many developmental activities are unsustainable environmentally and become unmanageable in the long run. Chambers and Conway (1991: 2) stressed that any strategy for development which is concerned with people, equity and sustainability has to meet

certain criteria. It has to confront the question of how a large number of people, many of whom live in environments which are fragile and marginal, can acquire at least basic and decent rural livelihoods in a manner that can be sustained. The SLF addresses these shortfalls and aims to assist rural women in achieving lasting improvements in light of their defined indicators of poverty as uncovered in the narratives of their lived experience. The application of the livelihoods approach is flexible and adaptable to specific local settings and underlies certain core principles. Chambers and Conway (1991: 3) propose three concepts which are interlinked to describe sustainable livelihoods, namely capabilities, equity, and sustainability. These interlinked concepts present a paradigm for thinking about development which is derived from standards and is practical.

3.3.1. Capability

Sen (2003: 43) uses the capability approach to describe human life as a set of "doings and beings" which relates the evaluation of the quality of life to the capability to operate. Key notions of this model have been used in previous shea studies. For instance, findings from Elias (2015: 28) suggested an improvement in the analysis of how gender specializes and cooperates in shea tree agroforestry. According to Chambers and Conway (1991: 4), capability has diverse specific meanings for different people in different places, including the many criteria of wellbeing of the poor. Sen's use of the word 'capability' is analyzed and divided into subsets of livelihood capabilities that include the ability of rural women shea actors to cope with stress and shocks and being able to find and make use of livelihood opportunities. Capability also comprises an end to discrimination against rural women in the shea industry.

3.3.2. Sustainability

Mebratu (1998: 496 - 503) categorizes the historical and conceptual antecedents of the concept of sustainability into 3 historical periods namely;

i. pre-Stockholm, covering the period until the Stockholm conference on environment and development in 1972;
ii. from Stockholm to World Commission on Environment and Development (WCED) (1972-1987); and
iii. Post World Commission on Environment and Development (1987-1997).

The definition of sustainable development provided by WCED in 1987 which is taken as the starting point of the concept of sustainability has been highly instrumental in developing the

new world view that is emerging today. The most widely used definition of sustainability is based on the identification of three systems as basic to any process of development: the biological or ecological resource system, the economic system, and the social system. The vagueness of the WCED definition of sustainable development has led to a diverse spectrum of definitions and interpretations. Since this definition, subsequent popularization, different groups of people, organizations and individuals have attempted to capture the meaning of the concept (Mebratu, 1998: 505). Several authors (Seghezzo, 2009; Bervar and Bertoncelj, 2016) have proposed a new conceptual framework to address issues of sustainability to mitigate the limitations of the WCED definition. This study builds on the original definition and dimensions of sustainability by WCED and proposes a five-dimensional sustainability framework presented in Figure 3.1 which is argued to be more inclusive, plural and useful to outline specific policies towards sustainability. The proposed five dimensions of sustainability utilized in the study were; environmental, socio-political, economic, technology and governance.

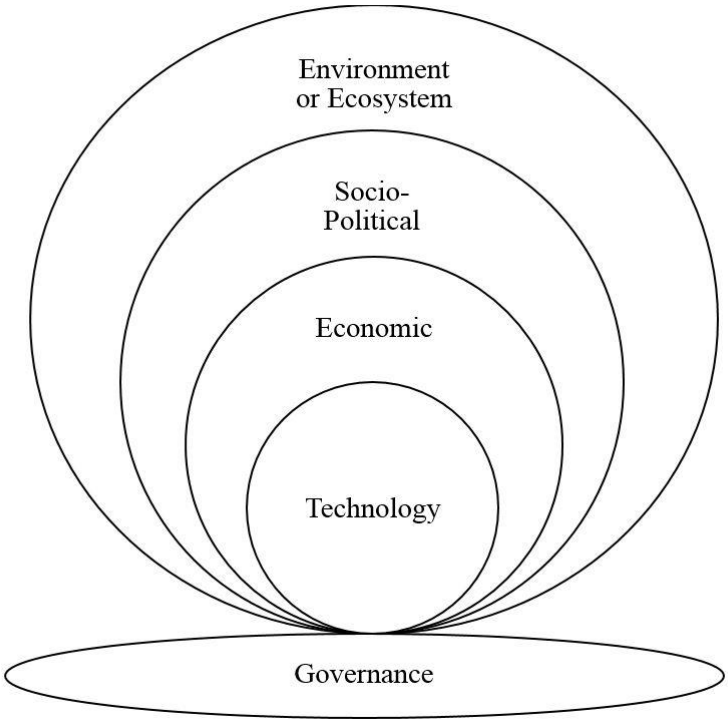


Figure 3.1: Interdependence of the dimensions of sustainability (Source: Adapted and Modified from Mebratu, 1998).

The interdependence of the dimensions of sustainability adapted and modified from Mebratu (1998) is presented in Figure 3.1. The society, economy, technology needed are dependent on the environment as the provider of resources necessary to live and produce. The dynamic

interactions of all the dimensions must be understood to ensure the sustainable development of the shea industry as a whole.

3.2.2.1. Dimensions of Sustainability

According to Mebratu (1998: 513), the generally accepted understanding of the cosmic world with respect to the environmental debate and the concept of sustainability is based on the recognition of the supposedly separate existence of the natural, economic, and social systems.

i. the economic and social cosmos, in particular, will never be a separate system independent from the natural system,
ii. arising from the intersection area are conflicts and harmony serving as a seedbed for the process of coevolution of the natural and human universe
iii. The millions of systems in the interactive zone do not belong exclusively to one cosmos,
iv. environmental crises is the outcome of the cumulative effect of deliberate, or the neglect of one or more of the systemic parameters by humans, resulting in millions of feedback deficient systems (Mebratu, 1998).

Drawing from the conclusions of Mebratu (1998) and building upon the 3 dimensions of sustainability proposed by WCED, this study proposes a five-dimensions of sustainability namely; environmental, socio-political, economic, technology and governance.

i. Environment

An environmentally sustainable system, according to Harris (2000: 6), must maintain a stable resource base, avoiding over-exploitation of resource systems or environment sinks and the depletion of non-renewable resources. This includes maintenance of biodiversity and other ecosystem functions not ordinarily classed as economic resources. Tree crops such as the shea tree resource, which forms one of the main covers of the Northern Savannah vegetation, if conserved, have several positive influences on the environment. Shea trees have the ability to protect lands against prevalent environmental degradation. Luedeling and Neufeldt (2012: 449) compared the carbon sinks of croplands and discovered that parklands contain substantial carbon stores with the potential for future sequestration. The maintenance of shea trees in parklands has the potential of contributing to environmental sustainability as it does not involve the use of fertilizer and pesticides (Glew and Lovett, 2014: 74). The trees are often intercropped with cereals and tubers; and play an important role in farming systems by promoting biodiversity (Lovett, 2013; MoFA, 2015).

ii. Social-Political

Likewise, a socially sustainable system as stated by Harris (2000) "must achieve distributional equity, adequate provision of social services including health and education, gender equity and political accountability". Socially, shea production is a group activity and a slow process requiring the input of many heads and hands. Women's knowledge guiding the production of butter from shea nuts is a source of pride and has social and ritual significance (Elias and Saussey, 2013). Most women in Northern Ghana have no formal education and have no book-keeping records, so knowledge is transmitted and passed on from one generation to the next through observation and participation in shea activities. Women are the custodians of the knowledge of shea locations, tree histories, and maturation. Research has shown the shea industry is capable of contributing to social sustainability because rural women working in groups promote the division of labour; build social capital and serve as a social security system (Scholz, 2009: 33). The younger women are the source of labour, middle-aged women the source of capital, and older women the source of expert knowledge (Chalfin, 2004b: 10).

iii. Economic

According to Harris (2000: 5), a system is said to be economically sustainable if it can:

- manufacture goods and services on a constant basis;
- sustain manageable levels of external debt; and
- avoid extreme disparities which pose a threat to production and development.

The shea industry is integrally linked and contributes to the economy. It serves as a source of income and contributes towards job-creating opportunities, and therefore has the potential to enhance the livelihoods of a large number of rural women and their families. It also contributes significantly to food security as well as to macro-economic stability of the country (Moore, 2008: 240; MoFA, 2015: 9). As discussed in Chapter 2, the shea tree has gained importance as an economic crop because of the heavy demand for its shea butter, both locally and internationally (Fobil, 2002). Rural women in the three northern regions of Ghana collect over 130 000 tons of dry nuts every year for processing. This is an attractive business venture which earned about 60 million USD in exports in 2015 (GEPA, 2016). Pouliot and Treue (2013: 185) also reported that the income from these products contributes to as much as 30 per cent of the total incomes of poor rural households. For women, especially those residing in rural towns and villages, research has shown that sale of shea has the potential to contribute to economic sustainability (Chalfin, 2004b: 8; Casadei, 2002: 113; Pouliot and Treue, 2013: 190).

iv. Technology

Most processing of shea during its transformation from nut to kernel, and from kernel to butter, are undertaken manually, but in some cases it is semi-mechanized. The type of processing used affects the quality and quantity of kernel and butter produced and this also affects the income earned from shea. The sources and types of energy used during the processing of shea is often unrenewable. Rural women in Northern Ghana use firewood from shea trees and other tree species during the processing activities. The smoke generated from the firewood is absorbed by the butter and lowers its quality. Apart from this, the smoke is detrimental to the environment and contributes to the depletion of the ozone layer. A greener and renewable alternative to burning firewood would be to use stoves or dried sludge which is the waste product derived from the extraction of shea butter.

v. Governance

According to Schraad-Tischler and Seelkopf (2017: 1), sustainable governance entails achieving sustainable policy outcomes with a long-term focus. This involves generating policy outcomes that maintain or improve the quality of livelihoods for the present rural women shea actors as well as for future generations, but without placing an unfair burden on future generations. The shea export policy was one of the structural adjustment programs implemented as a result of the global economic crisis of the 1970s (Kubo, 2017: 1). This policy decision taken by the government of Ghana was seen as a solution to the problem of low incomes of rural women whose livelihoods depended on shea activities. This policy decision, which is presented in causal loop diagrams and discussed in Chapter 8, proved to be unsustainable in the long term. Since that time, the shea industry has had no sustainable policies or interventions to ensure that the primary producers, who are predominantly poor rural women, are protected or the industry made sustainable for future generations.

3.3.3. Equity

Chambers and Conway (1991: 4) used the notion of equity broadly to imply equal distribution of assets, capabilities, and opportunities. The sustainable livelihood framework is a unique tool in the sustainable livelihoods approach as it assists users in the practical implementation of the core principles (presented in Table 3.1 in subsection 3.3 above) to enhance developmental activities. The sustainable livelihoods framework is the core of the sustainable livelihoods approach and is used in this study as a tool or checklist to understand the intricacies of the lived experiences of rural women in the shea industry.

3.4.Sustainable Livelihoods Framework

Sustainable Livelihood Framework was appropriate for the study because it was useful in understanding the livelihoods of people specifically rural livelihoods. Additionally, the SLF was utilized in this study to check existing activities in terms of their sustainability and to evaluate interventions or strategies in the shea industry. It offered a checklist of the most important aspects of development, focused on core elements and processes, and underlined the multiple interactions of different factors or elements that influence the livelihoods of shea actors in the shea industry. Figure 3.2 presents the sustainable livelihood framework which was adapted and modified for this study from Scoones (1998: 4) and Ashley and Carney (1999).

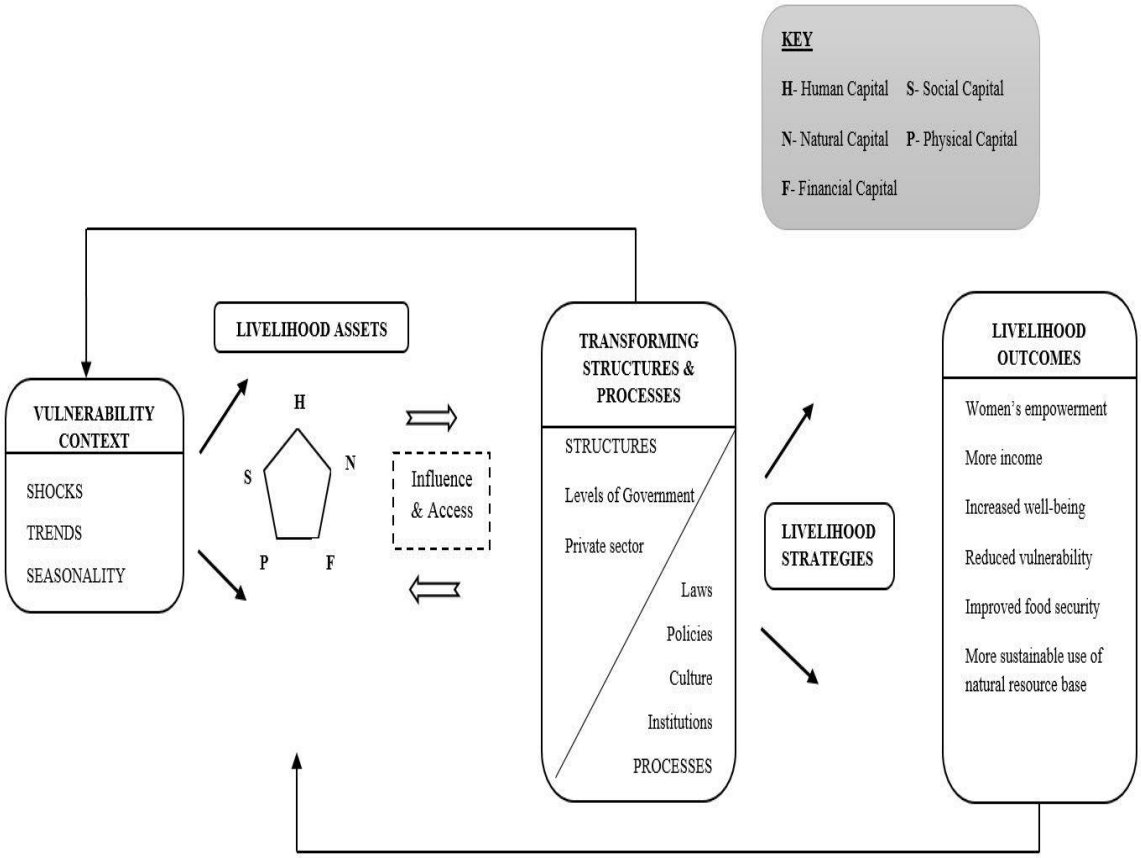


Figure 3.2: DFIF's Sustainable Livelihoods Framework (Source: Ashley and Carney, 1999: 47)

The SLF has generally been used as a checklist for issues that merit exploration and as a means to examine the way that livelihoods are secured (Ashley and Carney, 1999: 26). For this study, the accounts of rural women shea actors concerning the impact of the shea export policy on the industry and on their livelihoods are explored through participatory methods. This method was

adopted to attain an understanding of the dynamics of the industry in order to contribute to social change to ensure the sustainability and development of the industry. This framework can be altered for different uses and situations, as long as the underlying core principles in Table 3.1 are not compromised. This approach adopted led to a better understanding of the system which helped in developing interventions that provided a better fit with the livelihood strategies of rural women. The framework had the advantage of assisting the researcher in understanding the parameters and then narrowing the scope of the study for a greater impact on what was most relevant to rural women shea actors. A key feature of the SLF is that it recognizes rural women, whether poor or not, as actors with assets and capabilities who act in pursuit of their own livelihood goals. While this feature may seem obvious, in many cases the rural women in the shea industry have been regarded as passive victims or recipients of government policies and external aid. The concept of livelihoods has become increasingly popular in development as a way of conceptualizing the economic activities poor rural women undertake. For interventions to target poverty and its reduction, Adato and Meinzin-Dick (2002: 3) noted the importance of understanding the multiple sources of vulnerability faced by the poor, the ways in which their lives are affected by structures and institutions, and the various ways in which development interventions may strengthen or weaken these livelihood activities. In addition to recognizing these activities, using livelihood approaches require an attempt to understand the processes that entrench poverty as well as the social, environmental, economic, political and institutional context in which rural women live.

3.4.1. Vulnerability Context

The starting point of the SLF is the vulnerability context which refers to things that are outside the control of rural women shea actors. May *et al*. (2009: 13) have stated that "it is not objective risk that matters, but people's subjective assessments of things that make them vulnerable; this is an important point because both perceived and actual vulnerability can influence people's decisions and hence their livelihood strategies". According to Chalfin (2000: 1004), rural women shea actors are more vulnerable to uncertainties and their combined effects than any other set of actors in the shea industry. Events and situations that are beyond the control of the individual, and in this case rural women in the shea industry, are outlined below.

i. **Trends**: these include broad changes affecting rural women shea actors, for example, demographic and population changes (such as migration), shifts in the national and

global economy, as well as changes in government (although the significance of each of these will vary greatly over time and place).

ii. **Shocks:** these are major events in the lives of rural women and their households, such as shea tree resource exploitation, loss of a job or home. It is important to remember that for many people a shock may not initially seem to be that important, but can have a far-reaching impact as time goes on. The increased likelihood of women experiencing poverty and at the same time being responsible for care means that they are more vulnerable to shocks. Women's income-generating and expense-saving activities that actually prevent or delay shocks are often not recognized or included when household income is measured by most conventional research methodologies.

Vulnerability also develops as a result of a lack of governmental support because policies formulated at the local, regional and national levels are crucial for development and to promote poverty alleviation (Bammer, 2013: 18). Importantly, gender-sensitive policies acknowledging the contributions and promoting the inclusion of rural women to knowledge production are not considered.

3.4.2. Livelihood Assets

The livelihood assets, also known as livelihood resources, are the financial and non-financial assets in the lives of people. However, for people living in poverty especially rural women in the shea industry, these combined assets may not be robust to provide a sustainable livelihood, leaving them vulnerable and exposed to external and internal shocks (May *et al*., 2009: 9). A report by the Government of Ghana on the Ghana Agriculture Sector Investment Programme (GASIP) in 2014 explained that although it is difficult to analyze poverty by gender (except on the basis of the gender of household head), women are more likely to be poor compared with their male counterparts (Republic of Ghana, 2014, 18). This report by the government which also measured asset poverty established that the total and mean values of gross wealth of women were lower than those of men for all asset categories. It was also found that wealth by gender in Ghana is biased in favour of men. Subsequently, access to and control of assets such as land and credit tends to be limited for women, particularly in the rural savannah.

It has been well documented in Northern Ghana that women who are marginalized and have the least number of assets will frequently experience discrimination. The resources or asset base upon which people build their livelihoods is further divided into 5 groups. The framework divides people's assets into the five categorize of the asset pentagon as depicted in Figure 3.3.

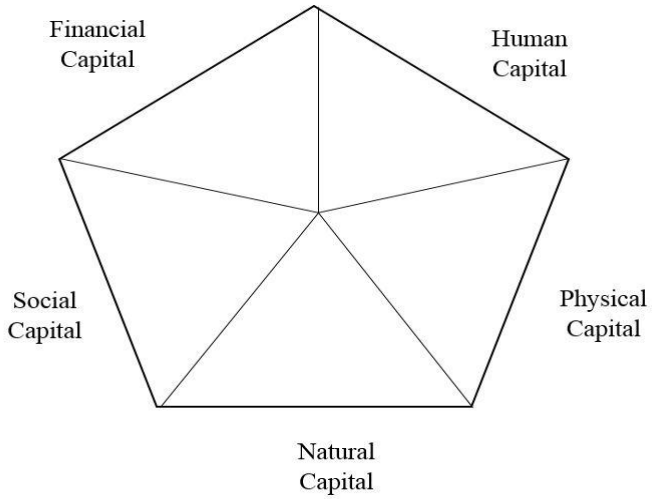


Figure 3.3: The asset pentagon (Source: May *et al*., 2009: 41)

i. **Natural capital**: this capital or asset pertains to the natural resource base which includes shea tree resource, land and water among others. Ghana's economy is based on the use of natural capital, which makes the sustainable management of its natural resources crucial for economic growth and sustainable development (MESTI, 2012: 2). Rural women in the shea industry whose livelihoods depend on the shea tree resource for the production of nuts and butter are more vulnerable to the effects of exploitation and depletion of this natural capital. This is because rural women constitute the majority of the poor and are highly dependent on these resources.

ii. **Physical capital**: According to Bammer (2013: 28), this capital consists of objects that are human-made and created by economic production processes. These include equipment (such as milling machines, grinders among others) rural women need in the production and procession of shea along with the basic infrastructure needed to facilitate the effective and efficient operations and functions in the industry. Basic infrastructure needed by rural women in the industry comprises of access to information, affordable transportation, roads, water supply, and energy among others.

iii. **Financial capital**: this includes savings (monetary resources), credit (formal and informal), as well as cash inflows (state transfers and remittances) needed for productivity (Bammer, 2013). Rural women in Ghana's shea industry are highly disadvantaged in the area of this capital (Laube *et al*., 2017).

iv. **Human capital**: This includes the skills, knowledge, health, education and the ability to work together which enables people to pursue different livelihoods strategies and

achieve their livelihood objectives (Bammer, 2013). Rural women shea actors possess a rich indigenous and generational knowledge of the shea tree resource, picking activities and the extraction of butter. In spite of poor and in some cases the lack of record-keeping, this knowledge is passed on from woman to woman or from the old to the young through continuous observation and storytelling (Chalfin, 2016).

v. **Social capital**: this refers to the resources which rural women shea actors draw on, including networks of informal relationships that increase trust and reciprocity with families, friends and neighbours as well as more formalized groupings (Fold, 2000), such as women shea cooperation. It also includes the ability to work together, access to opportunities and membership of organizations. Shea picking and butter extraction activities are usually performed by rural women in Northern Ghana in groups. These informal relationships foster unity, mutual support, and teamwork.

These livelihood resources interact with institutional processes and organizational structures to shape the choices of livelihood strategies. May *et al*. (2009: 12) have reported that people usually draw on their different assets to build on a livelihood strategy that enables them to manage and sustain their lives. The increment in the assets of rural women will ensure that they are able to protect themselves from shocks and this, in turn, decreases their vulnerabilities. The vulnerability of rural women in Northern Ghana is exacerbated by their comparative lack of assets, especially physical, financial and social assets. Vulnerability also arises from factors such as social inequalities that have been perpetuated for decades, social and economic roles that manifest themselves in unequal access to resources, and decision-making processes. Other factors include reduced access to information, ineffective property rights and reduced mobility (MESTI, 2012).

3.4.3. Transforming Structures and Processes

These structures refer to both formal and informal institutions and organizations that shape livelihoods by influencing access to assets, livelihood strategies, decreasing vulnerability and terms of exchange. They may occur at multiple levels, from the household to community, national and even the global level. The public and private sectors, civil society and community institutions, laws as well as culture may all be relevant considerations. According to Yaro *et al*. (2015: 9), institutions create enabling conditions for livelihood strategies; the rules, norms, and practices of organizations lay the foundation for the realization of livelihood strategies. These conditions, such as a strong entrepreneurial skillset and shea markets with regulations

will enable rural women to adopt and adapt to the changing shea industry. Institutions at the local level are important conduits for building adaptive capacity by structuring the conditions under which people adjust (Yaro 2010 cited in Yaro *et al*., 2015: 9).

3.4.4. Livelihood Strategies

These strategies encompass the choices rural women in the industry make in pursuit of income, security, wellbeing and productive and reproductive goals. One important fact about the livelihood approach is its recognition that households and individuals may pursue multiple strategies, sequentially or simultaneously (Ashley and Carney, 1999). This means that in this context small-scale livelihood strategies should not be overlooked. This is because these strategies can be very important, especially for rural women, who often pursue many livelihood strategies at once either to supplement their incomes from shea activities or to provide a measure of security. The pursuit of multiple activities can have important implications for income and labour availability at different times of the year, and for the relevance of specific development interventions for poverty reduction. The collection, processing, and trading of shea nuts and/or butter are a perfect fit in subsistence farming activities and relevant to concepts of income diversification.

3.4.5. Livelihood Outcomes

Prospective outcomes include indicators such as income and sustainable use of the shea tree resources. Outcomes can also include a strengthened asset base, reduced vulnerability, and improvements in other aspects of the wellbeing of rural women such as health and self-esteem among others. However, those outcomes are not necessarily the endpoint as they feedback into the future asset base (Ashley and Carney, 1999). The final stage of the approach is to identify the constructive steps, specific interventions, and policies that can be taken to improve the livelihoods of rural women starting from their lived experiences in the industry. These interventions will enable them to secure and sustain the industry and their livelihoods.

3.5. Appropriateness and Strength of the Framework

The SLF is capable of examining the magnitude and mechanisms through which the shea industry is capable of helping poor and marginalized rural women. It is a conceptual framework for analyzing causes of poverty, rural women's access to resources and their diverse livelihood activities. It also examines the relationships between relevant factors at micro, intermediate, and macro levels. It establishes connections between the micro-level (the daily lives of rural

women) and the macro-level (the regional and national policies, institutions and processes that have the most impact on rural women) (May *et al*., 2009: 5). This framework provides an opportunity to understand the lived realities of rural women shea actors who live in poverty, including the different dimensions of their lives and for assessing and prioritizing interventions (Adato and Meinzin-Dick, 2002: 5). Although community-level institutions and processes have been a prominent feature in other approaches, the SL approach has a strong emphasis on understanding and facilitating the link from micro to macro-level (Ashley and Carney, 1999: 4). According to Ashley and Carney, 1999: 27) a principle of the SLF approach indicates that participatory approaches must go beyond just information collection. This requires a process of drawing on a range of participatory and partnership-building techniques in knowledge co-production.

3.5.1. Weakness of the Framework

Even though the framework provided a way for thinking through the different influences on livelihoods and ensuring that important factors are not neglected, it cannot capture all the details pertaining to poverty alleviation, as noted by Ashley and Carney (1999: 8). Also missing from the sustainable livelihoods framework are concepts of good governance, specifically power and power relationships. The framework does not explicitly address the differential conditions, assets and strategies of socially differentiated groups. Although there are important dimensions of the lives of rural women not addressed, these were integrated into the framework or through the inclusion of other types of analysis in the study.

This study's adoption of the feminist standpoint theory addressed this weakness of the SLF and generated the necessary information on the indicators of sustainability which have already been discussed in this chapter. This feminist standpoint theory is a model of knowledge building that empowered and engaged research participants in the process of inquiry. The adoption of the feminist standpoint theory is also to ensure that rural women are acknowledged as knowledge producers and that this knowledge produced feeds into developmental planning and the overall understanding of the driving factors behind their livelihoods.

3.6. Study Area

3.6.1. Ghana

Ghana (Figure 3.4) shares boundaries with Côte d'Ivoire to the west, Burkina Faso to the north and Togo to the east. To the south are the Gulf of Guinea and the Atlantic Ocean.

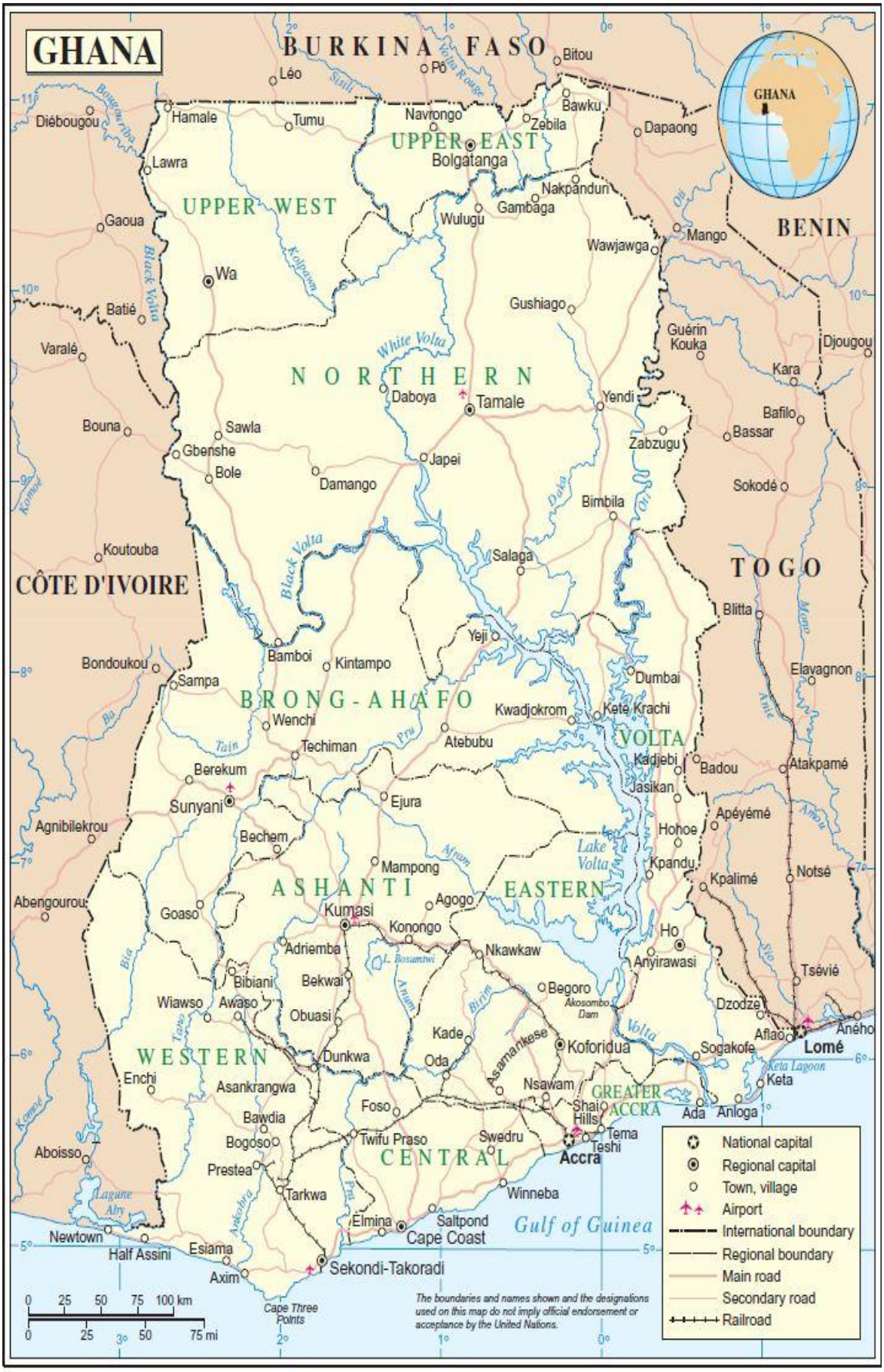


Figure 3.4: Map of Ghana (Source: United Nations, 2005)

The country is divided into 10 administrative regions[16] with five distinct geographical sections:

i. The low plains, stretching across the southern part of the country, featuring low sandy beaches interspersed with saltwater lagoons;
ii. The forested plateau region consisting of the Ashanti Uplands and the Kwahu Plateau, stretching from the Côte d'Ivoire border in the west and to the elevated edge of the Volta Basin in the east. The remaining evergreen rainforest is located in the south-western part of the country;
iii. The Akwapim-Togo range in the eastern part of the country consists of a generally rugged complex of folded strata, with many prominent heights. The range begins west of Accra and continues in a north-easterly direction, finally crossing the border into Togo;
iv. The Volta Basin occupies the central part of Ghana and covers about 45 per cent of the nation's total area. The basin is characterized by poor soil, generally sandstone;
v. The high plains in the northern and north-western part of Ghana, outside the Volta Basin, consist of a dissected plateau. Soils in the high plains are more arable than those in the Volta Basin (Environmental Protection Agency, 2011).

There are six agro-ecological zones[17] defined on the basis of climate, reflected in the natural vegetation and influenced by the soils. Temperatures throughout the country are typically high. The mean annual temperature is generally above 24°C, a consequence of the low-latitude position of the country. Average figures range between 24°C and 30°C, although temperatures ranging from 18°C to 40°C or higher are common in the southern and northern parts, respectively. Generally, rainfall in Ghana decreases from south to north (EPA, 2011: 34). The rainy season begins in the northern part of Ghana around March and prevails until the end of November. The southern part of Ghana experiences the wet season from April until mid-November.

The economy of the country is made up of the formal and informal sectors, which are in turn made up of the agricultural, service and industrial sectors. Out of the total labour force of 10.37 million people in Ghana, 4.98 million were women as of 2014 (Republic of Ghana, 2014) & (GSS, 2014d: 31) as is shown in Table 3.2.

[16] These ten regions are Greater Accra, Central, Volta, Eastern, Western, Brong Ahafo, Ashanti, Northern, Upper West and Upper East regions.
[17] These six ecological zones are Rain Forest, Deciduous Forest, Transition Zone, Guinea Savannah, Sudan Savannah, and Coastal Savannah.

Table 3.2: Background and basic statistics

Physical Area	**Values**
Land area (km^2) (thousand)	228
Population	
Total Population (million)	24.39[18]
Population density (people per km^2)	107
Local Currency	Ghana Cedi (GH ¢)
Economy and Development	
Population growth (annual %)	2
Estimated birth rate (per thousand people)	32
Estimated death rate (per thousand people)	8
Life expectancy at birth (years)	64
Total labour force (million)	10.37
Female labour force (as % of total)	4.98

Source: World Development Indicators (WDI) (Republic of Ghana, 2014) & (GSS, 2014a: 31)

3.6.2. Northern Region

The Northern Region of Ghana, which lies in the Guinea savannah ecological zone, is the largest of the ten regions. It covers an area of 70,384 square kilometres and makes up approximately 31 per cent of the country (GSS, 2014a). The livelihood of the people depends on farming and other off-farm income-generation activities. More than 75 per cent of the economically active population in this region are in agriculture (GSS, 2014a). The combined effects of high levels of poverty, heavy reliance on rain-fed agriculture and poor access to resources and services create a situation of high vulnerability to climate change. The Northern Region is divided into 26 districts with Tamale as its capital (GSS, 2014a). The region has been one of the poorest for several decades in terms of living standards, literacy levels, and health and nutritional status, which are all extremely low.

[18] The estimated figure based on the 2010 housing and population census as at 2019 is at 29,956,435 (Ghana Population, 2019).

3.6.2.1. Physical Features

The Northern Region shares boundaries with the Upper East and the Upper West regions to the north, the Brong Ahafo and the Volta regions to the south, Togo to the east, and Côte d'Ivoire to the west (GSS, 2013a: 1). This region, together with the Upper West and Upper East, covers approximately two-thirds of the country's land space and lies in the dry Sudan and Sahelian savannahs, where rainfall is low, erratic and unpredictable (Fobil, 2002).

3.6.2.2. Climate and Vegetation

The climate of the region is relatively dry, with a single rainy season that begins in May and ends in October, recording an amount of rainfall varying annually between 750 mm and 1050 mm (Stanturf *et al*., 2011). The dry season starts in November and ends in March/April with maximum temperatures occurring towards the end of the dry season. The Northern region is one of three regions with the highest overall vulnerability to climate change (Stanturf *et al*., 2011).

3.6.2.3. Economy and Living Conditions

The Ghana Living Standard Survey (GLSS) conducted in Ghana in 2010 revealed that the Northern Region of Ghana had a total population of 2,479,461 people out of which the population of women was higher than men (GSS, 2012) as shown in Table 3.3.

Table 3.3: Demographic information

Region	Total population	Men	Women
Northern	2,479,461	1,229,887	1,249,574

Source: 2010 Ghana Living Standards Survey (GSS, 2012)

Agriculture is a predominant activity in the region and crops produced include yam, maize, millet, guinea corn, rice, groundnuts, beans, soya beans, shea, and cowpea. About 99 per cent of shea trees are located in the Northern region of Ghana, with the remaining 1 per cent found in parts of the Brong Ahafo and Volta regions (Awo and Agyie-Sasu, 2016: 381). The ripening of the shea fruit, picking, processing and marketing usually coincide with the lean season in Northern Ghana, when food is scarce (Bromley, 2011: 27). The shea activity, which is a home-based work among rural women in Northern Ghana as already discussed in Chapter 2, is a

source of employment and generation of income, a boost to household incomes and contributes to the growth of the Gross Domestic Product (GDP) of the country.

3.6.3. Tamale Metropolitan Area

The case study site, which was the Tiehisuma Processing Center is located at Gurugu in the Tamale metropolis in Northern Region. The Northern Region is divided into 26 districts with Tamale as the capital (GSS, 2014a: 1). The Tamale metropolitan area was chosen as the study site because apart from being endowed with the most shea trees in the country, it is the hub of many shea activities, which includes the production and marketing of large volumes of shea (Collins *et al*., 2014: 18). This district serves as a marketing hub for transactions of local goods from the agricultural and commerce sectors from the other districts in the region (GSS, 2014a: 1). It shares boundaries with Savelugu/ Nanton, Tolon/ Kumbungu, Central Gonja, East Gonja, and Yendi districts, which also have shea trees. Thus there is an easy inflow of shea nuts from the surrounding districts for processing and marketing activities in Tamale.

3.6.3.1. Location and size

The Tamale Metropolis is one of the 26 districts in the Northern Region of Ghana. The Metropolis is located in the central part of the Northern Region and shares boundaries with five other districts namely Savelugu- Nanton to the North, Yendi Municipal Assembly to the East, Tolon-Kumbungu to the West, and Central Gonja to the South West and East Gonja to the South. Geographically, the Tamale Metropolitan Assembly lies between latitude 9°16 and 9°34 North and longitudes 0°36 and 0°57 West (GSS, 2014a: 1). There are 115 communities in the Metropolis with most of the rural communities having large expanses of land for agricultural activities. Even though the Northern Region as a whole has more women than men, the opposite is true in the capital, Tamale (GSS, 2013a).

The 2010 housing and population census revealed that in Tamale more than two-thirds of the population were male, as shown in Table 3.4. This could be attributed to a myriad of reasons, with migration being one factor. One of the responses to the forces of globalization and gender-blind policies – which in effect disadvantages women – has been the migration of young girls and women from the North to the South (Zaami, 2010: 1). The increases in the rate of migration coincide with the lean or hungry season between March and September. This movement is fuelling the growing phenomenon of “Kayayei” (head porters) in other parts of the country especially the Southern part of Ghana (Awumbila and Ardayfio-Schandorf, 2008).

Table 3.4: Household by district and gender

District	Household			Urban			Rural		
	Total	Men (%)	Women (%)	Total	Men (%)	Women (%)	Total	Men (%)	Women (%)
Tamale Metropolitan Area	58,855	76.5	23.5	44,091	74.9	25.1	14,764	81.1	18.9

Source: 2010 Population and Housing Census (GSS, 2013a: 31)

3.6.3.2. Climate and Vegetation

The Metropolis experiences only one rainfall season a year and this has affected agricultural production in the area. Daily temperatures vary from season to season. During the rainy season, residents experience high humidity, low sunshine with heavy thunderstorms, compared to the dry season which is characterized by dry harmattan[19] winds from November to February, and high sunshine from March to May. The differences in climatic features create an environment conducive for unique opportunities like shea activities. The picking, processing, and marketing of shea nuts is capable of engaging thousands of households in the area.

3.6.3.3. Informal Sector

Yaro *et al*., (2015: 7) have stated that "traditional governance systems define the life trajectories of its inhabitants, as access to crucial natural resources and social networks are rooted in the functions, norms, rules, and obligations in these institutions". Agriculture, which is one of the main economic activities in this district, has been hard hit by factors such as land tenure issues, climate change among others. As a result of these challenges, large numbers of unaccompanied women and girls are migrating into the larger cities in search of work. Outmigration of young girls to the major cities of Ghana is a common phenomenon in this district. However, shea is becoming increasingly important in Northern Ghana, as shown in Table 3.5. Deducing from these increases in the number of households processing shea, this natural tree resource has the potential to curb the migration of young women to the

[19] Harmattan is an elemental condition made up of fine particulate matter (typically 0.5 – 10 micrometres) from the Sahara desert which blows south, obscuring vision and leading to laboured breathing (in some cases causing coughing). In addition, the dry dusty winds cause a variety of domestic inconveniences because of the layers of dust that cover everything both outdoors and indoors (Ogunseitan, 2007).

economically richer south, if the contributions of rural women to the industry are acknowledged and the inclusion of rural women to decision making processes in the shea industry is promoted. Based on these, if effective policies in the short and long terms are enacted and implemented in the shea industry it also has the potential to make the industry attractive to curb outmigration.

Table 3.5: Estimated number of households processing shea butter in Northern Ghana

Description	**GLSS 5 (Sept. 2005-2006)**	**GLSS 6 (Oct.2012-2013)**
Estimated number of households processing shea in last 12 months	7,938	57,978
Estimated annual value of labour (GH ¢)	30,000	1,380,000
Estimated annual value of other costs (GH ¢)	20,000	1,020,000
Percentage selling of shea (%)	68.5	21.1
Estimated annual value of sales (GH ¢)	10,000	4,370,000

Source: GSS (2008: 84; 2014a: 122)

3.7. Conclusion

This chapter presented an analysis of the two theoretical frameworks underpinning this study into the livelihoods of rural women shea actors and the shea industry. The feminist standpoint theory and the sustainable livelihood framework (SLF) were used complimentarily. The motivation for utilizing this framework was its double dimension characteristic which consists of the construction of knowledge and the production of social change. The standpoint theory was presented as a holistic endeavour to engage gender dynamically as a category of inquiry. Adopting this theory was a way of building knowledge that focused on acknowledging rural women in the shea industry of Ghana as knowledge producers in order to promote social change. The motivation for the use of the Sustainable Livelihoods Framework was to answer key questions such as relevant outcome indicators of a sustainable livelihood, the livelihood resources, institutional processes and livelihood strategies which are important in enabling the achievement of sustainable livelihoods. The means by which rural women shea actors in the

shea industry organize and combine their assets to prove support for their families; and the decisions and choices that are made were discussed under livelihood strategies. The study area for this study was also presented in this chapter. The case study area, which was the Tiehisuma Processing Center located at Gurugu in the Tamale metropolis in Northern Region of Ghana, was described. Chapter 4 presents the mixed methodology utilized in this study together with the methods; including literature review, case study, participatory approaches – mainly interviews and focus groups – and causal loop diagrams.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1. Introduction

To generate primary data on the challenges, the policy environment (both past and present) and to develop the causal loop of the system industry, this study utilizes various approaches. This chapter presents the use of the mixed methodology and methods; including literature review, case study; participatory approaches – mainly interviews and focus groups – and causal loop diagrams. The mixed-method consists of both qualitative and quantitative research methods. The qualitative method entails the use of semi-structured interview guides while the quantitative method involved the use of questionnaires. Secondary data was also utilized in answering the second research objective. The research methods, the design of the interview guides and questionnaires are discussed in detail. This chapter outlines the methodological conception that shaped the selection of the research approach, design and choice of research methodology. It introduces the participatory rural appraisal, which is used in the collection of data from respondents. The major group of respondents included rural women shea pickers and women shea butter extractors who transform shea from tree to table. Other actors involved in various ways by providing assistance to rural women in the shea value chain were also interviewed. This chapter also focuses on the software for analyzing the qualitative and quantitative data. The strategies for validating findings and enhancing reliability; and the guiding ethical principles; and limitations of the study are presented.

4.2. Research Design: Participatory Rural Appraisal

The use of participatory rural appraisal, which is a community-based action research principle, was an important enabling force. Participatory rural appraisal (PRA) has been described extensively in the literature (Freire and Faundez, 1989; Chambers, 1992; Neela, 1993; Freire, 2000) as a set of tools which promotes the inclusion of research participants in the research process and seeks to contribute to the process of social change. Against critics who state that action research is a solitary process of systematic self-reflection, Kemmis and Wilkinson (1998: 22), Pohl (2011: 618) and Bergmann *et al*. (2005: 16) have argued that the steps in action research are best undertaken collaboratively by co-participants in the research process. Action research is directed towards studying, reframing and reconstructing social practices. Participatory rural appraisal is a way of doing science with society by jointly addressing a complex societal problem. This involved integrating in a creative way scientific knowledge

from various actors with knowledge of the shea industry and actors in the realm of hands-on practice for the purpose of promoting transformation and social change. Most importantly, this approach was useful for this kind of study because it provides the platform for rural women to tell their stories in a climate where their voices have been silenced and their contributions as primary actors in the shea industry are often not acknowledged. According to Kent (2015: 6), the purpose of any research design is to ensure that the data collected enable the researcher to address the objectives for which the research was undertaken. This study drew on multiple methods presented in Figure 4.1 to gather data to answer the research objectives in this study.

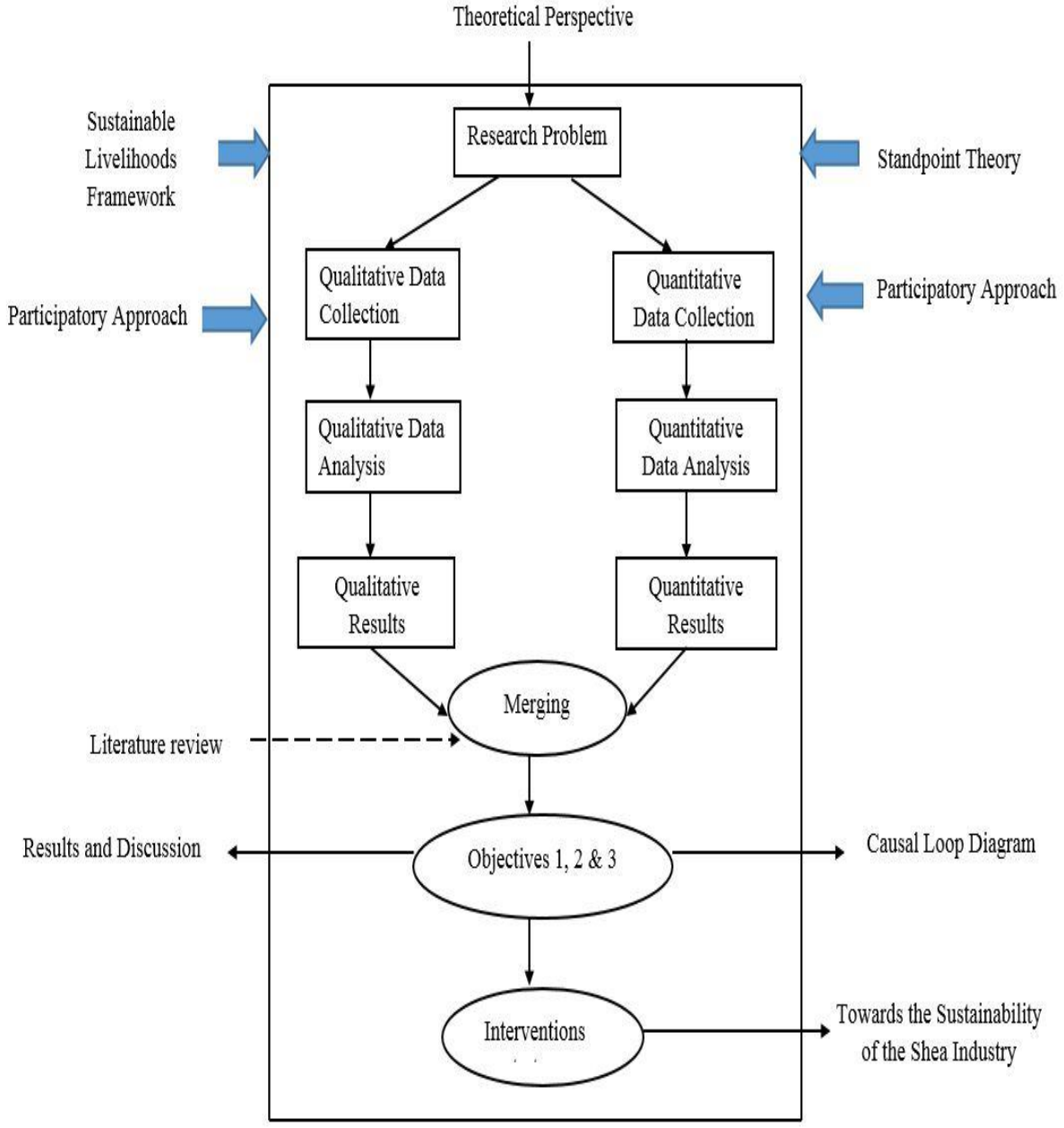


Figure 4.1: Social justice design (Source: Modified from Creswell, 2014: 45)

4.2.1. The Face-to-Face Interactions

Qualitative and quantitative research methods were adopted in this study. Respondents in the study areas and other locations were personally interviewed without any mediating technology. Figure 4.2 illustrates a framework of the flow of data collection among the shea actors using the various research instruments. The qualitative research method consisted of conducting semi-structured interviews with the shea actors occupying the various positions in the transformation of shea. The quantitative research method used involved the completion of a set of closed-ended questionnaires.

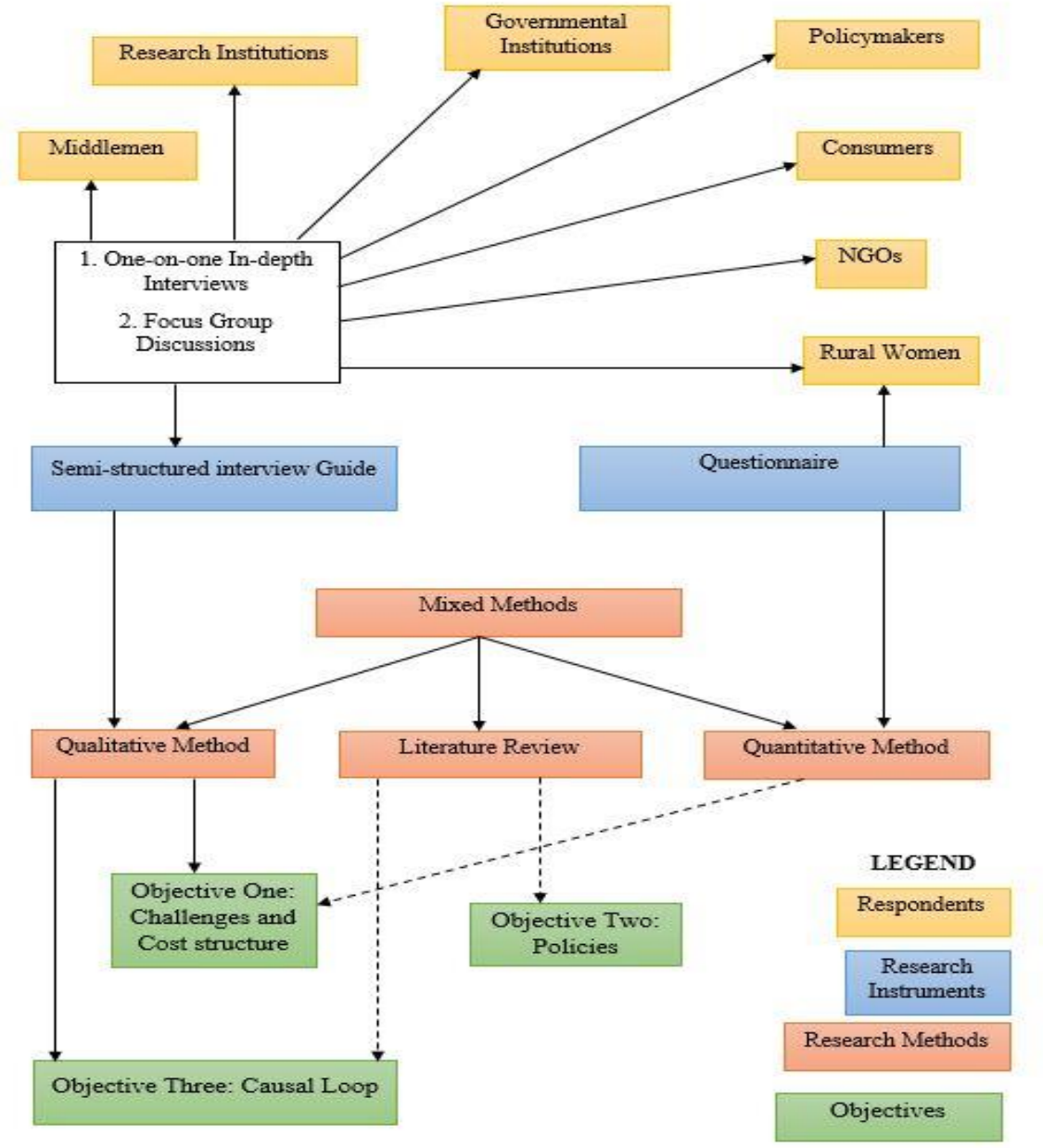


Figure 4.2: Methodological framework for dissertation (Source: Author's construct, 2019)

The advantages and disadvantages of qualitative and quantitative research methods are presented in Table 4.1.

Table 4.1: Advantages and limitations of qualitative and quantitative research

Qualitative Research	
Advantages	**Disadvantages**
Provides detailed perspectives of few people	Has limited generalizability
Captures the voices of participants	Provides only soft data (not hard data, such as numbers)
Allows participants' experiences to be understood in context	Studies few people
Is based on the views of participants and not of the researcher	Is highly subjective
Appeals to people's enjoyment of stories	Minimizes use of researcher's expertise due to reliance on participants
Quantitative Research	
Advantages	**Disadvantages**
Draws conclusions from large numbers of people	It is impersonal and dry
Analyses data efficiently	Does not record the words of participants
Investigates relationships within data	Provides limited understanding of the context of participants
Examines probable causes and effects	Is largely researcher-driven
Controls bias	
Appeal to people's preference for numbers	
Ability to generalize	

Source: Adapted from Creswell, (2014: 5)

The rationale for the adoption of these methods was to ensure a comprehensive and in-depth response to the research problem. Also given their potential for advancing a broader understanding of research problems, qualitative and quantitative research methods provide more robust opportunities for formulating policies. For this study, the qualitative research method was used primarily followed by the quantitative method secondarily. Thus the quantitative method complemented the qualitative method. The qualitative method motivated the use of semi-structured interview guides in gaining an in-depth understanding of the actors, their interaction within the shea industry, challenges encountered by rural women shea actors and the policy environment in the industry to answer the first and second research objectives. Data generated from the qualitative research method was also used in the causal loops depicting the interactions of the system structure as a result of the implementation of the shea export policy to achieve the third research objective.

The quantitative method was used to identify specific issues that needed to be explored further. This method was also useful in this study and generated data for a mathematical assessment of the cost structures for rural women shea pickers, processors and middlemen which has been discussed in Chapter 5 of this study. This was used to determine the distribution of profits between rural women shea processors and the middlemen.

4.2.2. Sampling the Target Population

The relevant knowledge came from different disciplines (agriculture, governance, social science, and economics, among others). The main target population for the study was rural women shea pickers and butter extractors. Other actors with a birds-eye view of the shea industry were also interviewed. These actors included middlemen, stakeholders (research institutions and universities) and policymakers. This study utilized the face-to-face mode of data collection, which was discussed in subsection 4.2.1. Despite the drawbacks of this mode in terms of cost in locating and interviewing a respondent, it was chosen over others because it was the mode with a higher response rate. Data was collected over a period of time from January to April 2017. A five-step model (originally from Weiers, 1984: 105) was adapted, modified into a four-step model and used in the sampling process. This modified sampling model is described in the subsections.

4.2.2.1. Step 1: Identifying and defining the target population

The target population identified for this study were:

i. Rural women shea actors in Tiehisuma Shea butter Processing Center at Gurugu; a suburb of Tamale in Northern Ghana. These women actors consisted of

- Rural women shea fruit and/or pickers or collectors
- Rural women shea kernel processors or shea butter extractors;

ii. Middlemen involved in the buying and selling of shea nuts and/or shea butter
iii. Stakeholders (research institutions, policymakers, and NGOs);
iv. Policymakers.

Additionally, there were several consultations with key contacts in the shea industry. These consultants were instrumental in providing guidance in the research process by identifying the relevant target population in the public and private agencies. These contacts were also helpful in contributing to developing the shea framework of interventions, which integrated the five dimensions of sustainability as discussed in Chapter 3.

i. The manager of the Tiehisuma Processing Center was initially contacted telephonically, after which permission was granted to use the processing centre as the case study. A preliminary visit to the centre was undertaken in December 2016.
ii. Contact was made with a shea expert with USAID West Africa Trade Hub, who has extensive knowledge of shea activities in Ghana. This was done through emails.
iii. The Chief Executive Officer of Sekaf Ghana Limited was contacted and discussions were conducted via emails because of time and location constraints. Sekaf is an innovative leader in the global shea industry, which uses a world-class system of processing and packaging of shea.
iv. The CEO of Sheabutter Cottage, founded in 2004 and based in England, was contacted and discussions held via email. This organization ethically sources high-quality shea butter directly from farmers/producers or through community projects in Ghana.
v. The World Agroforestry Centre (ICRAF) was also contacted via email and an expert in tree management was recommended.
vi. The Director of the Forest Institute of Ghana (FORIG), an expert on tree improvement, was also instrumental in supporting the research.

4.2.2.2. Step 2: Identification of specific participants in the target population

This study aimed to select a sample that was representative of the target population in the shea value chain. **Error! Reference source not found.** presents the specific participants identified n the study. Rural women shea actors were categorized into shea pickers and kernel processors; middlemen were classified into agents trading in shea kernel and/or shea butter. In this study, stakeholders were classified into governmental institutions, NGOs and research institutions.

Table 4.2: Distribution of the specific participants in the target population

Target Population	Specific Participants	Sample size
Rural women shea actors	Rural women shea fruit pickers/collectors (Kpano Shea Pickers Association)	17
	Rural women shea kernel processors (Tiehisuma Sheabutter Processing Center)	39
	Secondary Processor	1
Middlemen	Man (operating for Savannah Fruit Company)	1
	Woman freelancer	1
	Shea Company	1
Policymakers	Shea Unit of the Ghana Cocoa Board (COCOBOD)	1
	A former deputy minister of agriculture	1
Stakeholders (governmental institutions	Produce Buying Company (PBC),	1
	Cocoa, Coffee and Shea Association (COCOSHEA),	1
	Ghana Export Promotion Authority (GEPA)	1
Stakeholders (NGOs)	Netherlands Development Organization (SNV)	1
	Shea Network Ghana (SNG)	1

	Global Shea Alliance (GSA)	1
Stakeholders (Research Institutions)	University of Development Studies (UDS)	2
	Cocoa Research Institute (CRIG)	1
	Consumers	5
	Total No. of Respondents	76

Source: Author Construct, 2017

These selected participants were representative of the target population. The criterion for the selection was based on the direct (shea transformation from tree to table) or indirect (policymaking or offering support services) involvement of representatives in shea activities. For reasons of confidentially and anonymity as stated in the ethical guidelines for this research, the names of participants were not disclosed.

4.2.2.3. Step 3: Contacting the identified representatives

Once the specific representatives were identified, the next step was to contact these individuals. The manager of the Tiehisuma Sheabutter Processing Center was contacted and a letter was written by him granting permission to undertake the research at the centre. This letter was used in seeking for ethical clearance from the ethics committee of the University of Stellenbosch (see Appendix D). Stakeholders, middlemen, and policymakers were contacted telephonically and via email. Depending upon their acceptance and availability to be interviewed, face-to-face meetings were scheduled for the interviewing process. All actors contacted were successfully interviewed for this study.

4.2.2.4. Step 4: Meeting with the identified representatives

For the interviewing process with the identified representatives, each participant's office was visited on the indicated dates based on their acceptance and availability. Meetings with respondents began with a brief introduction to the aim of the study, the objective of the meeting and the required outcome of the meeting. These meetings were held in Northern Region (Tamale and Bole) and Accra since the shea actors were not all located in one place. Consent forms were signed and the interview commenced as per the guiding ethical principles and norms of the research. The interviews were conducted at different time slots over a 4-month

period (see Appendix E for the data collection schedule for the research) and interviews did not exceed an hour and a half. The semi-structured interview guides and questionnaires used are provided in Appendix G.

4.2.3. Addressing Sampling Limitations

A sample size of 76 respondents was selected to participate in this study. This sample size was selected based on economic and logistic constraints. Even though a small sample size decreases the power and confidence of the results of a study, this study addressed this limitation by selecting respondents who were representative of shea actors (women shea nut processors, shea butter extractors, and stakeholders) and had characteristics that were approximately the same. Another strategy adopted by this study was to select respondents randomly from the case study which resulted in a probability sample.

Other potential occurrence of limitations in sampling were also addressed by allocating time to explain the purpose of the study to all respondents before the start of interviews and the administration of questionnaires. Shea kernel processors or butter extractors at the Tiehisuma Sheabutter Processing Center were informed of the manager's consent and support of the study. They were also assured of the anonymity and confidentiality of their responses. An advantage of conducting the interviews with the interviewees in a private office on the premises of the processing centre was that interviewees felt comfortable and at ease. This also ensured the protection of the privacy, confidentiality, and anonymity of each of the research participants. Field research assistants who doubled as translators to overcome the language barrier were recruited. This minimized biased communication and respondents were not pressured to respond to questions in a particular way because of the language barrier. The above measures addressing possible limitations in sampling contributed towards enhancing the reliability of interview data. Participants involved in the pilot testing did not participate in the main data-collection exercise and their responses were not included in the overall data gathered.

4.3.Research Methods

This involved data-collection techniques, analysis, and interpretation. Qualitative data was generated with the aid of a semi-structured interview guide. Quantitative data, on the other hand, was collected through the administration of questionnaires. The interviews were conducted first and the questionnaires administered afterwards. Interview guides and questionnaires were structured with regard to the concepts of the sustainable livelihoods

framework discussed in Chapter 3. The five concepts that guided these research instruments were:

i. Vulnerability of rural women shea processors. This sought to determine how rural women dealt with stress and shocks in the industry;
ii. Livelihood assets of rural women, which included their human, natural, social, physical and financial capital;
iii. The structures and institutions such as laws, policies (old and current), the agency of rural women and government involvement, among others, in the shea industry in Ghana;
iv. Livelihood strategies which included choices in the quest for supplementary incomes;
v. Livelihood outcomes, which included the desired results in improving the shea industry.

Figure 4.3 presents the summary of the study objectives and the methods used in answering each specific objective.

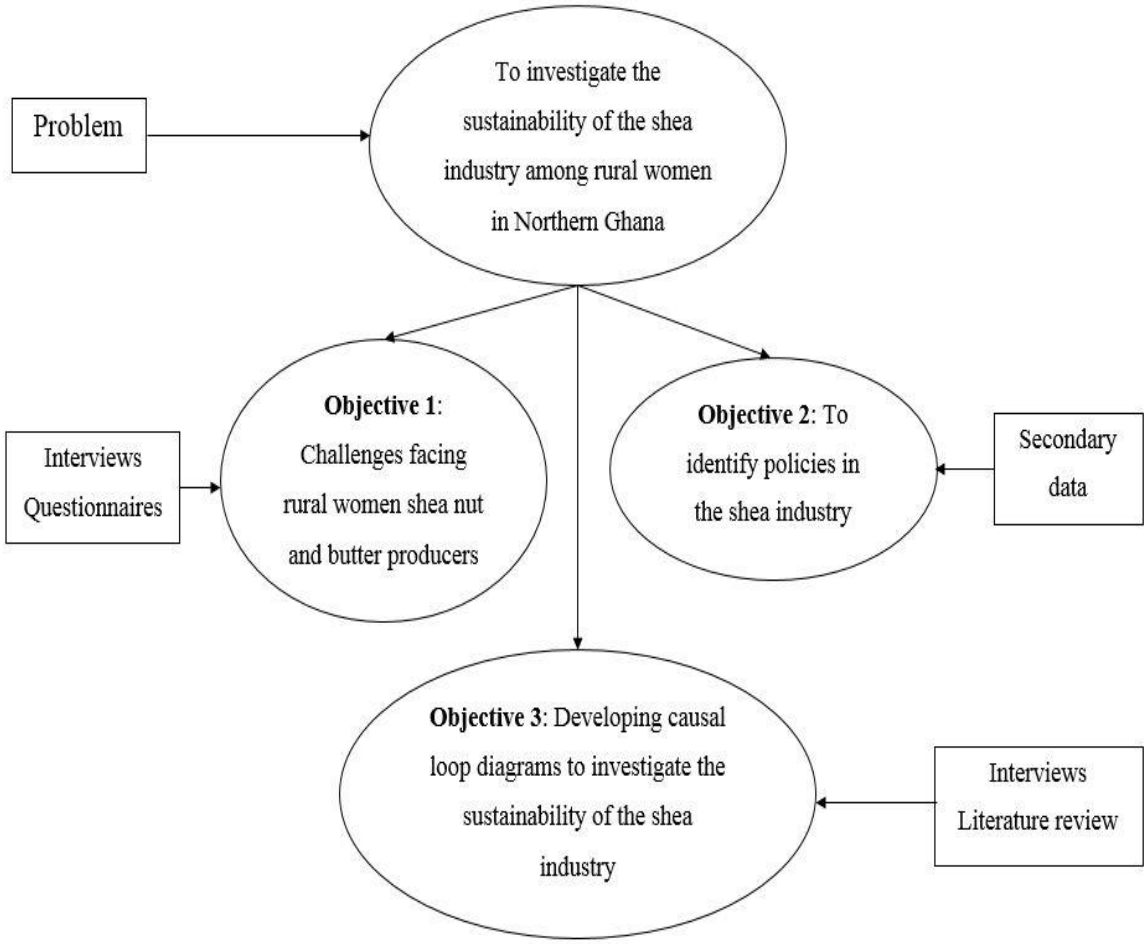


Figure 4.3: Summary of the study objectives and methods

4.3.1. Qualitative Data: Objective One

The first and third objectives of this study which were to determine the challenges encountered by rural women in the shea industry and to develop the causal loop diagram respectively were answered using qualitative data generated through interviews in one-on-one interviews and focus group discussions. Qualitative data was collected using a semi-structured interview (SSI) guide. The flow of questions was moderated by the researcher and this offered a great deal of flexibility in the collection of reactions and ideas. This kind of interviewing was good for the problem articulation stage in the construction of causal loop diagrams. The qualitative data for this study was collected through in-depth interviews on an individual basis (one-on-one in-depth interviews) with all the actors in the shea value chain. The semi-structured interview guide was also used in the focus group discussions with women shea pickers and kernel processors.

4.3.1.1. One-on-one In-depth Interview

Individual research participants were interacted with and encouraged to express their thoughts freely with prompting and follow-up questions where necessary. The purpose of these interviews was to understand the dynamics behind the interactions between the elements (for example, the various actors) by interviewing respondents directly involved in these interactions. One-on-one in-depth interviews were conducted with all the participants in the target population.

4.3.1.2. Focus Group Discussion

The focus group discussions used a randomly selected group of representatives among the women shea pickers and kernel processors. The focus groups assisted in the conceptualization of the problem by identifying key issues. These discussions provided rich and detailed information about thoughts, understandings, perceptions, and impressions of the rural women in the realm of hands-on practice. This was particularly significant and buttressed the rationale behind the use of the feminist standpoint theory discussed in Chapter 3. This type of data collection engaged the rural women, who are seldom included in knowledge co-production. This produced contextual and situated knowledge which contributed to answering the research questions in the results and discussion chapters (5, 6 and 7).

4.3.1.3. Semi-Structured Interview Guide

Semi-structured interviews permitted the interaction between the researcher and actors in the field. This interaction produced data which was guided using a semi-structured interview guide, which consisted of a set of prompting and follow-up questions pertaining to shea in Ghana. This guided the rural women shea pickers and shea butter extractors in telling their stories and describing their challenges. Opportunities were also created during the interviewing process for stories to be recounted outside of the interview questions in the interview guide. Additionally, field notes were taken, which provided a detailed account of activities and observations on-site to supplement the interview-transcription and data-analysis phase. This also served as a backup in the event of any technical difficulties such as voice recorder malfunction. A field diary was kept to chronicle the feelings, experiences, and perceptions of the researcher throughout the research process, as suggested by Creswell (2013: 258).

i. Structure of Interviews

The duration of interviews for both one-on-one interviews and focus group discussions was kept approximately one and a half-hour long. Interviewees were informed of this time period during the setting up of dates for the interviews. At the beginning of each interview, the interviewer thanked the interviewee for agreeing to be interviewed. Also, a brief explanation of the purpose of the study was given and the interviewees were assured of the anonymity and confidentiality of their responses. Interviewees were informed of their choice not to participate in or complete the interview at any point during the process. Each interviewee was provided with a consent form (see Appendix B) and informed about the study being conducted in accordance with Stellenbosch University's Policy on Research Ethics (Stellenbosch University, 2013). Interviewees were then asked if they had any questions before the interview commenced.

ii. Wording of interview questions

In wording the interview questions, a combination of closed- and open-ended questions was used. Some questions were first posed as closed-ended questions, requiring a "Yes" or "No" response; this was then followed up by asking the interviewee to motivate his/her response. This was done to keep the interview questions as simple and clear as possible, and to facilitate a comprehensive analysis of interviewee responses. Questions with multiple sections were asked one section at a time in order to minimize interviewee confusion and possible ambiguity.

Questions were kept neutral and leading questions were avoided. There were minor differences between the interview questions for the various actors to reflect their different roles.

4.3.2. Quantitative Data: Objective One (Cost Structure of Shea Actors)

4.3.2.1. Questionnaire

The cost structure and profit margins of rural women shea actors and middlemen were calculated under the crude dynamics of shea pricing in objective one using data generated through the administration of questionnaires. Questionnaires used in this study were sets of questions pertaining to the various aspects of the shea industry. The questionnaire designed for this study was divided into areas such as shea activities (shea processing and marketing), the structure of the shea value chain and the activities of middlemen. This comprised of both closed- and open-ended questions. Closed-ended questions had the advantage of quick and easy processing and comparison of data. The open-ended questions were used to explore the explanations behind the answers to the closed-ended questions.

4.3.3. Objective Two (2): Secondary Data

The second objective of this study which was to identify the policies in the shea industry was answered by systematic study of the export values and volumes of shea by the Ghana Export Promotion Authority (GEPA) and the yearly Budget Statement and Economic Policy (BSEP). The secondary data used exist independently of the research process of this study. This dataset was pre-existing, thus naturalistic and non-interactive. These qualities motivated the use of this pre-existing data from these sources. Content analysis was systematically applied in the studying of this data. The sources of this data included:

i. Information collected by the Ghana Export Promotion Authority. This is a governmental department responsible for developing and promoting exports of non-traditional products. This department is also involved in the provision of technical assistance at the enterprise level in production, marketing, and training. It also provides "general advisory services as well as participating in export finance committees aimed at creating an enabling environment for non-traditional export expansion" (GEPA, 2016). Data for the export values and volumes of shea (nuts and butter) from 1995 to 2015 were sourced from this department for this study (see Appendix F: Permission Letter B);

ii. The past and current policies in the shea industry were obtained and analyzed from the annual Budget Statements and Economic Policies (BSEP) online from the webpage of the Ministry of Finance and Economic Policies. The annual budgets from 2008 to 2015 were analyzed for this study.

4.3.4. Causal Loop Diagram: Objective Three

A causal loop diagram which is a map or a diagram of a system with all its constituent components and their interactions was used to exploring the sustainability of the shea industry to answer objective three.

4.3.4.1. Problem Articulation

The first stage of developing the causal loop diagrams incorporated qualitative data into the problem articulation and dynamic hypothesis stages, and did not require numerical data (Luna-Reyes and Andersen, 2003: 271). This data was generated through a mixed methodology and utilized a number of methods; including literature review, case study, participatory approaches – mainly interviews and focus groups – and causal loop diagrams.

4.3.4.2. Limitations of the Causal Loop Diagrams

According to Pittock *et al*. (2016: 18), CLDs have two interrelated limitations. CLDs are simplifications of the situation under consideration. As such, all CLDs are only ever partial representations of the actual. Moreover, there are multiple possible CLD representations for any particular situation under consideration. Thus any particular CLD developed to represent a particular problem situation may be seen by some as incomplete or as failing to focus on what some particular actor, agent or stakeholder may deem as important. Different actors within the problem situation may hold very different values and worldviews and thus see very different interactions and feedback mechanisms within the system as being important. These limitations were addressed by clearly identifying the boundaries. Multi-stakeholder perspective and cross-sectoral knowledge discussed in this chapter were incorporated as far as possible to appropriately identify the causes of the problem and design effective interventions.

4.4. Pilot Testing

Pre-testing or pilot testing of the questionnaire and interview guides which is considered an essential step in research according to Singh (2007: 72), was carried out with four respondents. The first two respondents were rural women who are part of a shea butter extraction women's

group at Jisonaayili, a community in Tamale. Pilot testing was done with these particular respondents because they were primary producers experienced in shea activities and had similar backgrounds to those who were to be interviewed later. The second and third respondents were a stakeholder and a middleman respectively. They signed a written consent form to participate in the pilot study. One major challenge in this study was the language barrier at the shea butter processing centre. This challenge confirms the report by Ornstein (2013: 100), who noted language issues as a fundamental problem in the design of research instruments. This substantiated the need for field research assistants who were specifically well versed in the language (Dabgani[20]) widely spoken by the natives of the communities. Each respondent in the pilot test was separately taken through each question by the field research assistants. They were each asked to give their interpretation of the various questions and comment on some terminology for clarity and comprehension. Respondents were assured of the anonymity and confidentiality of their feedback and participation.

This preliminary step in the study was indispensable because it tested the research instruments to ascertain their suitability in actual field conditions. Additionally, it assisted in removing repeated questions, ambiguities and other sources of bias and error. Based on the feedback obtained from the pilot study, the modifications and corrections listed were made to the questions, content, and structure of the interviews. Qualitative and quantitative data obtained from rural women from the shea butter extraction women's group during the pilot survey were not included in the analysis of the data collected in the study area. The instruments that were developed have been included in Appendix G. Some modifications made to the interview questions are outlined.

A. Semi-structured Interview Guide for Rural Women Shea Actors

1. The first two introductory questions were omitted per the recommendations from the participants of the pilot study because they were irrelevant.
2. A follow-up question under section A (shea processing), which was to describe in as much detail as possible the activities undertaken in the transformation of shea nuts into butter in the value chain, was deleted because it was repeated elsewhere.

[20] Dagbani is a Gur language spoken in Ghana by the Dagombas, an ethnic group in Northern Ghana. It is also known as Dagbanli and Dagbanle.

3. The word "sustainability" under section A (shea processing) was removed, as interviewees were not familiar with its meaning. The question was reworded to explain this concept simply.
4. A question under section C (Structure of the value chain), which entailed giving a detailed description of the journey of shea along the value chain, was removed because it was repeated elsewhere.
5. A question (xiv) on the benefits and disadvantages of the open market system of shea was also removed and reworded because it was difficult to explain.

B. Questionnaire for Rural Women Shea Actors

1. A question (33) under shea butter production was added asking respondents about the shea raw material processed.
2. Question (63) was added asking actors about the factors that prohibited market accessibility.

C. **Semi-Structured Interview Guide for Stakeholders**

1. An introductory question (1) under section (A) was added asking respondents to elaborate on their current position or role in the shea value chain and the nature of activities in their various institutions.
2. Question (44) asking respondents their opinion on the challenges in translating policies and initiatives into practice was added.
3. Variability was introduced in the wording of questions. Instead of saying "can you describe" for almost all of the questions, it was decided to sometimes say "In your opinion what do you". The latter option also had the advantage of allowing interviewees to provide more detail.

D. Semi-Structured Interview Guide for shea intermediaries

1. Question 2 asking respondents to describe the impact of their activities on the shea industry in Ghana was added.

4.4.1. Methodological Challenges

The first challenge faced in the field was with linguistics. Finding words and phrases for 'empowerment' and 'sustainability' in the Dagbani dialect so that the rural women shea actors could understand the concepts was a challenge. However, the field research assistants in

collaboration with the rural women engaged in the pilot testing were helpful in identifying some appropriate words and terms. It was observed during the pilot survey that rural women shea actors who were approached were reluctant to tell their stories (with some passing on the opportunity to others once the actors were informed of the use and the purpose of the recording device). Respondents, especially rural women, had their reservations about being recorded and preferred the questionnaire. However, through careful assurance, the respondents overcame their uncertainties about the recording device and their narratives were freely recounted. It was also noticed that the respondents were very reluctant to answer Section A of the questionnaire, which contained the demographics right at the beginning of the interaction. Hence, a decision was made based on the outcome of the pilot survey to ask these questions at the end or ask them in the course of the interaction when the respondents felt more comfortable and at ease.

4.4.2. Recruiting and Training of Field Research Assistants

To assist in the pre-testing of the questionnaires, semi-structured interview guides and the actual data collection at the study area, an inquiry team which consisted of two field research assistants was enlisted through the assistance and recommendation of Farm Radio International[21]. These field research assistants, who were interns of Farm Radio International, were chosen based on the following criteria:

i. Command and fluency of English and Dagbani;
ii. Ability to interpret and explain the questions in English to Dagbani speakers and vice versa without conflicting with or challenging the values of respondents;
iii. Ability to transcribe the interview data.

Prior to the pilot survey, the co-investigators were taken through a week-long training session on the content and structure of the questionnaire and interview guides. Role-playing was employed and audio recordings made during these scenarios were analyzed. The training sessions were highly participatory, practical and interactive in nature, and gave the field research assistants an opportunity to ask questions and seek clarification. After the pilot survey, meetings were held to discuss the findings, ethical issues and the plan for data collection at the study area. Each team member was required to make field notes in a diary after every encounter with a respondent. Interview data collected and transcriptions were validated by a third field research assistant who was not directly involved in the research. This research assistant also

[21] Farm Radio International is an international non-profit organisation focused on using radio to help African farming communities (Farm Radio International, 2019).

provided internal checks. Brief meetings were held at the end of each data-collection session to share insights and discoveries.

4.5. Qualitative Data Analysis

Initial analyses of data began while conducting fieldwork to identify any emergent issues and refine concerns that may have been missed and needed follow-ups in subsequent interviews. After data collection, all recordings were replayed in order to attain insights into the stories of each participant. The interviews were transcribed verbatim in Microsoft Word by the field research assistants, after which the main researcher analyzed the transcripts. The transcripts were transferred to ATLAS.ti and followed by a thematic analysis. The transcripts were first coded based on frequently appearing words or issues. Different individuals' responses were highlighted in different colours, in order to keep track of interviewees' responses, as no names were typed in order to protect participants' anonymity. This study adapted Creswell's (2013: 246) steps for data analysis, which are presented.

4.5.1. Organization

This preliminary step organized and prepared the data for analysis. This involved transcribing interviews and typing up field notes. The digital voice recordings made during the interviews were transcribed and analysis conducted using a computer-assisted qualitative data analysis software (CAQDAS) program. This program was preferred because it organizes data more efficiently than is possible with manual methods, which often introduce human error. The proposed program, ATLAS.ti, was used for assigning open codes and identification of themes.

4.5.2. Reading

This step provided a general sense of the information collected from the shea actors and an opportunity to reflect on its overall meaning. General thoughts regarding the transcribed data at this stage were recorded with reference to the field notes and diaries kept during the interviewing process with shea actors.

4.5.3. Coding

Coding is the process of arranging the data by bracketing text chunks and writing a word denoting a category in the margins (Rallis and Rossman, 2012). Examples of such text chunks included;

> *For the money, it is my own money I use to process the Shea butter but there are times madam (middleman) gives us money to process after selling she takes her money* (Pre-financing)

> *Those with much power I will say are the middlemen who buy from the pickers and we also buy from the middlemen. They have the power because if they don't go to the communities to buy and sell we won't also get to buy or sell* (Power Dynamics)

> *The buyers of shea butter have the most power because they come to buy. If they don't buy we run at a loss. As at now, we have some shea butter stored in the storeroom because the demand is slow* (Market access)

> *…because they finish cutting down the shea trees, it is no more there, but, the villages that haven't yet built houses around still have some of the shea* (Shea Resource Exploitation)

At this stage, the coding process was used to generate a description of the setting, shea actors as well as categories or themes for analysis. It involved:

i. taking text data gathered during data collection;
ii. segmenting sentences or paragraphs into categories and
iii. tagging those categories with a term based on the respondent's interview response.

4.5.4. Themes for Analysis

Data collected through the participatory rural appraisal approach using semi-structured interview guides from focus groups and individual participants were analyzed thematically by identifying, analyzing and reporting patterns within the transcribed data. The theme identified captured important details about the data in relation to the research question and represented levels of patterned response and meaning within the data set.

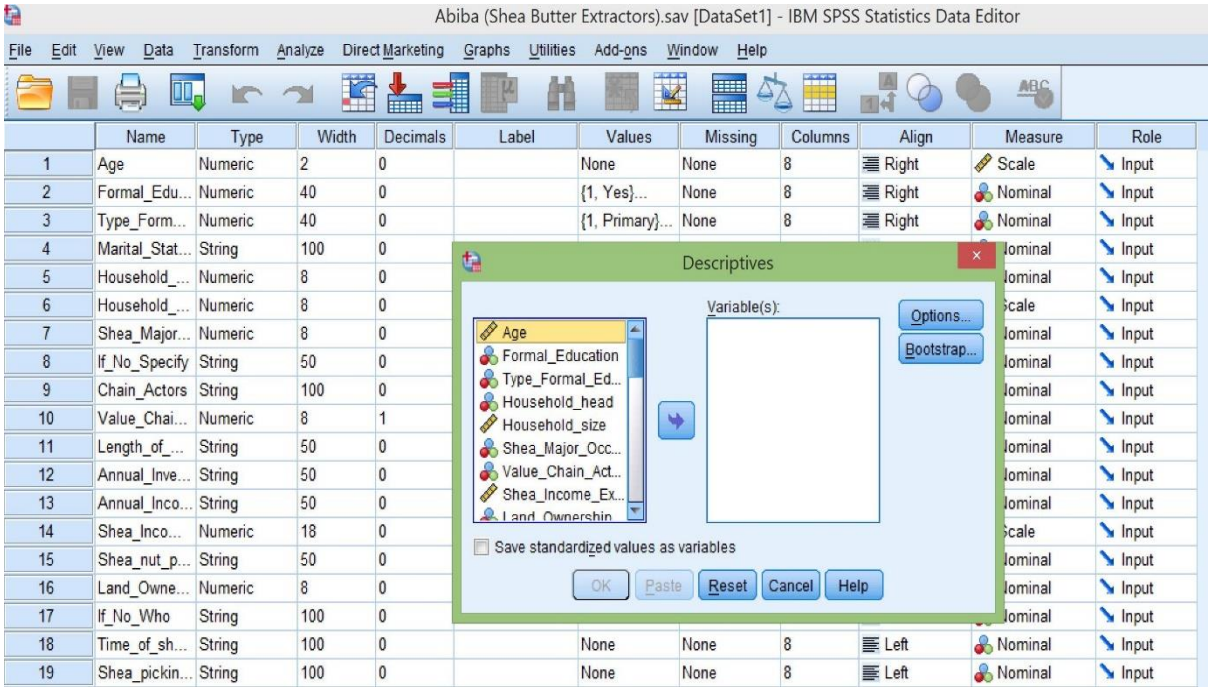
4.5.5. Representation

This step in the data analysis process involved how the description and themes were presented in the results section of this study. The qualitative data generated assisted in answering objective one of this study which sought to identify the challenges in the shea industry (Chapter 5).

4.6. Quantitative Data Processing and Analysis

The Statistical Package for Social Sciences (SPSS), which is an integrated computer program, was used in analyzing the data collected (Nie *et al.*, 1975: 1; Te Grotenhuis and Matthijssen, 2015: 1). The SPSS system file required the labelling of all the variables, the variables' response choices and the number of columns assigned to each variable. The variables were coded into one of two types for input into the SPSS system. It was either numeric or alphanumeric. Numeric variables were coded so that they took values that were single- or multiple-digit integers or numbers containing decimal points. Alphanumeric variables, on the other hand, assumed one or more values that were not numeric (this meant they were either letters or special characters). After coding, the values were entered. After all questions were converted into variables with a name (and a label), scores (values) were entered onto the spreadsheet related to those variables.

This computer package consisted of a substantial number of already written computer programs, as is depicted in Figure 4.4. This program provided a unified and comprehensive package that enabled the performance of many different types of data analysis in a simple and convenient manner. Variables analyzed included demographics such as the age of rural women, education and shea experience, among others. It provided descriptive statistics, simple frequency distributions, and cross-tabulations, among others.



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Age	Numeric	2	0		None	None	8	Right	Scale	Input
2	Formal_Edu...	Numeric	40	0		{1, Yes}...	None	8	Right	Nominal	Input
3	Type_Form...	Numeric	40	0		{1, Primary}...	None	8	Right	Nominal	Input
4	Marital_Stat...	String	100	0						Nominal	Input
5	Household_...	Numeric	8	0						Nominal	Input
6	Household_...	Numeric	8	0						Scale	Input
7	Shea_Major...	Numeric	8	0						Nominal	Input
8	If_No_Specify	String	50	0						Nominal	Input
9	Chain_Actors	String	100	0						Nominal	Input
10	Value_Chai...	Numeric	8	1						Nominal	Input
11	Length_of_...	String	50	0						Nominal	Input
12	Annual_Inve...	String	50	0						Nominal	Input
13	Annual_Inco...	String	50	0						Nominal	Input
14	Shea_Inco...	Numeric	18	0						Scale	Input
15	Shea_nut_p...	String	50	0						Nominal	Input
16	Land_Owne...	Numeric	8	0						Nominal	Input
17	If_No_Who	String	100	0						Nominal	Input
18	Time_of_sh...	String	100	0		None	None	8	Left	Nominal	Input
19	Shea_pickin...	String	100	0		None	None	8	Left	Nominal	Input

Figure 4.4: Screenshot of descriptive page in SPSS (Data Analysis)

4.7. Strategies for validating findings

Validity measures if a research project truly measures what it was intended to measure, or how truthful the research results are. The tests for validity and reliability for the data generated from this study are outlined.

i. **Member Checks**: this was used to determine the accuracy of findings. This was done by returning the final report or themes to participants and determining their accuracy. This procedure involved conducting a follow-up interview with some participants in the study and providing an opportunity for comments on the findings. Time was allocated after the collection of data from respondents for provisional analysis. The interview data provided by respondents was transcribed in order to facilitate the emergent design and information. This provisional report was taken back to the site and subjected to the scrutiny of a few of the shea actors who had provided information.

ii. **Methodological triangulation**: The study utilized the strategy of mixed methods (enabling triangulation) as a quality-control criterion that enabled the study to obtain different views on the same research field and for comparison of results. The study used both qualitative (one-on-one interviews and focus group discussions) and quantitative (questionnaires) research methods. This ensured an in-depth understanding of the shea industry.

iii. Educating prospective study participants about the nature and purpose of the study was part of the process. This was done to ensure that respondents understood what the study was about, its end goal and their right to either participate in or decline involvement in the process.

iv. Content validity was enhanced by ensuring that the questionnaire and interview guide holistically covered various aspects of the shea industry from shea picking through to marketing of shea kernels and butter.

4.7.1. Enhancing the reliability of data

In order to enhance the reliability of the data collected in the study area and from the various shea actors, a sample size that was as large as possible, given the resource constraints, was chosen. A total of 76 respondents in their various capacities as actors along the shea value chain were interviewed. This consisted of 17 shea pickers, 39 shea butter extractors, 1 secondary processor, 2 middlemen, 1 shea company, 3 governmental institutions, 2 policymakers, 3 non-

governmental organizations, 3 research institutions, and 5 consumers. The Tiehisuma Shea Butter Processing Center located at Gurugu, a suburb of Tamale in the Northern Region of Ghana, was the main study area.

4.7.1. Validity of Causal Loop Diagram

Coyle and Exelby (2000: 27) and Sterman (2000: 846) have noted the challenge in creating a perfect model that is perfectly valid. Sterman stated that "all models, mental or formal, are limited, simplified representations of the real world. They differ from reality in ways large and small, infinite in number". However, the model must possess a greater degree of authenticity. According to Roy and Mohapatra (2000: 4), the validity of the results of a given study is crucially dependent on the validity of the model. Model validation may be defined as 'establishing confidence in the usefulness of a model with respect to its purpose' (Barlas, 1996: 184). According to Coyle (1996: 12), a valid model means 'well suited to a purpose and soundly constructed'. This study structurally validated the causal loop diagram as suggested by Burns and Musa (2001). This study ensured that the diagram had clarity; clearly communicating the implied causality explicitly to prevent cause insufficiency.

4.8. Guiding ethical principles and considerations

To ensure that research participants were not harmed or suffered adverse consequences from the activities of this study, a set of guiding moral principles and norms was needed, as suggested by Liamputtong, (2011: 25). Ethical clearance for this study was requested from the University of Stellenbosch Ethics Committee on 14 November 2016 and approved on 5 January 2017 (see Appendix D). This approval contained measures in line with Stellenbosch University's principles to ensure that respondents were well informed about the purpose of the study, the dissemination of results and had consented to participation. The study was designed and conducted within the policy for ethical research conduct at Stellenbosch University. Measures were taken to safeguard the data collected each day. The privacy, confidentiality, and anonymity of research participants were protected. Both interview data and completed questionnaires were collected and compiled at the end of each day, stored and protected on a computer database accessible by a password, as suggested by Longhurst (2003: 151). No coercion was used or inducements provided to interviewees before the commencement of the data collection. However, compensation in the form of snacks was given only to the rural women respondents after the interviews and questionnaires were completed. Rural women respondents to be interviewed each day gathered at the processing centre. This resulted in an

extended waiting period for some rural women and therefore there was a need for snacks at the end of the field research process.

Interviewees were assured that they did not have to participate in or complete the interview if they did not wish to do so. When asked whether a typed copy of responses should be sent to the shea actors for accuracy checks, only the manager of the Shea Butter Processing Center showed an interest. The interview questions and responses were presented after the completion of the interview and no changes were made by the manager of the centre. No interviewee names were included in the typed interview notes.

4.8.1. Informed Consent

Informed consent is an important feature of the ethical considerations in any research involving human subjects and in this case the different actors who were involved in this research. Prior to the commencement of data collection, each respondent contacted for this research was made fully aware of the purpose of the study. They were also assured of the low to no risk of participation in the study as well as of the credentials of the investigators (such as the primary investigator, who had her student identification card in addition to an introductory letter from the promoter, included in Appendix C). While the consent letters were given to the middlemen, stakeholders, and policymakers for their signatures upon acceptance to be interviewed, rural women thumb-printed the document to indicate their consent. The consent form was interpreted and explained to the rural women by the field research assistants because of the language barrier.

4.8.2. Reflexivity in the Research Process

According to Hesse-Biber (2007: 129) reflexivity in a research process starts with an understanding of the importance of the researchers' values and attitudes in relation to the research process and the research participants. Harding (1991) also noted that it is essential for the researcher to attain a level of consciousness and to critically reflective on the different ways his or her positionality can serve as an interference on one hand and a resource on the other in the production of knowledge throughout the research process.

The process of reflexivity commenced before the data collection phase for this study into the shea industry and into the lives of rural women shea actors. This process entailed a critical self-reflection of my lived experiences and reality. This was an important undertaking for this research in order to examine how my social background, reality, and assumptions can interfere

in the research process. This process was done for me to understand the bias I am capable of bringing to the research and to find ways to minimize it. It was important for me to find a way to position myself in the research setting so that I could navigate positively the power and authority that is often innate in most research processes between the researcher and the research respondents. I executed this by providing rural women shea actors, detailed information about myself as a student and a researcher and emphasized the point that I was not an expert in their activities and in the shea industry. I reminded the rural women shea actors that they were the experts on their own lives and in their activities in the shea industry, I was in their presence as a student bearing witness to their lives and shea activities. The goal was to shift the conversation to their lived experiences as actors in the shea industry to ensure that their voices were represented, listened to and understood throughout the research process.

4.9. Giving Back to the Community

To bring about or contribute to social change for rural women in the shea industry in the Northern region of Ghana, dissemination of the findings of this research which includes the presentation of results to scholars, the public, policymakers, the media among others is important. The experience of rural women actualized and discussed in this study contributes to raising the levels of social consciousness about the state of the shea industry and its impact on rural women and the economy. According to Longhurst 2003: 151), it is a sound research practice to offer participants a summary of the research results at the completion of the project and to follow through on this commitment. The study findings will be shared with the shea actors interviewed to show the gaps where policy interventions are needed and the kind of interventions that should be made. Focus groups consisting of rural women shea pickers and kernel processors will be instrumental for the dissemination of the final results. Findings will also be mailed electronically to the intermediaries/middlemen, stakeholders, and policymakers at the completion of this study.

4.10. Conclusion

This chapter outlined the mixed methodology and methods used in this study. It presented the activities undertaken during data collection from respondents in Northern Ghana (rural women shea actors, middlemen, and stakeholders) and in the Greater Accra Region (policymakers). The research design and methodology chosen for this study were described in detail and justified. The mixed methodology and methods; including literature review, case study,

participatory approaches – mainly interviews and focus groups – and causal loop diagrams were discussed. The participatory approaches produced data generated from conducting interviews using a semi-structured interview guide to collect narratives from actors in the realm of practice. These actors were rural women shea pickers and kernel processors, intermediaries/middlemen, stakeholders, and policymakers. Qualitative data generated from interviews and literature reviews was used to answer research objective one which focused on identifying the challenges of rural women and objective three on building causal loop diagrams. The quantitative research method entailed the administration of questionnaires to women shea pickers and kernel processors to elicit numerical data. This method provided numerical data for the calculation of the cost structure of shea actors in objective one. Content analysis was systematically carried out on secondary data in order to answer objective two which sort to identify the policies in the shea industry. Due to the language barrier in the study area in Northern Ghana, field research assistants who were fluent and had a strong command of the Dagbani language were enlisted. Prior to the collection of data from Tiehisuma Sheabutter Processing Center in Tamale in Northern Ghana, a pilot survey was conducted. This was conducted at a shea butter extraction women's group at Jisonaayili, a suburb of Tamale in Northern Ghana. Recommendations and corrections based on this pre-test were incorporated into the questionnaires and the interview guide before the actual data collection. ATLAS.ti was used to analyze interviewee responses (rural women shea pickers and kernel processors, intermediaries or middlemen, stakeholders, and policymakers). The Statistical Package for Social Sciences (SPSS) was used to describe and analyze the quantitative data obtained from rural women shea pickers and kernel processors. The next chapter focuses on presenting the results to the first objective which was to determine the challenges encountered by rural women in the shea industry in Northern Ghana.

CHAPTER 5: CHALLENGES OF RURAL WOMEN SHEA ACTORS

5.1. Introduction

Without a holistic approach leading to sustainable interventions, the certainty of the collapse of the industry is imminent. In this chapter, the first step to investigating the sustainability of the shea industry among rural women in the shea industry in Northern Ghana is to identify the challenges encountered in the industry. This chapter deals with the results and discussions of these challenges which answered objective one of this study. The participatory rural appraisal discussed in the previous chapter (Chapter 4) was an important and enabling community-based action research for the data-collection process. Qualitative data generated through interviews and focus groups discussions guided by semi-structured interview guides are analyzed and discussed in this chapter. The emergent themes centred on the challenges in the shea industry are identified and discussed. The complexities of these challenges are highlighted through the accounts of the daily shea activities of rural women shea nut and butter processors. The outcome of this chapter is to acknowledge the contribution of rural women to the shea industry and to uncover the challenges and struggles of their lived experience in the industry.

5.2. Demographics of Respondents

5.2.1. Gender

A total of 76 actors were interviewed for this study. This number consisted of 57 primary producers (shea pickers and processors), 2 middlemen/aggregators, 2 policymakers, 10 stakeholders, and 5 consumers. Table 5.1 presents the categories of actors interviewed, their location and the gender distribution of these actors. Of the total number of respondents, 58 were women in the capacity of primary and secondary producers, middlemen and 13 of the respondents were men in supporting roles along the shea value chain. This distribution is indicative of the gendered nature of the shea industry in Ghana. This gendered nature is validated by the categorization of the industry as a "feminized subsidy from nature" as emphasized by Elias and Carney (2007: 37). The findings are also confirmed by Carette *et al*. (2009: 17), who established that men did not participate in shea nut gathering, because they regarded it as the preserve of women and children.

Table 5.1: Gender distribution of respondents of data collection

CATEGORY	LOCATION	MEN	WOMEN
Shea Pickers	Kpano Shea Pickers Association	-	17
Shea Butter Extractors	Tiehisuma Shea Butter Processing Center	-	39
Secondary Processor	Individual	-	1
Middlemen /Intermediaries	Individuals	1	1
Companies	Savannah Fruit Company	1	-
Governmental Institutions	PBC	1	-
	Cocoa, Coffee and Shea Association (COCOSHEA)	1	-
	Ghana Export Promotion Authority	1	-
Policy Makers	Former Deputy Minister of Agriculture	1	-
	Shea Unit of Ghana Cocoa Board (COCOBOD)	1	-
NGO's	Netherlands Development Organization (SNV)	1	-
	Shea Network Ghana (SNG)	1	-
	Global Shea Alliance (GSA)	1	-
Research Institutions	University of Development Studies (UDS)	2	-
	Cocoa Research Institute (CRIG)	1	-
Consumer	Individuals	2	3
Total		**15**	**61**

Source: Field Data, 2017

A total of 57 rural women in shea picking and processing activities were interviewed. As presented in Table 5.1, this number consisted of 17 shea pickers, 39 shea butter extractors, and 1 secondary processor. Even though there were similarities in the narratives of rural women, one important finding of the data-collection process was the diversity of the actors, as depicted in Table 5.2.

Table 5.2: Characteristics of women shea actors interviewed

Variable	Description	Frequency	Percentage (%)
Age (years)	20 – 30	5	8.77
	31 – 40	8	14.04
	41 – 50	23	40.35
	51 - 60	21	36.84
Education	Primary	17	29.82
	No Formal	40	70.18
Marital Status	Single/ Never Married	8	14.04
	Married	33	57.89
	Widowed	15	26.32
	Divorced	1	1.75
Household Head	Yes	17	29.82
	No	40	70.18
Major Occupation	Yes	41	71.93
	No	16	28.07
Shea Experience (years)	1 – 10	12	21.05
	11 – 20	15	26.32
	21 – 30	22	38.59
	31 – 40	8	14.04

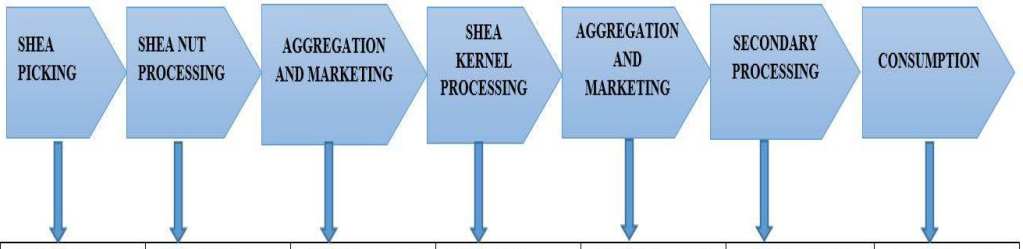
Source: Field Survey, 2017

This diversity was evident along the lines of physical abilities, category of work in the shea industry, age, number of years in the industry, marital status, ethnicity, and other features. However, this did not diminish the importance of each rural woman shea actor's account.

5.3.Mapping the Actors, their Roles, and Existing Linkages

Figure 5.1 presents a map of the actors, their core roles and value-adding activities. The main actors identified through the data-collection process were shea pickers, shea processors and

shea aggregators, and wholesalers (middlemen/intermediaries). The core processes in the shea value chain were picking, processing, marketing, and distribution. The mapping process showed the importance of the various activities undertaken by the rural women in the shea industry. Rural women were involved and played instrumental roles in about 80 per cent of all activities in shea from the picking of nuts until final sales to middlemen and agents. This finding was validated by Chalfin (2004a: 2), who identified the centrality of the industry to the livelihoods of the rural women who pick and process shea. Chalfin noted the importance of the shea industry as forming a core of the livelihood strategies of rural women in Northern Ghana



Actors	Rural Women	Rural Women	Middlemen & Women	Rural Women	Middlemen & Women	Individuals and Companies	Consumers
Value Adding Activities	Picking of shea fruit and/or nut.	Processing of shea nut into shea kernels.	Buy and accumulate shea kernels at the local level for sale at the local and/or international markets.	Processing Shea kernels into shea butter.	Buy and accumulate shea butter at the local level for sale at the local and/or international markets.	Processing of shea butter into cosmetics, pharmaceuticals and confectionaries.	Purchase and consumption of shea products.

Figure 5.1: Mapping shea actors, roles and value-adding activities (Source: Field data, 2017).

The value-added on shea fruit and/or nut and kernel in the shea value chain goes directly into the shea nut and butter supply chain. The main value addition by the various actors in the shea nut and butter supply chain is illustrated in Figure 5.1. Rural women shea nut pickers add value by picking the shea fruit and/or nut. They added value to the shea fruit and/or nut by processing it into shea kernels. Middlemen who transact businesses by purchasing shea kernels solely, add value by accumulating and transporting the kernels to exporters. Rural women shea butter extractors, add value to the shea kernel by transforming it into shea butter through a number of

processing stages. Middlemen who trade in shea butter add their value through transportation from one point to the other until it is exported to companies who process shea butter into other products such as cosmetics, pharmaceuticals, and confectionaries. The following subsections present the specific activities of the main actors identified in the mapping process. The main categories of actors in the industry are shea pickers, shea butter extractors, secondary processors and middlemen/aggregators.

5.3.1. Shea Nut Pickers

The first node of the value chain is represented by pickers of the shea fruit in Northern Ghana (Figure 5.2). This study identified that these value chain 'starters' were generally rural women who go either to farmlands and community lands or into the wild to gather the mature shea fruit from the ground. The picking season usually starts at the end of the dry season in April/May and ends in August/September.

Figure 5.2: Rural women shea pickers (Source: SNG, 2017)

These women generally commence the picking activities in groups or as individuals and return when they have gathered a head-load of shea fruits and/or nuts. Once the picking is done,

primary processes are completed to transform the shea nuts into kernels. This involves removing the pulp of the shea fruit to expose the nut. The shea nut is dried and dehusked by cracking with a stone to remove the shea kernel, which is dried and stored. After this value addition, rural women either stored or sold the kernels to middlemen or agents. While the collection of nuts is a resource- and time-consuming work, it was observed that all rural women pickers interviewed also performed the tedious task of processing shea kernels into shea butter.

Shea Kernel Extraction (Nuts to Kernels)

After the shea fruit has been collected, it goes through five processing steps before it is stored, sold or processed into butter.

i. Removal of pulp

This process involves the removal of the pulp of the shea fruit to expose the nut. The fermentation process is enhanced by boiling or burying the fruit in a pit. The pulp contains high amounts of sugar, which encourages the growth of fungi and that in turn decreases the oil quality of the kernel. Currently, the pulp is either eaten or allowed to ferment. However, value may be added by processing the pulp into juice or jam or incorporated into other edible products. These detailed post-harvest processing activities are carried out by rural women, most of whom have no formal education or a history of record keeping. These women possess a rich source of indigenous knowledge and the potential to increase their productivity is possible if this knowledge can be protected and enhanced.

ii. Parboiling

Shea nuts are boiled after the removal of the pulp to terminate any potential germination process. Over-boiling renders the extraction of the butter from the shea kernels difficult or even in some cases impossible. On average, rural women parboil the shea nuts for 45 minutes before drying (Fobil, 2002).

iii. Drying

After parboiling, the nuts are sun-dried for five to ten days to a desired moisture content of approximately 8 per cent of their weight (Fobil, 2002). Drying is undertaken for several days until the desired moisture content is achieved. The nuts are well dried when a rattling sound is produced when shaken. This rattling sound produced is an indication that the shell has been

detached from the kernel to facilitate easy shell removal (Fobil, 2002). Once the nuts are dried they are either stored, sold or processed into shea butter.

iv. Shell Removal

Cracking the shell to retrieve the kernel is done manually by pounding the nuts with a mortar and a pestle or cracking them between two stones. This is usually undertaken by rural women either individually or usually in groups. This activity can also be executed using mechanical means like the nut crusher which minimizes the laborious processing activities of rural women.

v. Drying of kernels

The final drying process in the shea kernel extraction is undertaken after removing the shell to expose the shea kernel. The kernels are thoroughly sun-dried for 3 to 5 days and a final baking process completely dehydrates and eliminates all moisture to concentrate the oil in the kernel (Fobil, 2002).

5.3.2. Shea Butter Extractors

This category of actors adds value to shea by transforming kernels into butter through several stages and activities. Likewise in shea nut processing, the actors identified in this value-addition process were all rural women. The main processing technologies identified in this study for processing shea kernels into butter were traditional and semi-mechanized. The extraction process involves different stages and activities requiring the use of various livelihood assets. These stages of transforming nuts into butter for the consumer involves assets such as human, social, natural, physical and financial capital. Often processing on a large scale is organized by women's group as there are some economies of scale linked to the division of labour during processing.

Jasaw *et al*. (2015: 3600) have established variations in the extraction processes in urban and rural areas of Northern Ghana and attributed the differences to the unique social, economic, environmental, technological differences. Processing differences, especially in equipment and material usage, are major determinants of shea butter quality,[22] which is one of the most important butter-sourcing criteria of cosmetic, pharmaceutical, confectionary producing industries and export companies. Currently, of the three main processing technologies, rural

[22] Middlemen or exporters who buy shea butter for export or for markets in the nation's capital insist on a clear appearance of the butter with no impurities (which is a measure of good quality) (Jasaw *et al*., 2015: 3606).

women actors interviewed at the shea processing centre were involved in semi-mechanized processing. The semi-mechanized system of processing uses equipment such as nut crusher and millers, along with manual processing to reduce the drudgery of processing (Masters, 2002: 22; Jasaw *et al.*, 2015). The fully mechanized industrial processing plants (which rural women interviewed do not have access to) make use of machine pressers, chemical solvents, or a combination of the two to extract the butter.

i. Sorting and cleaning

Bags of kernels are emptied onto platforms shown in Figure 5.3, where debris and discoloured kernels are removed. Sorting of the kernels improves the appearance and subsequently the quality of the butter. This process enhances its attractiveness, thus fetching higher prices for shea. This step gets rid of possible surface mould and oxidized oil from bad nuts after which the kernels are subsequently sun-dried. According to Elias (2015: 32), this stage is among the least physically demanding steps in the butter-making process.

Figure 5.3: Shea kernel (Source: Study area, 2017)

ii. Crushing and Drying

The kernels are broken into small pieces or grits and dried for roasting shown in Figure 5.4. This is done either with a mortar and pestle or the nuts are carried in large basins to an electric-powered nut crusher.

Figure 5.4: Drying of crushed shea kernels (Source: Study area, 2017)

iii. Roasting

The kernel grits are roasted at a temperature of about 120^0C until the kernels deep brown in colour and can easily be crushed by hand (Fobil, 2002). After roasting, the kernel grits are air-dried before milling or grounding into paste (Figure 5.5).

Figure 5.5: Cooling of roasted kernel grits (Source: Study area, 2017)

A considerable amount of time and vigilance are required to avoid charring the kernel pieces during roasting. Over roasting of the kernel grits reduces the fat content and affects the butter quality.

iv. Milling/Grinding

The cooled grits are ground into powder either manually with a grinding stone on another flat-surfaced stone or milled with an electric-powered milling machine shown in Figure 5.6.

Figure 5.6: Milling of kernel grits (Source: Study area, 2017)

This step is a vital part of the butter extraction process. This is because the grinding or milling process determines the quantity of butter that is eventually obtained. The finer the kernel powder, the more butter is obtained. To ease the pressure of the processes, women often rely on the social capital of working in groups. Rural women seek labour assistance in the most difficult operations of the process, particularly this stage in the transformation of shea nuts to butter.

v. Kneading/Beating

The quality of the butter is also determined during this step and depends on the expertise and generational knowledge of rural women in recognizing changes in temperature, consistency, and appearance. This is corroborated by Fobil (2002) who reported that the knowledge required in this processing step was gained through continuous processing. Cold water is added to the powdered kernel grits intermittently and the mixture is churned by hand to attain a smooth and well-mixed dough (Figure 5.7). The dough is kneaded vigorously to fully aerate the fat after which the process is slowed down as the mixture becomes soft and fluffy. At this point, the butter floats to the surface of the mixture as a creamy and grey oily mass.

Figure 5.7: Kneading of shea kernel paste (Source: Study area: 2017)

The floating mass on top of the mixture shown in Figure 5.8 is skimmed and washed repeatedly with clean water to eliminate residue.

Skimming of shea fat

Moulded shea fat

Figure 5.8: Skimming of shea fat (Source: Study area, 2017)

vi. Boiling

The creamy mass which is skimmed is melted and boiled in a cooking pot to clarify the butter (Figure 5.9). Over-boiling burns the oil and breaks down the chemical composition of the butter and increases the peroxide levels that denature the antioxidants which are the natural protection of the butter. This affects the final appearance of the butter and consequently its market value. Through generational knowledge transfer and vigilance, rural women are privy to the duration of boiling the butter so FFAs and peroxide levels are minimized.

Figure 5.9: Boiling of skimmed shea fat (Source: Study area, 2017)

vi. Filtration and Solidification

The warm liquefied butter is filtered through a microfilm into a plastic bowl to remove any further residue. Finally, the butter is stirred into a smooth and uniform texture when the solidification process begins. A filtered and solidified batch of shea butter is shown in Figure 5.10.

Figure 5.10: Solidification and packaging of shea butter (Source: Study area, 2017)

5.3.3. Secondary Processors

These are processors who add value to the shea butter extracted by rural women in the shea butter extraction process outlined in the previous sub-sections. Secondary processors incorporate the butter into cosmetics, pharmaceuticals, and confectionaries. This processing could be done at an industrial level, or through large-scale or local processing. The secondary processor interviewed was a woman located in an urban area in the Greater Accra Region of Ghana. This actor processed shea butter into hair- and body-care products for consumers in the local market.

5.3.4. Middlemen/Aggregators

These actors are typically men who operate on a large scale with a solid capital base in the major shea centres or markets. These middlemen or agents collect and aggregate large volumes of shea kernels from rural women pickers or butter from extractors. Figure 5.11 shows a group of middlemen with some bags of shea kernels. The majority of these actors are men, but this study discovered that women are usually not excluded. Through a network which includes

individual rural women and small-scale traders, these actors buy from women in rural areas. They source their capital from private networks or financial institutions, and sell kernels and/or butter directly through contracts to exporters, importers.

Figure 5.11: Shea aggregators or collectors (Source: Study area, 2017)

5.3.5. Exporters

Although no exporter was interviewed, middlemen and intermediaries who are the link between rural women shea nut pickers and shea butter extractors were interviewed and provided insights into the nature of activities of shea exporters. The majority of nuts are exported through large national buyers, who employ agents or intermediaries in the shea producing communities. These agents are usually well equipped financially and logistically by the exporters to buy shea nuts and/or butter from individuals and women's groups. Negotiations are made with rural women's groups at the community level to process butter on mostly informal contractual basis.

5.3.6. Mapping Support Services

Table 5.3 presents the institutions and organizations (both governmental and non-governmental) whose activities influence performance and efficiency in the shea industry. The

institutions and organizations providing support services to rural women in the shea industry are categorized under the following groupings;

i. governmental institutions
ii. non-governmental organizations
iii. Farmer Associations
iv. Research institutions

Table 5.3: Support Services in the shea value chain in Northern Ghana

CATEGORY	INSTITUTION	ROLE
Governmental	PBC (Tamale)	Purchasing
	Ghana Export Promotion Authority (GEPA)	Export
	Ministry of Food and Agriculture (MoFA)	Policy formulation and implementation
	Shea Unit of the Ghana Cocoa Board (COCOBOD)	Division of the Ghana Cocoa Board
	Cocoa, Coffee and Shea Association (COCOSHEA)	
Non-Governmental	Stichting Nederlandse Vrijwilligers (SNV)	Commodity chain development
	Shea Network Ghana (SNG)	Private sector platform
	Global Shea Alliance (GSA)	Shea Development
Research Institutions	Cocoa Research Institute (CRIG, Bole)	Research
	University of Development Studies (UDS, Nyankpala)	Research

Source: Field data, 2017

5.4. Challenges of Rural Women in the Shea Industry

5.4.1. Decline in the transfer of indigenous knowledge

From Table 5.2 in sub-section 5.2.1 above, 71.93 per cent of rural women ranked shea picking and shea processing respectively as a major occupation. This cast shea as an important primary source of employment and a means of livelihood for the rural women shea actors interviewed.

This is substantiated by previous research conducted by Seidu (2012:10) into the capacity of women shea processors in Ghana to access markets. It was reported that over 90 per cent of shea actors interviewed were women, with 84 per cent specifying shea as a main occupation.

Rural women in the study area revealed that their indigenous knowledge of shea is transmitted to the younger generation through observations and songs during processing activities. This is corroborated by several authors who have documented the social and economic benefits of the industry to rural women. In Dzisi's (2008) documentation of the activities of indigenous women entrepreneurs in Ghana, he noted the power possessed by rural women in shea activities. This power, the author reported, has the potential to contribute to the attainment of some of the sustainable development goals. It has the potential to contribute substantially to the economic growth of the country in the areas of job creation, innovation and the reduction in the levels of poverty. The study of shea as a 'heritage product' in Burkina Faso by Elias and Carney (2007: 39) established that the ancient indigenous knowledge system represents a significant cultural heritage. The same observation was made by Scholz (2009: 44), who reported the hierarchy among rural women shea nuts and butter producers in Northern Ghana. While older experienced women supervise and assign tasks within the group, younger women perform the arduous and physically demanding tasks. However, the results of this study illustrated that the trend of older experienced women bestowing this rich knowledge of shea activities to younger generations is gradually declining. Table 5.4 presents the distribution of ages of the 56 rural women shea pickers and butter extractors interviewed.

Table 5.4: Age of rural women shea pickers and butter extractors

	Shea Pickers		**Shea Butter Extractors**	
Age (Years)	**Frequency**	**Percentage**	**Frequency**	**Percentage**
20 – 30	1	5.88	4	10.26
31 – 40	3	17.65	5	12.82
41 – 50	7	41.18	15	38.46
51 – 60	6	35.29	15	38.46
Total	**17**	**100**	**39**	**100**

Source: Field data, 2017

A careful observation of the progression of the frequencies from the youngest to the oldest for both shea pickers and shea butter extractors from the table above shows the potential looming threat of the loss of rich knowledge of shea activities over time. The number of young women to whom the rich knowledge of shea activities should be passed down is also steadily declining. Further interactions with respondents revealed that because of the various challenges in the shea industry, younger women had developed a negative outlook on the industry, leading to a gradual loss in human capital. To these younger women, the industry is the embodiment of an oppressive venture designed to restrict their full potential. This perception is further aggravated by the evidently poor livelihoods of older rural women shea actors in Northern Ghana.

The sustainability of this home-based work relies partly on the continual knowledge transfer from the older to the younger generation in order to foster social capital. Thus, if shea is described by Elias and Carney (2007: 43) as a gendered identity marker cementing the social ties of rural women in their communities, then the findings above raise an existential question to the future of the shea industry by drawing attention to the longevity and resilience of the industry.

5.4.1.1. Education and Capacity Building

This study identified educational status as a particularly great barrier to women's participation in paid work in Northern Ghana. Education here refers to formal education, especially as it pertains to school attendance, reading and writing, which forms part of building the capacity of an individual. This study considered primary school, junior high, senior high, vocational institutes and higher educational institutions (which includes universities and polytechnics) as the providers of formal education. As many as 70.18 per cent of rural women interviewed had no formal education. This finding is supported by Laube (2015: 143), Amin and Awung (2008: 219) and the labour force report of the Ghana Statistical Service[23] (GSS, 2014a: 27). These research findings have brought to the fore pertinent correlations between human capital and productivity. It is believed that education, which imparts skills to an individual, is an investment in human capital. A study by Chao (1999: 2) has also shown that there are large social returns and long-term benefits to be gained by improving women's human capital. These

[23] The Ghana Statistical Service is an autonomous body with a Board of Directors tasked with the responsibility of collecting and analysing of statistical data to serve the needs of individuals, organizations, development partners and the government (GSS, 2014a).

benefits collectively add up to higher productivity which contributes to the attainment of the sustainable development goal 8 (decent work and economic growth).

Research (Atta, 2015: 14) have reported on the gender gap in education in Ghana especially in rural areas due to macro-level factors such as poverty; socio-cultural or traditional barriers such as societal norms, laws and rules, beliefs and practices hindering the participation of the girl child in education. The traditional environment in Northern Ghana is culturally entrenched and rife with these factors and as such prevents girls' from enjoying their social rights. It was reported that girls living in rural areas, as well as those in households where welfare is very low, were disadvantaged as compared to boys living in the same condition (Atta, 2015: 14).

The results of this study indicated that challenges facing rural women with regard to the lack of some livelihood assets[24] such as land partly stem from the patriarchal systems in Northern Ghana particularly the inequalities and the gender imbalances associated with the unequal distribution of opportunities. This is corroborated by Ghana's Ministry of Gender, Children and Social Protection (MoGCSP) which noted that this grim disparity is deeply rooted in the social systems and is characteristic of the historical legacy of the patriarchal influence and the kind of socialization that occurs at home (MoGCSP, 2015).

In spite of the disadvantage of rural women in terms of the opportunities for the acquisition of formal knowledge, this study acknowledged and highlighted their contribution to indigenous knowledge[25] production. Formal education is necessary for self-development however, this study posited this indigenous knowledge possessed by rural women as a foundation for building their capacity. This is corroborated by Grenier (1998: 7), who criticized developmental initiatives that neglected to incorporate indigenous knowledge into developmental agendas. It is noted that such efforts neglect local technologies and local systems of knowledge, thus wasted enormous amounts of time and resources.

Interestingly, this barrier in capacity building has also been capitalized on by NGOs, civil organizations, individuals and other institutions as an avenue of manipulation. There are often power asymmetries between rural women on one hand and these institutions on the other. Such predatory institutions often wield economic power over disadvantaged rural women in the

[24] They are also known as livelihood resources and consist of the financial and non-financial assets in the lives of people.

[25] Indigenous knowledge as stated by Grenier (1998: 1) "refers to the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area. Such knowledge are cumulative, representing generations of experience, careful observations, and trial-and-error experiments".

industry with regards to price setting of shea among others. The impact of a lack of capacity building and strengthening of the skill set of rural women in the industry partly affects their access and use of facilities such as loans, processing technologies to maximize the quantity and quality of shea nuts and butter, and the ability to participate in shea marketing among others.

5.4.1.2. Labour Migration

Labour migration, according to Ghana's National Employment Policy formulated by the Ministry of Employment and Labour Relations (MELR), is seen as a phenomenon associated with a number of factors such as spatial differences in employment, shift in technology, the emergence of new industries and the interest of job seekers among others (MELR, 2014: 21).

Results of this study indicated that the labour provided by a shea actor's family member is crucial to the picking and processing activities of shea in Northern Ghana. Even though some aspects[26] of shea butter extraction at the processing centre has been mechanized, rural women noted the continuing importance of family labour[27]. There are some parallels to be drawn from research on livelihoods and migration, particularly from the North to the Southern parts of Ghana. Awo and Anaman (2015) have reported that the unattractive nature of the shea industry coupled with the already low standards of living in Northern Ghana, had led to the exodus of many women to other parts of the country. A research project carried out by Kasanga and Kotei (2001: 19) on rural-urban migration has shown that in general young people, especially young women, move out of farming and other home-based work such as shea processing activities, as they are perceived to be an unattractive occupation with low profitability. Momsen (2008: 21) has also added albeit in a different context that hindrances to participation in agricultural activities (such as land ownership and capital acquisition) are some of the factors that affect female rural-to-urban migration.

This study also found that the risky, unpredictable and unprofitable nature of the shea industry resulted in rural women seeking more profitable economic activities in other parts of the economy. The precarious conditions of shea picking and processing and the current marketing conditions embodied the industry's unattractiveness. This is substantiated by previous research on the shea commodity chains in the Upper East and West regions of Ghana (Laube, 2015). Results of this study also found that the inability of rural women to participate in the shea nut

[26] Aspects such as the breaking of shea kernels into smaller pieces for roasting and the milling of the roasted pieces into paste.
[27] The collective labour of all women at the processing centre was classified as family labour, thus categorizing all labour entailed in shea-producing activities as family labour

and butter marketing chains resulted in the pursuance of other lucrative economic activities such as other farming activities or wage labour. Research by Chalfin (1996) and Laube (2015) have corroborated this evidence and have noted the impact of labour migration partially contributing to the loss of generational knowledge.

5.4.2. Feminization of Labour: Fruits of Burden

As cocoa is the golden tree crop in the southern parts of Ghana, so has shea been labelled "the Northern Cocoa",[28] owing to its production only in the northern part of the country (Al-hassan, 2015: 5; Shu-aib, 2016: 7). The findings of this study presented that even though men and women work in the shea value chain (with men predominantly in the shea nut and butter marketing chains), rural women were the linchpin in the industry. This finding corresponded to an earlier work by Chao (1999: 15), who noted the interdependent relationship between rural women in Northern Ghana and shea. Figure 5.12 presents this interdependent relationship in the shea value chain in terms of product movement. This finding again validated the social construct of the gendered nature of the industry, with shea being described as a woman's domain by prior studies (Lovett and Haq, 2000: 287; Hatskevich *et al*., 2011: 223; Simon *et al*., 2014: 373). Laube (2015: 133) analyzed the gendered nature of the industry and explains it as a consequence of the wider division of labour in rural households.

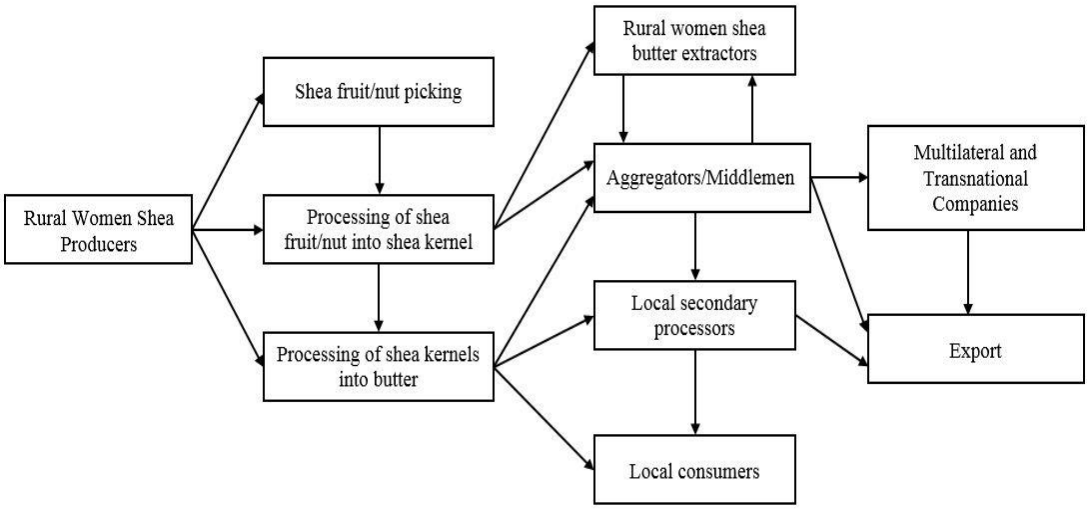


Figure 5.12: Actors, activities and product flow in the shea value chain (Source: Study area, 2017)

[28] Because of its geographical, cultural and economic importance to the three Northern Regions (Northern, Upper East and Upper West Regions), shea is often described as the cocoa of the North or Northern cocoa (Al-hassan, 2015: 5).

Rural women bear an immense double burden in the daily combination of their productive and reproductive work. Some respondents in this study also shed light on the different dynamics of the gendered nature of the shea industry in Ghana. It was noted that shea activities, especially picking and processing, were perceived as degrading activities by men and as such were relegated to rural women. Article 17 of the 1992 Constitution of Ghana prohibits the discrimination against people; however, the shea industry – specifically as far as marketing is concerned – is the epitome of discrimination and oppression based on the lack of some livelihoods assets of rural women shea actors (The Republic of Ghana, 1996). This study noted the significant control over women by men in the area of shea marketing. Rural women shea actors are stripped of their agency in the pricing of their commodity, regardless of their laborious activities.

The shea industry particularly the pick of shea fruits and/or nuts can potentially be a perilous activity depending on the location of this activity. Below is an excerpt from an interview with a respondent that makes evident the unsafe conditions under which some rural women pick shea nuts.

> *Hmmm, because when you go to pick shea nuts, you can go to a shea nut tree and there will be a snake under it, you can't stand there anymore, only the brave ones will accept to go back to that shea nut tree. If you are not brave you can't go back there the next day (Rural Woman Respondent, January 23, 2017, Tamale, Ghana).*

Previous research by (Laube, 2015: 133) pointed out the precarious nature of shea picking. It was noted that as a result of high grasses in the rainy season, rural women faced the risk of snake bites while searching for shea nuts. The land tenure systems in Northern Ghana discourage long-term investment into tree crops. As a result of this and other factors such as urban sprawl, the close proximity of shea trees to community and town dwellings were dwindling (Awo and Anaman, 2015). To maximize the quantity of shea nuts collected and to have an upper hand in the competition between humans and shea-eating animals, the search for shea begins early each day. Earlier examinations of shea in Northern Ghana have documented the dangers associated with certain stages and activities of the industry (Scholz, 2009: 29; Laube, 2015: 133). It was noted that most rural women succumb to health issues as a result of picking and carrying shea loads over distances of 10 to 15 km during the rainy season

Activities in the shea business alongside household activities are certainly daunting and a challenging way of life particularly for rural women in Northern Ghana. However, against the backdrop of these challenges, the shea business also symbolizes a sense of hope and respite for rural women. The accounts of rural women in this study situates this business as a central feature of their livelihoods. Women processors undertake daily sacrifices, irrespective of the challenges, as the response below makes clear.

> *And we those buying the shea nuts for preparation, when you are to fry it and the heat of the fire comes in your direction if you don't have patience you wouldn't want to go near it; upon all that, we want to do it and get something small out of it, so we don't see anything wrong with that. We will just say that if you don't suffer, you will not get yours (Rural Woman Respondent, January 25, 2017, Tamale, Ghana).*

This account of the fire from the burning of fuelwood during processing shows the conditions under which shea is produced and the tacit acceptance of these conditions by respondents as an acceptable way of life. According to Balmer (2016: 16) in spite of the challenges associated with the shea industry and its dynamics, the shea nut and butter revenue generated was only adequate for emergencies, but not for poverty mitigating. In spite of rural women's disadvantaged position in Northern Ghana and in their arduous relationship with the shea industry, there is the potential to contribute significantly to the welfare of their families, to community development and to the realization of some sustainability development goals.

5.4.3. Rural Women and Capital for Business

The capital for shea activities in this study was categorized into loans from financial institutions, pre-financing packages offered by middlemen, and the self-financing of activities by rural women. Pre-financing packages often provided the means for the poor to enter into markets and provided continuity in income streams and improve revenue. Findings from the study are presented in Table 5.5 which shows the types of capital and their distribution. Respondents for both shea picking and processing activities reported that they did not obtain loans from state-owned or private financial institutions, but were pre-financed by middlemen for their shea activities. The inherent gender bias and patriarchal system in Northern Ghana produces a fertile ground for this continued gender inequality in terms of access to loans.

Table 5.5: Types of capital for shea activities

Activity	Type of Capital	Frequency	Percentage
Shea Picking	Pre-financing	14	82.4
	Self-financing	1	5.9
	Pre- and Self-financing	2	11.8
	Loans (Financial Institutions)	-	-
Shea Butter Extraction	Pre-financing	32	82.1
	Self-financing	5	12.8
	Pre- and Self-financing	2	5.1
	Loans (Financial Institutions)	-	-

Source: Field data, 2017

Limiting factors to the access to credit and capital were attributed to factors such as the laws of inheritance and property ownership in Northern Ghana, lack of information on credit availability and security for loans. The majority of rural women in Northern Ghana do not have the right to own property such as lands, hence assembling the necessary documentation, collateral, and guarantees required by financial institutions for securing credit or loan facilities becomes a daunting task.

According to the Ministry of Gender, Children and Social Protection (MoGCSP, 2015: 17), rural women are excluded from gaining access to credit because of restrictive conditions such as the need for collateral. This is corroborated by Hatskevich and Essilfie (2013: 293) who emphasized that one major obstacle to the development of shea nut and butter in Northern Ghana was attributed to the lack of financial opportunities among rural women. The following excerpt from an interview from a stakeholder sheds light on the marginalization of rural women in the area of shea financing. The interview comment below is a reflection of the perception of many stakeholders and financial institutions who are in a position to provide assistance.

> *... when you give uneducated women money for a business without some training of sorts, what do you expect to happen? These monies will rather be channelled into taking care of personal needs and at the end of the day, there will be nothing left to finance the shea business (Shea Stakeholder, January 23, 2017, Tamale, Ghana).*

Such perceptions and attitudes of society on gender, and particularly regarding women contribute to the continued marginalization and oppression of rural women in Northern Ghana.

A study on a microcredit program for rural women in the Upper West region confirmed the above view of the shea stakeholder (Ganle *et al*., 2015: 340). It was noted that many loan recipients usually did not have any form of business guidance prior to receiving loans and resorted to its use for such activities as the payment school fees, food purchases and other means of sustenance.

Research in Ghana and elsewhere on access to financial capital have alluded to the disparities and dynamics of access to credit between women and men. Studies have demonstrated that the distribution of wealth in Ghana is biased and in favour of men (Ministry of Gender, Children and Social Protection, 2015: 9). Poverty in Ghana has been a rural phenomenon for decades, with rural women increasingly burdened compared to their male counterparts. The same has been observed by Chao (1999: 3), who noted that women have less access than men to formal credit and tend to rely on informal credit or family members as sources of credit. Even though a report by the Ghana Statistical Service in 2014 reported a decrease in the incidence of poverty in Northern Ghana, over 50 per cent of the population live below the poverty line, as indicated in Table 5.6.

Table 5.6: Poverty levels in Northern region of Ghana

Parameters	**2012/2013**	**2005/2006**
Poverty Incidence (%)	50.4	55.7
Contribution of Regional to Total Poverty (%)	20.8	21.0
Poverty Gap (%)	19.3	23.0
Contribution to Total Poverty Gap (%)	24.9	25.2

Source: Ghana Statistical Service, (2014b: 14)

The Northern Region of Ghana is the second highest contributor of poverty to the total level of poverty in Ghana. With the majority (89.9 per cent) of rural women in Ghana presently engaged in precarious employment and in unpaid labour as noted by Ghana Statistical Service (2014b), it goes without saying that women suffer the most under conditions of poverty.

Another finding of this study was that actors lamented the high-interest rates banks charged on loans, which dissuaded them from accepting any financial assistance on the rare occasions when it was offered. This is confirmed by Scholz (2009: 34), who noted that the interest per

annum of some banks was as high as 20 – 30%. All these criteria for financial assistance render access to capital beyond the reach of many rural women in Northern Ghana. The Gender and Agricultural Development Strategy (GADS) developed by Ghana's Ministry of Food and Agriculture (MOFA) in 2001 aimed to improve access to financial services with the ultimate goal of addressing the issues of food security, increases in income for women, and empowerment with a special focus on women in the agricultural sector (MoGCSP, 2015: 14). However, the objectives of the strategy failed to correct the barriers to credit access by rural women. An implication of women's lack of access to resources such as credit, and the impact of this, is that women's lack of decision-making powers is intensified. The results of this study indicated that this challenge of access to credit empowered middlemen in the shea industry who offer pre-financed packages with unsatisfactory conditions that disadvantaged rural women. Even though pre-financing packages are a relief from the financial pressures of processing, one major disadvantage identified among most rural women interviewed was their loss of agency to set the market prices for their shea products. Middlemen in the industry finance rural women shea nut processors and/or butter extractors in advance and prior to the commencement of processing activities of shea each season or year. This transaction between middlemen and rural women is usually on condition that the shea kernels and butter produced are purchased by the former at a pre-fixed price. Most often, the terms and conditions of such contracts, which are usually verbal and seldom written, do not favour rural women. Such contracts contribute to the exploitation in an already unregulated and fragmented shea market.

5.4.4. Unregulated and Fragmented Market Structure

As already discussed, there are other actors who play other roles in the shea value chain apart from women shea processors. The findings of the study revealed that shea cartels, who are transnational companies, do not physically accumulate shea nuts in small quantities (usually in pans or bowls)[29] as offered by some rural women, therefore middlemen or intermediaries are employed to handle these transactions. Chalfin (1996: 433) described these middlemen in the shea industry as entrepreneurs, who may not necessarily be employed by a single export company and in most cases may not be wealthy, but had the benefit of better financing, mobility, and education than the primary producers do. Though the activities of such agents

[29]This is the unit of measurement for rural women shea pickers in Northern Ghana. A pan or a bowl of shea is equivalent to about 3 kg of shea nuts.

have increased the value and volume of shea nuts and butter since the 1990s, the impact of their activities on the finances of rural women shea actors leaves much to be desired.

Once the shea fruit is processed into shea kernels and shea butter, it is purchased by aggregators, who buy in small quantities from rural women and gather the shea kernels and/or shea butter into larger quantities. These aggregators sell to another group of people known as shea traders and/or buying agents, who buy and sell at different markets. The buying agents work as middlemen on behalf of shea export companies. Ironically, contracts are signed between these middlemen and multilateral companies instead of with rural women shea nut and butter producers, who are the primary producers. This practice, according to respondents of this study has contributed to a fragmented and unstructured shea market devoid of regulations governing marketing activities.

Shea has long been identified as a niche commodity (Chalfin, 2004b: 52-3). Secondary data obtained from the Ghana Export Promotion Council reported that in Ghana the registered number of companies who export shea nuts and butter to various destinations around the world increased from 26 in 2008 to 61 in 2010. This showed a reflection of the growing worldwide interest in shea. This is reflected in the specialized knowledge and skill for processing of nuts into butter and its long history of trade in the West African savannah zone and on the international market. Figure 5.13 shows the world coverage of shea from Ghana from 1995 to 2015. In spite of this extensive world coverage, results of the study pointed to the weak horizontal and vertical relationships among shea actors. Data collection revealed the two types of chains in the shea industry: the organized and the unorganized chain. In the organized chain, there is a direct relationship in which activities are based on contractual agreements. However, it was discovered that the unorganized chain is the predominant chain in the industry, where aggregators or middlemen are not obliged to buy or have any form of commitment or contract with rural women. Research by Chalfin on the shea industry in Ghana emphasized the morphing of shea from “an inexpensive and little-noticed industrial raw material to a much-discussed and high-priced consumer item” (Chalfin, 2004a: 1).

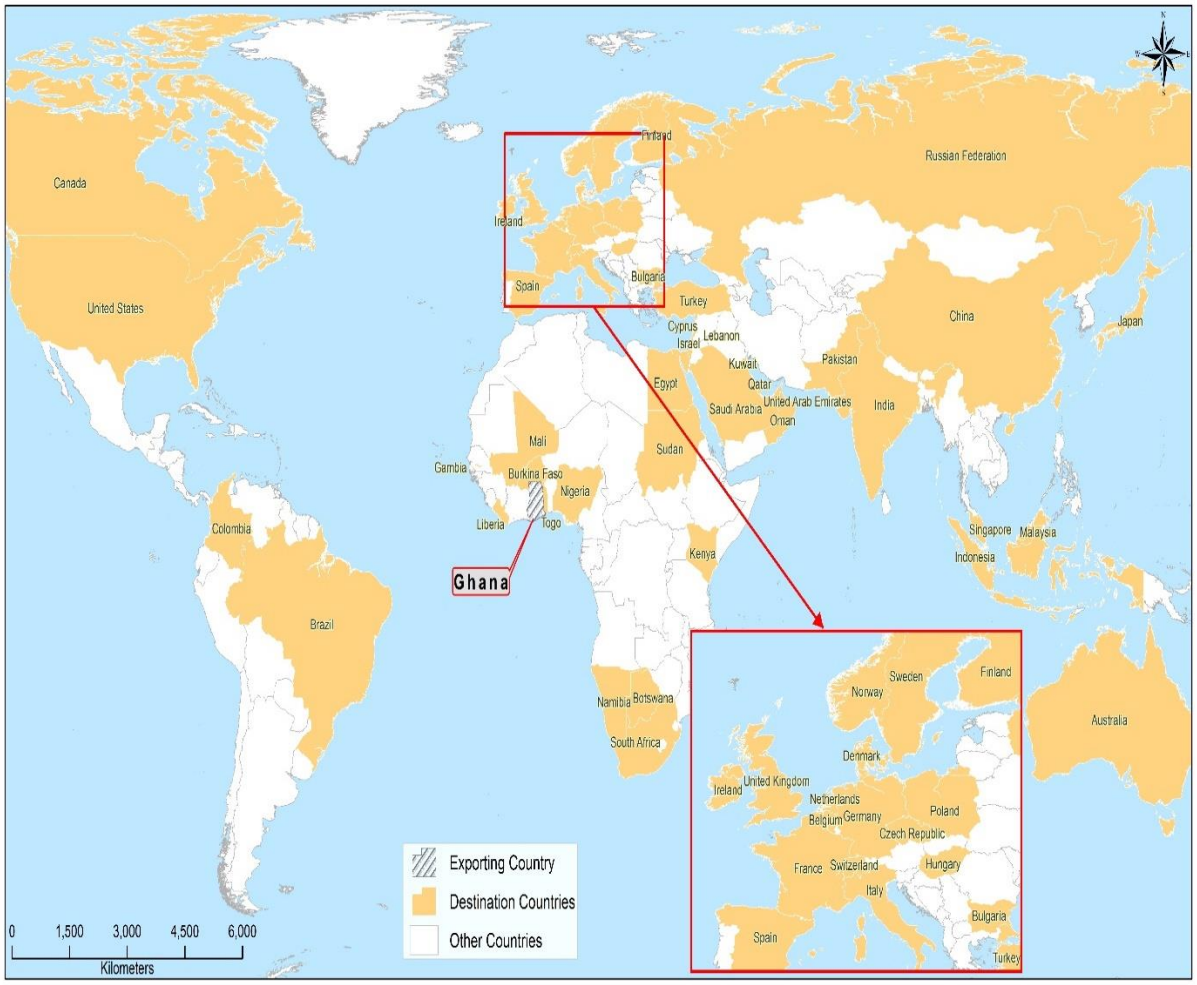


Figure 5.13: World coverage of shea exports (Source: GEPA, 2016 and Ofori-Atta, 2017b)

Findings from this study suggested a litany of layered and multi-faceted reasons for the fragmented and unregulated industry. One major reason was the liberalizing of the shea industry in the late 1980s, which lowered the barriers to entry without any forms of regulation and witnessed the entry of transnational and multilateral companies. Another factor was the weak or non-existent social and human capital of rural women in the industry, which has been a catalyst for the uncontrolled nature and development of the shea industry. The absence of robust policies by the government to protect rural women in Northern Ghana has also been a factor. Rural women shea producers are poorly organized to engage effectively and participate equitably in shea markets. To reduce the pressure on the livelihoods of rural women in need of monetary resources to meet urgent household needs, most sold their shea nuts and /or shea butter to aggregators at rates lower than its true value. This haphazard nature of the industry has also resulted in the lack of written records and data. Previous research into the shea industry in Northern Ghana by Mohammed *et al.* (2013: 246) noted the difficulties in aggregating data or any form of organized records of actors in the shea industry because of the dispersed nature

of shea actors. This hinders research and the formulation of policies based on the needs of rural women in the shea industry. Furthermore, entrenched in this unregulated and fragmented shea marketing structure are power hierarchies, which aggravates existing economic inequalities.

5.4.4.1. Economic Manipulation: Exploitation of Rural Women

The findings of this study have noted the absence of recognized forms of unionization in the shea industry. This concern has been recognized as a loophole through which agents assert themselves and economically manipulate rural women in the shea industry. Non-governmental organizations (NGOs) and change agents have been documented for playing contributory roles in implementing development programs in Ghana, especially in rural and urban areas (Ministry of Employment and Labour Relations, 2014: 47). These organizations have contributed immensely to the delivery of political, economic and social dividends, including microenterprise support, education and health service delivery, and employment opportunities grassroots level. According to Afshar (1998: 26), the role of change agents in programs intended to promote the empowerment of women is potentially a pivotal and a delicate one. These stakeholders or change agents are usually 'outsiders' who support processes of empowerment; however, there is considerable controversy around the work of some of these agents. Rural women interviewed in this study welcomed the assistance of cooperatives, NGOs and civil society organizations. They stated that the assistance from these agents regardless of the income disparities was a relief compared to the failures of previous and current governments. Below is an interview excerpt indicating the level of power wielded over her by one of the women acting as a change agent.

> *Yes, she built this centre, so therefore if she doesn't give you permission to sell to outsiders in case she doesn't have money yet, you can't do that. She gives you permission to go and sell to outsiders if she doesn't have money. If she doesn't have money and there is a buyer, she can tell you to sell it to them (Rural Woman Respondent, January 26, 2017, Tamale, Ghana).*

This indicates the self-interest of some change agents who purport to assist rural women in the industry. The same was observed by Awo and Agyie-Sasu (2016: 383) in their study of the global value chain of shea butter and rural producers in Northern Ghana. They documented that the visibility of agents such as developmental agents, NGOs, civil society organizations in the shea value chain has been a result of the quality requirements of shea on the international market which has changed the marketing dynamics. It was sadly noted that where resources

attracted international markets, most often the resulting consequence is the intensive exploitation by these agents (Awo and Agyie-Sasu, 2016). Once activities were pre-financed, the relinquishing of power to the financiers to make decisions over the final commodity became automatic. Pre-financing in most cases also introduces the psychological construct of the saviour syndrome. The mode of financing the shea activities of rural women brings with it a total and absolute dependence on "benevolent dictators" which ultimately results in the creation of economic inequalities. For the lived experiences of rural women to be so manipulated by an industry dominated by a few powerful men and women in the higher echelons is unjust. Their lived experiences, albeit varying, must not be diminished, whether intellectually or spatially. The shea industry has been shown to have the potential to contribute to poverty reduction; however, it has also been used by a powerful few as a mechanism for perpetuating poverty. These hegemonic institutions imbued with patriarchal principles normalize modern-day slavery and the oppression of women. They bolster the subjugation and pigeonholing of rural women as cheap sources of labour. As one respondent noted;

> *We are always here and we see people troop in for them [shea butter] …because we don't understand the English language they always request for madam. She directs us to sell to them at a certain amount. We don't know the buyers. They are those bringing them, we will just be sitting and they will tell you that they are to buy shea, there is a buyer in, we will not even see the person. She is going to negotiate with the buyer till they finish buying (Rural Woman Respondent, January 30, 2017, Tamale, Ghana).*

This illustrates a typical shea transaction and the ambiguous employment relationships in the shea industry. These cooperatives, NGOs and civil society organizations usually organize buyers for the shea nut and butter produced based on their terms and conditions, as described in the statement from the respondent above. Another impact associated with the fragmented and unregulated marketing structure is the lack of market information, which also contributes to the economic manipulation in the industry.

5.4.4.2. Lack of Market Information

As a result of the weak horizontal and vertical relationships among the various actors and stakeholders, the findings of this study indicated that most forms of collaboration and co-ordination in the shea industry are usually unproductive. As a result, there is duplication of efforts leading to inefficient use of resources, weak knowledge development, and information

sharing. This limits the information flow on existing markets, especially among rural women shea actor. This study indicated that rural women shea actors did not have the requisite information about potential markets that existed in the domestic, regional and international levels. Studies have shown that there is inadequate information on the quantity of shea nuts and shea butter supplied by location and patterns of variation over time. Most often, buyers undertake purchases based on speculation that is not backed by adequate shea market analysis. The impact of this limited information sharing and knowledge on market intelligence, especially among rural women shea actors, hampers their ability to set the prices of shea nuts and butter.

5.4.5. The Crude Dynamics of Shea Pricing

Rural women recounted that as a result of the unregulated and fragmented market structure of the shea industry, the value chain was filled with middlemen and intermediaries who in turn worked for other big firms and cooperatives. According to Yayah (2018: 2), the nexus between shea cartels and intermediaries or middlemen is one that leaves little room for the agency of rural women with respect to how the prices of their commodities are fixed. This corroborates earlier findings by Balmer (2016: 166), who noted that prices of shea fluctuate wildly and are highly volatile according to seasonality. He noted that although prices do not necessarily differ by location in Northern Ghana, seasonal variations can alter the price of shea nuts by up to 100 per cent and by about 20 per cent for butter, with prices of both dropping drastically during the picking season of shea nuts.

Women shea actors interviewed noted that the prices of shea were set by other actors in the value chain. In the case of women shea pickers in Kpano in Tamale, the prices of their shea kernels were set by aggregators or middlemen who pre-financed their activities. The prices of their shea kernels were incorporated into the terms and conditions of their pre-financed packages at the beginning of the season. The implication of this is that if the prices of shea increases, which is usually the case as the shea season progresses, rural women do not have the liberty to re-price their kernels to accommodate the new price increment. What typically happens during each shea season as narrated by women shea pickers was that middlemen buy shea kernels in large quantities of about 90 kg per bag at low prices. After the purchase of these kernels, middlemen re-bag the kernels into standard sizes of 80 to 85 kg per bag and sell at higher prices for export. Women shea butter extractors also reported that the price of their shea butter was set by middlemen who pre-financed and/or owned the processing centre. Equitable

decisions with regards to the pricing of shea are not made when competing interests are at stake. Research by Laube (2015: 139) confirmed this evidence and noted that prices of shea were fixed by a small number of shea nut processing companies and depended on the fluctuations of the prices of cocoa and other cocoa butter enhancers (CBEs).

Low prices were also a consequence of the weak negotiating power in the value chain, as well as the large numbers of intermediaries involved. Irrespective of her educational background, poverty status or marginalization, the rural woman has proprietorship of her shea and should rightfully be the price setter of her commodity until such a time as she wants to relinquish this ownership through sales. The continued subjugation of rural women in the shea industry also highlights the oppressive structures which act as *"*actively enforced barriers ensuring the silence of women*"*, as emphasized by Smith (1987: 24-5). The impact of the current pricing system on rural women contributes to the systemic devaluing of their work and usurping of their agency.

5.4.5.1. Justice and Shea Income Inequality

The global market for shea has been slowly growing, with occasional fluctuations, since the 1990s. Available data from the Ghana Export Promotion Authority (GEPA) in Table 5.7 show the increment in the value of this non-traditional export crop over the years.

Table 5.7: Value of shea butter and nuts (1995 - 2015)

Year	Value of Shea Butter (USD)	Value of Shea nuts (USD)
1995	466	2 193 314
1996	138 269	4 484 601
1997	437 813	6 720 778
1998	1 144 975	7 892 080
1999	885 394	6 803 655
2000	829 743	4 674 271
2001	1 131 347	6 654 411
2002	2 584 282	6 125 464
2003	1 567 430	16 746 386
2004	457 314	2 463 114
2005	940 514	28 968 495
2006	894 317	27 248 779

2007	7 659 888	27 008 556
2008	6 487 683	24 939 825
2009	19 010 304	26 853 367
2010	24 764 995	13 791 267
2011	27 611 980	25 086 810
2012	12 841 634	26 337 963
2013	26 443 668	8 062 696
2014	52 021 399	25 046 473
2015	64 034 036	33 571 717

Source: Data from GEPA, 2016

Comparatively, the values of shea nuts and shea butter have recorded increases from 1995 to 2006. There were considerable increases in the value of shea butter from 2006 to 2015, with exponential increments from 2012 to 2015. Rural women in the study explained that because of the arduous task and the long hours in shea butter extraction, they preferred the sale of shea kernels to middlemen and/or agents for quick income. However, with the current international recognition of shea butter as a cocoa butter substitute and the increases in income from its sale, the rate of processing of kernels into butter has steadily been increasing.

The natural, biochemical, environmental and social qualities of shea appeal to the growing segment of environmentally conscious and ethical consumers in the global North. However, the share of the income in this home-based occupation, which is integrated with reproductive expenses, is skewed to benefit actors higher up the value chain. Laube (2015: 139) reported that considering the gruelling and laborious nature of shea activities, it is unjust that the distribution of income from its sale is disproportionate. In his study, it was reported that women in the Upper West and Upper East regions of Northern Ghana involved in the shea business complained that considering the number of hours, labour and effort required for shea activities, they received low shea incomes. This contravenes Ghana's Labour Act (2003, October) (Act 651) sections 67 and 68, which affirms the right to the payment of remuneration and "equal pay for equal work without" discrimination in any form (Ministry of Employment and Labour Relations, 2014).

5.4.5.2. Cost Structure of Shea Actors

This subsection presents the various cost structures of actors in the shea industry for 3 consecutive years from 2015 to 2017. These cost structures refer to the types of fixed and variable costs incurred in shea business based on the value-adding activities. The fixed and variable costs were used to determine costs and selling prices of shea nuts and shea butter by rural women shea actors and middlemen. For each actor, the fixed and variable cost incurred in the transformation of shea was presented. The cost structures for rural women shea pickers, processors and middlemen contributed to the dynamics of shea pricing. Data for these calculations was generated from quantitative data collected in the study area.

A limitation of this calculation of cost in this chapter was the study's inability to collect time use data from rural women actors and middlemen. The average labour estimations of rural women shea actors used in the calculations in this section lack the precise objective and subjective circumstances about their participation in the processing of shea nuts into kernels and kernels into butter. According to Pentland *et al*. (1999) and Harvey (2002: 19), time use data collected with time dairies provide an ideal approach for the generation of activity data. A time diary places activities in their natural temporal context and provides a record of all activities during a specified period (day, week), along with a potentially rich array of contextual information. It shows the number of minutes or hours an individual devotes to activities such as paid work, unpaid work including house chores and childcare among others, and self-care activities.

Women Shea Pickers

Table 5.8 presents the value-addition of shea kernel extractors along the supply chain. Analysis of primary data generated through questionnaires administered to rural women shea nut pickers reported that it takes averagely 80 hours spread over 8 days for the picking and processing of a 100kg bag of shea nuts. It takes 5 days for the picking of shea fruits and/or nuts from farmlands and the wild, and 3 days for processing into shea kernels.

Table 5.8: Value-Addition of shea kernel extractors

Value-Adding Activity	Average number of hours
Picking of shea	50

Removal of pulp	7
Parboiling	8
Drying	3
Shell removal	9
Drying of kernels	3
Total	**80**

Source: Field data, 2017

Table 5.9 presents the cost components for women shea nut pickers in the Kpano Shea Pickers Association for every 100 kg of shea nuts picked and transformed into shea kernel each year from 2015 to 2017. Okin (1989: 95) acknowledged that in societies where there is a gendered division of labour, a greater percentage of the labour of women compared to that of men is unpaid and/or is seldom acknowledged as labour. Thus to present a transparent and true picture of the cost structure, the labour of women in shea activities was monetized.

Conditions and Assumptions

1. The time spent on shea activities such as collection, boiling, drying and cracking of the shea nuts to remove the kernel vary considerably. However, an average of the number of hours spent in picking and processing of shea fruit and/or nut into shea kernel was calculated using data generated through the questionnaire developed for this study.
2. In the absence of time use data on the activities of rural women shea nut and butter producers and middlemen for this study, labour in the cost calculation of rural women shea pickers was pegged at the daily minimum wage[30] of the Ghana public sector salary which is set by the Ministry of Employment and Labour Relations (MELR) in Ghana. The daily minimum wage for 2015, 2016 and 2017 were used.

[30] The Daily minimum wage was Gh ¢7 (USD 1.58) for 2015, Gh ¢8 (USD 1.80) for 2016 and Gh ¢8.8 (USD 1.98) for 2017 (Ministry of Employment and Labour Relations, 2019).

Table 5.9: Average Cost Components for Women Shea Pickers

Cost Component	2015 Amount (GH ¢)	%	2016 Amount (GH ¢)	%	2017 Amount (GH ¢)	%
Water	3.04	4.52	3.36	4.32	3.6	4.18
Firewood	5.66	8.42	7.7	9.90	8.78	10.19
Labour	56	83.33	64	82.25	70.4	81.69
Others	2.5	3.73	2.75	3.53	3.4	3.95
Total	**67.2**	**100**	**77.81**	**100**	**86.18**	**100**

Source: Field data, 2017

Inferring from Table 5.9, the cost components of rural women shea pickers increased each year from 2015 to 2017. These increases were a result of the increases in variable costs and fixed costs required each year for the production of shea kernels.

Women Shea Butter Extractors

Women shea butter extractors buy shea kernels from women shea pickers and sometimes from middlemen and/or agents. Table 5.10 presents the processing steps for the processing of shea kernels into shea butter and the number of hours required for each step. Analysis of primary data generated through questionnaires administered to rural women shea nut pickers indicated that it takes averagely 30 hours spread over 3 days for the extraction of shea butter from shea kernels.

Table 5.10: Value-addition of shea butter extractors

Value-Adding Activity	Average Number of Hours
Sorting and cleaning	4
Crushing and drying	3

Roasting	5
Milling and grinding	3
Kneading and beating	7
Boiling	5
Filtration and solidification	3
Total number of hours	**30**

Source: Field data, 2017

The value-added on shea kernels in the shea value chain goes directly into the shea nut and butter supply chain. This value addition by rural women shea butter extractors at this level of the supply chain is the processing of shea kernels into shea butter.

Table 5.11 presents the cost components for women shea butter extractors at Tiehesuma shea butter processing centre.

Conditions and Assumption

1. No rural woman shea butter processor was a picker.
2. Rural women sourced their shea kernels directly from rural women shea pickers.
3. It required 3 days to process shea kernels into butter.
4. Similarly, in the absence of time use data on the activities of rural women shea butter extractors for this study, labour in the cost calculation in Table 5.11 utilized the daily minimum wage which is set by the Ministry of Employment and Labour Relations (MELR) in Ghana. The daily minimum wage for 2015, 2016 and 2017 were used.

Inferring from Table 5.11, the cost components of rural women shea butter extractors increased each year from 2015 to 2017. These increases were also a result of the increases in variable costs and fixed costs required each year for the production of shea butter.

Table 5.11: Cost components for women shea butter extractors

Cost Component	2015 Amount (GH ¢)	%	2016 Amount (GH ¢)	%	2017 Amount (GH ¢)	%
Shea Kernel	70	63.76	85	64.51	95	64.15
Water	3.04	2.77	3.36	2.55	3.6	2.43
Firewood	4.66	4.24	5.7	4.33	7.78	5.25
Transportation	1.00	0.91	1.50	1.14	2.00	1.35
Crushing	3.54	3.22	4	3.04	4.5	3.04
Milling	3.54	3.22	4	3.04	4.5	3.04
Labour*	21	19.13	24	18.21	26.4	17.83
Others	3.0	2.73	4.2	3.19	4.3	2.90
Total	**109.78**	**100**	**131.76**	**100**	**148.08**	**100**

Source: Field data, 2017

* (3 days for processing) x minimum wage (Gh ¢)

Middlemen

The cost structure for middlemen for this calculation were categorized into two groups:

- middlemen who trade in shea kernels, and
- middlemen who trade in shea butter.

Table 5.12 presents the cost structure which is primarily the transaction costs incurred by the category of middlemen who trade in shea kernels. The value-added on shea kernels in the shea value chain goes directly into the shea nut and butter supply chain. This value addition of middlemen at this level of the supply chain is the movement of shea kernels from rural women at the farm gate or local market to an assembly point from where it is exported.

Table 5.12: Cost components for middlemen in shea kernel supply chain

Cost Component	2015 Amount (GH ¢)	%	2016 Amount (GH ¢)	%	2017 Amount (GH ¢)	%
Shea Kernels	70	92.47	85	92.90	95	92.68
Sacks	2.5	3.30	2.5	2.73	3	2.93
Loading and Offloading	1.20	1.59	1.50	1.64	1.50	1.46
Transportation	1.00	1.32	1.50	1.64	2	1.95
Storage space	1.00	1.32	1.00	1.09	1.00	0.98
Total	**75.7**	**100**	**91.5**	**100**	**102.5**	**100**

Source: Field data, 2017

Similarly, Table 5.13 presents the cost structure which is mainly the transaction costs incurred by middlemen who trade in shea butter. The value addition of middlemen at this level of the value chain is the movement of shea butter from rural women shea butter extractors at the farm gate or local market to an assembly point from where it is exported.

Table 5.13: Cost components for middlemen in shea butter supply chain (25kg)

Cost Component	2015 Amount (GH ¢)	%	2016 Amount (GH ¢)	%	2017 Amount (GH ¢)	%
Shea Butter	109.78	97.17	131.76	97.05	148.08	97.05
Loading and Offloading	1.20	1.06	1.50	1.10	1.50	0.98
Transportation	1.00	0.89	1.50	1.10	2.00	1.31

Store Space	Rental	1.00	0.89	1.00	0.74	1.00	0.66
Total		**112.98**	**100**	**135.76**	**100**	**152.58**	**100**

Source: Field data, 2017

5.4.5.3. Profit Margins of Rural Women and Middlemen

The revenue from shea which is derived from the profit margins resulting from the cost calculations in Table 5.14 and 5.15 is either a major source or a supplementary income for rural women. A careful observation and comparison of the profit margins of women shea pickers and middlemen who trade in shea kernels in Table 5.14 paints the gloomy picture of the reality of the distribution of shea nut and butter income among actors in the shea industry.

Table 5.14: Profit margins of women shea pickers and middlemen

Year	**Women Shea Picker**			**Middlemen and/or Agents**		
	Selling Price (GH ¢)	**Cost Price (GH ¢)**	**Profit (GH ¢)**	**Selling Price (GH ¢)**	**Cost Price (GH ¢)**	**Profit Margin (Gh ¢)**
2015	70	67.2	**2.8**	95	75.7	**19.3**
2016	85	77.81	**7.19**	115	91.5	**23.5**
2017	95	86.18	**8.82**	152	102.5	**49.5**

Source: Field data, 2017

Likewise, the profit margin between rural women shea butter extractors and middlemen in Table 5.15 presents the distribution of revenues each year from 2015 to 2017 skewed towards middlemen. Rural women who perform the strenuous activities of picking and processing are underpaid for their efforts, time and labour. This oppressive and exploitative nature of the shea industry under the control of a privileged few is endured by rural women.

Table 5.15: Profit margin of women shea butter extractors and middlemen (25kg)

Year	Women Shea Butter Extractors			Middlemen and/or Agents		
	Selling Price (GH ¢)	**Cost Price (GH ¢)**	**Profit Margin (GH ¢)**	**Selling Price (GH ¢)**	**Cost Price (Gh ¢)**	**Profit Margin (Gh ¢)**
2015	110	109.78	**0.22**	150	112.98	**37.02**
2016	135	131.76	**3.24**	180	135.76	**44.24**
2017	150	148.08	**1.92**	216	152.58	**63.42**

Source: Field data, 2017

According to Momsen (2008: 56), the equality of opportunities for rural women to earn income has the potential to empower them with stronger voices in the affairs of the communities. It has the potential to also facilitate a change in the way society marginalizes women by creating barriers to their aspirations. Scholz (2009: 58) lamented that while the involvement of governmental organizations in the shea value chain and industrial processing assisted in increasing public revenues, it did little to avoid the shea market situation where there were only a few powerful actors benefiting from the process. This, it was reported created limited space for value addition by traditional or artisanal processors, whose source of income was located within shea activities.

5.4.6. Land Tenure System and Women's Rights in Northern Ghana

The results of the data collected indicated that women shea pickers did not personally own any of the picking areas on which shea was collected. The Ghanaian land tenure and management system is comprised of state land and customary land. The customary sector, according to Kasanga and Kotei (2001: 13), covers about 80 to 90 per cent of all the undeveloped lands in Ghana. These landholders included individuals and family communities represented by chiefs and clans. Differences exist between customary tenure and management systems between the North and South of Ghana. The results of this study indicated that the question of gender with regard to the land tenure system in Northern Ghana is a sensitive situation where men are

entitled to land ownership while women have constraining conditions to ownership. Generally, the legal framework in Ghana allows for the equal ownership of land by all but in practice some groups of people, especially women in rural communities in the Northern parts of Ghana experience discrimination. The Land Administration Project (LAP) initiated by Ghana's Ministry of Lands and Natural Resources was conceptualized in 1999 and initiated in 2003 to develop a "decentralized, fair, efficient and transparent land administration system" for equitable development and to reduce poverty (MoGCSP, 2015: 13-14). The practical benefits of this arrangement to the "silent majority"[31] are often not apparent. The promotion of women's access to and control of land to ensure their adequate representation and involvement in decision making on issues of land has been far from adequate. The discrimination faced by women in ownership and access to land further deepens social and economic inequalities. Even though the interests of women in African countries with regards to land tenure legislation and title programs have been given greater acknowledgement, this recognition is still uneven (UNRISD, 2005: 103). Conversely, where women's rights are formally recognized, there continues to be a substantial gap between the legal recognition of their right to own or hold land, and their actual access to and control over land as a source of income.

The issues of land tenure in this study are similar to those in a study by Kasanga and Kotey (2001), who bemoan the management of land by the state, which works against the interests of poorer groups, although such practices vary regionally and ethnically. Research by Rünger, (2006: 1) and Deere *et al*. (2013) have ascribed this to a number of reasons. Some of these reasons are the customary practices of inheritance[32] in Northern Ghana (patrilineal), which mostly favours men, and financial constraints and high illiteracy rates among women. Women have access rights through marriage (husbands), inheritance or lineage (fathers or brothers). Consequently, this situation does not auger well for a single, widowed, divorced or separated woman in Northern Ghana. An extract from one respondent's interview attested to the daunting task it was for women in Northern Ghana in their acquisition of land for farming purposes.

> *Even if a woman wants it (land), you have to get your husband, it has to be a man, so because of that arrangement women have no access to land. A woman who*

[31]The silent majority, according to Kasanga and Kotey (2001), includes the rural, peri-urban and urban poor, the disabled, the unemployed, and the low- and middle-income earners. And in the context of this study, this silent majority also includes women.

[32] Results from research by Deere *et al*. (2013: 260 - 1) indicated that 80.6% of men inherited lands compared to 11.8% of women, who sometimes received these lands not necessarily through inheritance but as gifts from their husbands or fathers.

> *desires to pick shea from a farmland must either be the wife of the landowner or must have some sort of permission from the owner of the land (Rural Woman Respondent, January 30, 2017, Tamale, Ghana).*

The results of this study corresponded with those of prior studies by Laube, (2015: 133) and Bonye and Kpieta (2012: 73) based on the revelations in their study by respondents in the Upper East and Upper West Region of Ghana. These studies separately reported that land in these regions was traditionally[33] owned and controlled by male members of the family. This is consistent with previous research carried out by Deere *et al*. (2013: 257) on the gender disparity in terms of land ownership in Northern Ghana. The results of that research further underscored the challenges of rural women's inability to own shea plantations and parklands. They also reported that in 2013 as little as 9.8 per cent of agricultural lands in Ghana were owned by female farmers compared to 83.1 per cent owned by male farmers.

This study noted the complexity of the relationship between the state and traditional authorities with respect to lands in Ghana. The results of this study indicated that the government has no jurisdiction over chieftaincy affairs, and political parties have no right to encroach on traditional issues as enshrined in the 1992 constitution of Ghana (The Republic of Ghana, 1996). This means that chieftaincy disputes, which very often revolve around land-related issues, are typically very complex in their resolutions. Most of these unresolved land disputes in some cases are prolonged and the impact of this on the agricultural sector is seen in the decrease in productivity. This evidence is corroborated by Wanyeki (2003: 280) who emphasized that development will forever be undermined if the socio-economic status of women is not improved. It was suggested that a key means of achieving this is by ensuring that women have a fair and equal access to land. The diversity and complexity of customary law not only within Ghana but also within different communities restrict women's rights to land. The state views land as an economic resource and actively encourages individual land ownership, whereas the community views land largely as a communal resource. The inability of rural women to acquire land for the cultivation of shea plantations has an impact on the sustainability of the shea tree resource

[33] Traditional authorities such as paramount, divisional and sub-divisional chiefs, and in the northern regions earth priests and family heads, are the custodians responsible for the management of private land (Spichiger and Stacey, 2014: 12).

5.4.7. Deforestation

The declining population of shea trees as a result of man-made and natural causes raises concerns about the environmental sustainability of the industry. The destruction of shea trees on farmlands and on plantations through lumbering activities and bushfires also destroys their carbon storage capacity, contributing to the adverse effects of climate change. The results of this study indicated that shea trees are long-lived, slow-growing and are the preferred wood of choice for charcoal making and woodworks. These characteristics mean that shea trees are highly sensitive to over-exploitation. Over the years there has been a gradual reduction in shea tree resources owing to low regeneration rates and the destruction of trees through bushfires (Shu-aib, 2016: 38). Additionally, the increasing loss of the tree population as a result of charcoal burning, land clearing for developmental purposes including for other plantation crops such as mango all pose challenges to the development of the sector. Attempts have been made by some local government and traditional authorities to develop by-laws to protect and conserve shea trees, but most of these by-laws are poorly defined and weakly enforced.

The conversion of lands into other large and medium-sized agricultural projects and plantations in Northern Ghana by international and local investors further decreases the shea tree count (Laube, 2015: 144; Mello and Schmink, 2016: 2). The results of this study highlighted that because of certain social restrictions and belief systems in Northern Ghana, the destruction of shea trees by women is considered a taboo. It is believed that when a woman cuts down shea trees, she is likely to suffer a slew of calamities such as the loss of a child during childbirth. This patriarchal and misogynistic belief system which targets only women accommodates men and their destruction of shea trees.

Backed by a strong ideology of the high opportunity cost of being in the shea industry, shea trees are cut for charcoal[34] and the land utilized for fast-growing and quick income-earning crops. This is also evident in studies in Burkina Faso (Elias and Carney, 2007: 53), where shea trees are felled when alternative land uses are more valued, or the price of and need for fuelwood exceeds that of shea products. Previous research has reported that as a result of the relatively low rate of economic returns of shea, trees were not prioritized, protected or

[34] According to Al-hassan (2015: 29), 90% of shea processing groups in Ghana rely on traditional biomass (fuelwood) for shea butter processing. Fuelwood accounts for 80% of energy used for shea processing. According to Dapilah *et al.* (2018: 9), shea trees are the preferred option for fuelwood and charcoal production, because it is believed that fire from this wood is long lasting compared to other tree species.

preserved (Shu-aib, 2016: 25). Yidana (2004) also reported the adverse effects of the indiscriminate annual bush burning in the Northern Regions of Ghana, which significantly decreased the yields of existing trees. Women and nature are closely aligned and the latter, if carefully and well harnessed, contributes to the economic growth of the former and for society as a whole (Awo and Agyie-Sasu, 2016: 381).

Elias and Carney (2007: 45) pointed out that biodiversity comprises tangible and immaterial features as a natural heritage that is passed down and developed from one generation to the next. Furthermore, the shea tree, as well as the expertise required in its transformation from fruit to butter, signifies a natural heritage that is integral to cultural and biodiversity conservation. This cultural repository also includes the management of the shea landscape, which involves the selection and management of shea trees. Indigenous agroforestry practices contribute to the maintenance of shea biodiversity and ensure the conservation of the species across generations (Chalfin, 2004a: 5). Agroforestry practices (such as restoring and establishing new forests, wetlands, and grasslands, and suppressing wildfires) also enhance the storage of carbon and reduce CO_2 emissions.

5.4.7.1. Domestication of Shea Trees

In Ghana shea grows extensively in the Guinea Savannah covering a landmass of about 77,670 square kilometres in the three Northern Regions. Figure 5.14 shows the shea-growing areas in Ghana. Shea trees thrive best in Northern Ghana, which is comprised of the Upper West, Upper East, and Northern Regions as well as some parts of the Brong Ahafo Region and Volta Regions.

Al-hassan (2015) reported that the population of shea trees in Ghana is about 9.4 million, with a potential annual yield of about 130,000 metric tons of shea. However, due to the undomesticated nature of shea trees, it has been estimated that as much as 52 per cent of the total shea produced is not collected each year (Al-hassan, 2015). This loss can be attributed to factors such as proximity of shea trees, access rights, land tenure disputes, risk of snake bites during picking of shea, as well as the long walking distances necessary to access the trees. Another contributory factor to the challenge in domesticating shea trees according to the results of this study was due to its long gestational period. The gestational period of the shea tree is the time it takes the tree from planting to fruiting. Currently, shea trees take 15 years to bear fruit after it has been planted and between 20 to 45 years to reach its optimum yield. This length

of time discourages the domestication of the tree and spurs investment into other crops and plants with quicker returns.

Figure 5.14: Shea-growing areas in Ghana (Source: Ofori-Atta, 2017c)

Results of this study showed that attempts have been made by research institutions such as the Cocoa Research Institute of Ghana (CRIG) towards reducing the gestational period. Such attempts have been through scientific methods like budding and the grafting of buds or scions of productive shea trees on the stem or branch of shea seedlings. However, no substantial progress has been made.

Traditional agroforestry techniques such as intercropping ensure anthropogenic management and preservation of shea species on parklands. On farmlands, shea tree populations vary from 16 to 25 trees per hectare when intercropped with other crops. This number can exceed 100 trees per hectare when farmed exclusively. However, as discussed in previous sections, the current system of access to and control over land in Northern Ghana limits women's ability to participate in agroforestry that requires the long-term use of land (Chao, 1999: 1). Figure 5 14 presents the shea growing areas in Ghana. The exploitation of trees immensely affects rural women, the environment and the state of the industry in Ghana. The results of this study provide evidence which confirmed previous research by Dapilah *et al.* (2018) on the impact of shea tree depletion on livelihoods in north-western Ghana. It was reported that rapid urban expansion was one of the main drivers of the depletion of shea trees, which affects the livelihood of people living in communities. Like all other trees, the cutting down of shea affects the ecological balance and reduces the oxygen in the atmosphere and produces an adverse impact on the quality of life of people.

5.4.7.2. Agroforestry Systems

According to Nair (2013: 14-21), agroforestry farming systems are believed to have a higher potential for carbon sequestration. This is because of their perceived ability for enhancing the capture and utilization of growth resources than is possible in single species crop or pasture systems. The intercropping of trees on pastureland is an effective way of fighting global warming and helping farming counties (Luedeling and Neufeldt, 2012). They also noted that the lands on which agroforestry systems are practised have the potential to capture as much as 3.3 tonnes of carbon per year, which is more than can be captured by lands without trees. If the practice of agroforestry[35] is enforced, it could play a large role in contributing to the mitigation of climate change, especially through carbon sequestration. Other benefits that this system of farming provides are numerous and has an impact on people and the environment. It provides

[35] According to Luedeling and Neufeldt (2012), this is the purposeful regeneration, planting, and maintenance of trees and woody bushes on farms and rangelands.

lucrative benefits such as timber, fuel, oils, nuts and animal fodder. The presence of trees on agricultural lands improves groundwater recharge and regulation of water.

A study by Zomer *et al.* (2016: 3) on the contribution of agroforestry to global and national carbon budgets between 2000 and 2010 showed that tree cover increased by 3.7 per cent, which resulted in an increase of 4.6 per cent of biomass carbon. Ghana showed increases in carbon stored in agricultural lands by more than 5tC ha^{-1} as a result of the added contribution of tree cover to agricultural land. Therefore, if trees like shea are planted together with other crops in areas such as Northern Ghana, which accounts for 40 per cent of agricultural lands in Ghana, then there is a great chance of improving carbon stocks. Generally, agriculture in Ghana relies heavily on rainfall, thus making climate a major determinant of production. Lack of agroforestry systems encourages climate change and, since Northern Ghana is noted for its irregular climatic variables such as temperature and rainfall, this will only serve to aggravate these climatic conditions.

5.4.7.3. Carbon Sequestration

The extent of carbon sequestration in shea parklands in the semi-arid regions of Sub-Saharan Africa is 20 – 50 Mg C ha^{-1} stored mainly in soils (below ground) and 1.0 - 2.0 Mg C ha^{-1} above ground. Carbon sequestration helps in climate change mitigation and adaptation, it improves and increases agricultural productivity, combats erosion, improves wildlife habitats and promotes sustainable production. Shea parklands can significantly contribute towards addressing climate change in Ghana through the sequestration of carbon because shea trees are reported to be reliable long-term sinks for carbon (Okiror *et al.,* 2012). Tangible benefits such as financial rewards from the sale of carbon credits will encourage communities to protect, conserve, improve and manage shea trees.

However, the results of this study have indicated that lumbering activities of shea trees have contributed to changes in the rainfall pattern in Northern Ghana. This change has affected the flowering of shea, leading to the abortion of the flowers which eventually affects the yield of shea trees. This has severely affected production, rendering the estimated annual outputs of shea nuts and shea butter difficult to achieve. One other challenge discovered was the dearth of research into the carbon sequestration potential specifically of shea trees in Ghana. This challenge, according to Shu-aib (2016: 15), has hindered the implementation of global international agreements and policies on climate change. Considering the intake and storage of

carbon by shea trees, conservation of the trees becomes a key strategy in reducing the effects of global warming.

5.5.Conclusion

This chapter identified and discussed the challenges shea actors in the shea industry in Northern Ghana faced in the execution of their activities. Data generated through interviews and focus group discussions guided by semi-structured interview guides answered the first research objective in this chapter which was to identify the challenges in the shea industry. It presented the shea industry from the perspectives of rural women shea nut processors, shea butter extractors and other actors in the shea value chain. Importantly, recounting the stories of rural women acknowledged the presence of the voices from the margins and their contributions to the shea industry. The realities of the oppressive conditions experienced by rural women involved in the shea industry are difficult, complex and an ordeal woven into the very fabric of their existence. This chapter established the fundamental and pivotal role of rural women shea nut processors and shea butter extractors to production that serves domestic needs as well as international markets amidst dire social and economic realities characteristic of the Northern Region of Ghana. The livelihood of the rural woman documented in this study is disaggregated into the complexities of reproduction and production of shea. This is coupled with living in Northern Ghana, which remains steeped in deeply patriarchal values and limiting gender roles that largely go unchallenged. Sucked into the vortex of this are very few policy structures. Overall this chapter highlighted the sense of despair about the conditions of rural women in the shea industry. Governmental or state policies without clear and robust goals are increasingly becoming obsolete and have undesirable consequences. The next chapter examines governmental or state policies and their impact on the shea industry.

CHAPTER 6: ANALYSIS OF POLICIES AND INTERVENTIONS

6.1. Introduction

This chapter evaluates the policy environment of the shea industry after the shea export policy which was a structural adjustment program implemented by the Government of Ghana in the late 1980s and early 1990s as a solution to the low shea incomes and to increase the visibility of shea globally. Content analysis of secondary data from the yearly reports of Ghana's Budget Statements and Economic Policies and the review of relevant literature was systematically analyzed to answer the second objective of this study which was to identify policies. The annual budget statements were analyzed in this chapter to determine the policies proposed by the Government of Ghana towards the shea industry from 2002 to 2017. This chapter also seeks to bring new perspectives on and insights into the impacts (or the lack thereof) of these policies and interventions.

6.2. Annual Budget Statement and Economic Policies

The annual budget statement and economic policy (BSEP) which is also known as a national budget is a yearly plan that outlines how the Government of Ghana intends to raise the needed revenues and which policies and programs will be implemented to help improve the living standards of Ghanaians (MoFEP, 2019: 1). This document is prepared by the Ministry of finance which exists to ensure macro-economic stability for the promotion of sustainable economic growth and the development of Ghana. It also outlines the government's achievements in the previous financial year. This document focuses on major sectors of the economy such as health, education, agriculture and energy, and covers the period from the 1st of January to 31st of December each year referred to as the financial year (MoFEP, 2018: 1).

6.2.1. The Budget Process

The 1992 Constitution (Article 179 (1)) requires the President to present the budget to Parliament at a month before the end of the financial year (MoFEP, 2018: 1). The Minister for Finance, on behalf of the President, is required by law to prepare and submit to the Parliament of Ghana this budget annually. The Budget goes through the stages of preparation, approval, execution and monitoring, audit and evaluation.

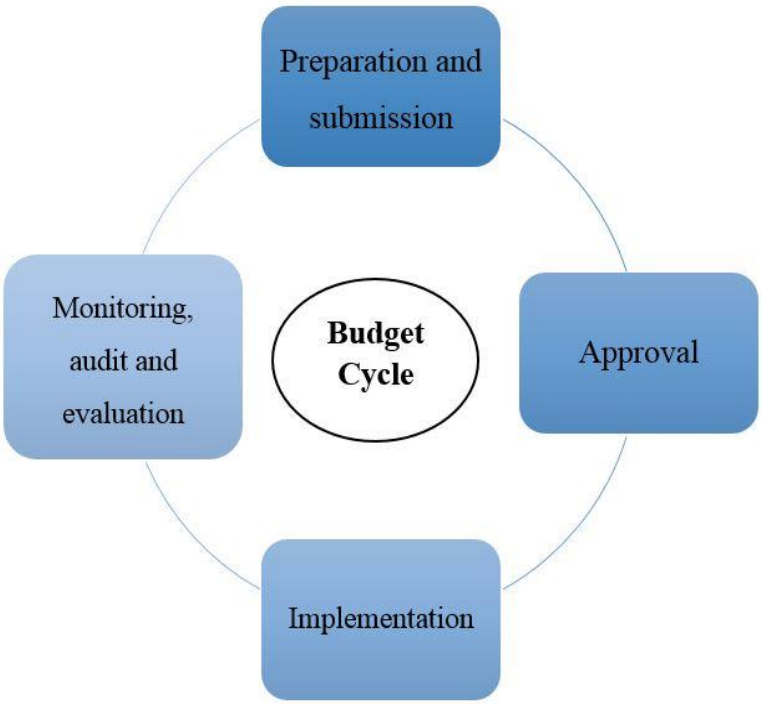


Figure 6.1: Budget statement cycle (Source: MoFEP, 2018: 1)

The Ministry of Finance requests inputs from Ministries, Department, and Agencies (MDSs) and the general public and afterwards holds consultations with them on what each annual budget should entail. The Ministry of Finance (MoF) then supports all MDAs of Government to review their draft budgets to ensure that their activities are in line with the national development policy. This draft document is submitted to Cabinet for approval. Finally, the Minister of Finance presents the final document to parliament which is then considered, debated, approved and passed into Law as the Appropriation Act. The Ministry of Finance subsequently releases funds to MDAs upon request to implement their planned programs and activities based on the approved budget (MoFEP, 2018: 2).

6.3. Overview of Budget Statements and Economic Policies: 2002 – 2017

This section through systematic content analysis of the budget statement and economic policies from 2002 to 2017 identified and analyzed policies beneficial to the shea industry in Ghana. The rationale for choosing this time frame was to analyze policies and strategic interventions introduced after the shea export policy which was implemented in the late 1980s and early 1990s. The policies in the tables in the following sub-sections are presented as stated in the budget statements and economic policies for each financial year. For this study, these policy initiatives by the Government of Ghana were categorized into three main areas namely;

i. Research
ii. Farmer Assistance
iii. Funding

The following sections below analyze these three areas to determine their implementation rates and impact on the sustainability of the shea industry. The next sections present the policy initiatives or interventions proposed for the shea industry as documented in the Budget Statement and Economic Policies from 2002 to 2012. In the following sub-sections, the policies and interventions identified were presented primarily and then discussed in section 6.4.

6.3.1. 2002 Budget Statement and Economic Policy

Table 6.1 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2002. The identified area addressed in this statement was on the provision of assistance to improve the activities of rural women shea nut pickers and processors and shea butter extractors in the shea industry.

Table 6.1: Budget statement and economic policy for 2002

Target Area	**Policies/Interventions**
Farmer Assistance (Infrastructure)	Training and provision of new technologies
	Pilot Investment Program (PIP) to revamp sectors of the economy such as agriculture.

Source: MoFEP, 2002

In the 2002 financial year, the ministry proposed to provide training to 540 individuals to set up small technology-based businesses, design and designate 6 new technologies in the processing of cassava, maize, cashew, and shea nut. Additionally, as a first step to the development of the shea industry in Ghana, the Government requested the Food and Agriculture Organisation (FAO) of the United Nations for assistance in the formulation of a Pilot Investment Project. The project aimed to revamp agriculture, improve processing and storage, marketing, education, health delivery, sanitation and development of infrastructure.

6.3.2. 2003 Budget Statement and Economic Policy

Table 6.2 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2003. The identified area addressed in this statement was on the provision of assistance to improve the activities of rural women shea nut pickers and processors and shea butter extractors in the shea industry.

Table 6.2: Budget statement and economic policy for 2003

Target Area	Policies/Interventions
Farmer Assistance	Finance and training of shea processors

Source: MoFEP, 2003a

In line with the growth and poverty reduction strategy's (GPRS) key objective of enhancing women's access to and control of productive resources, the ministry in 2003 proposed to continue with activities under the heavily indebted poor countries (HIPC) and women development fund (WDF) programs and to initiate new ones. New initiatives were to include finance and training of 2000 processors including shea nut and butter processors (MoFEP, 2002).

6.3.3. 2004 Budget Statement and Economic Policy

Table 6.3 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2004. The identified area addressed in this statement was on the provision of assistance to improve the activities of rural women shea nut pickers and processors and shea butter extractors in the shea industry.

Table 6.3: Budget statement and economic policy for 2004

Target Area	Policy/Intervention
Farmer Assistance	Procurement of agricultural equipment

Source: MoFEP, 2003b

In support of Government's modernisation programme for agriculture, Gh ¢ 27.75 billion was to be disbursed in this financial year for the procurement of agricultural tractors with accessories such as irrigation systems, household metallic silos, mechanical and solar dryers

and for the acquisition of shea butter and oil palm processing machinery to reduce the drudgery of farmers, add value, reduce post-harvest losses and ultimately increase the incomes of farmers (MoFEP, 2004).

6.3.4. 2005 Budget Statement and Economic Policy

Table 6.4 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2005. The identified area addressed in this statement was on the provision of assistance which included equipment and programs to improve the activities of rural women shea nut pickers and processors and shea butter extractors in the shea industry.

Table 6.4: Budget statement and economic policy for 2005

Target Areas	**Policies/Interventions**
Farmer Assistance (Infrastructure)	Programmes to enhance productivity
	Provision of shea butter processing equipment
	Proposal to reinstate the duties of the Ghana Cocoa Board before the implementation of the shea export policy

Source: MoFEP, 2004

Cash crops including shea nuts were at the core of the government's agenda. Productivity enhancement programs were to be sustained to boost the incomes of farmers. To reduce post-harvest losses and add value to agricultural produce, the Ministry released ¢10.9 billion of HIPC funding to support the procurement and distribution of machinery and equipment for small scale agro-processing industries. This included 50 sets of Shea Butter Processing Equipment to enhance rural women's production of shea nuts and butter. Additionally, to promote the growth and development of the shea nut and butter industry in the country and to increase the incomes of producers so as to reduce poverty in the shea growing regions, the government proposed the possibility of the resumption by the Ghana Cocoa Board of the purchase and export of shea nut and butter as was done prior to the implementation of the shea export policy.

6.3.5. 2006 Budget Statement and Economic Policy

Table 6.5 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2006. The identified area addressed in this statement was on the provision of appropriate processing technologies to improve the activities of rural women shea nut pickers and processors and shea butter extractors in the shea industry.

Table 6.5: Budget statement and economic policy for 2006

Target Areas	Policies/Interventions
Farmer Assistance (Infrastructure)	Improved and appropriate processing technology for rural women shea nut and butter producers

Source: MoFEP, 2005

In order to enhance the empowerment of women, the provision and use of improved and appropriate technology was proposed for the use in economic activities involving women in selected areas including shea butter extraction.

6.3.6. 2007 Budget Statement and Economic Policy

Table 6.6 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2007. The identified area addressed in this statement was on the area of the provision of assistance which entailed the setting of the selling prices for shea nuts and butter.

Table 6.6: Budget statement and economic policy for 2007

Target Areas	Policies/Interventions
Farmer Assistance (Infrastructure)	Setting of shea nut and butter producer prices

Source: MoFEP, 2006

In line with the government's aim of encouraging cash crop production, the Ghana Cocoa Board proposed collaborations with buyers and producers of shea nut and coffee to agree on minimum producer prices so as to provide incentives to farmers. This was to serve as the basis

for putting in place the required funding arrangement for purchases of shea nut thereby increasing its production.

6.3.7. 2008 Budget Statement and Economic Policy

Table 6.7 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2008. The identified areas addressed in this statement were on assistance to rural women shea nut and butter producers and the provision of funding to revamp and boost the shea industry.

Table 6.7: Budget statement and economic policy for 2008

Target Areas	**Policies/Interventions**
Farmer Assistance (Infrastructure)	45 women's groups in the Northern, Brong Ahafo, Ashanti, Western, Upper West, Eastern, Upper East, and Volta Regions were supplied with 45 different sets of agro-processing equipment (including shea butter processing equipment).
	Workshops to revamp the shea nut industry was also organized by Ghana Cocoa Board to chart the course for the future of the industry.
	support shea nut farmers/pickers in the provision of Wellington boots, hand gloves and anti-snake serum ii) provide equipment for local processors
	In pursuit of the Government vision, the Department of Cooperatives (DOC) and the Ghana Cocoa, Coffee and Shea nut Farmers Association (GCCSFA) have been engaged in the formation of co-operatives and dissemination of information.
Funding	GH ¢ 2.5 billion released to GCCSFA

Source: MoFEP, 2008

The organization of workshops led to the revival of existing shea nut groups with an estimated membership of 11,770 in all the 38 shea nut operational districts in the three northern regions. This intensified buying operations in the entire shea nut sector of the country. It was also proposed that Ghana Cocoa Board will continue its program aimed at boosting the shea nut industry of the country (MoFEP, 2008: 25). In this financial year, the Ministry of Finance also undertook programs in support of women's economic empowerment through equipment

support and training. Various women's groups processing different commodities including shea nut and shea butter producers were provided with processing equipment for their respective income-generating businesses which improved income levels and provided job opportunities. A total of 860 women benefited directly under the scheme in the informal sector of the economy (MoFEP, 2008: 173).

6.3.8. 2009 Budget Statement and Economic Policy

Table 6.8 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2009. The identified areas addressed in this statement were on research, provision of assistance to improve the activities of rural women shea nut pickers and processors and shea butter extractors, and the provision of funding to licensed shea buying companies.

Table 6.8: Budget statement and economic policy for 2009

Target Areas	**Policies/Interventions**
Research	The Ministry will collaborate with the Council for Scientific and Industrial Research (CSIR) to find solutions for the development of the shea industry.
Farmer Assistance (Infrastructure)	In this regard, the Ministry will facilitate the establishment of shea nuts processing factories in the three Northern Regions with the capacity to produce 50,000 metric tons of shea butter per annum.
	43 pieces of agro-processing equipment which included shea butter processing equipment were distributed to 43 women's groups countrywide benefiting almost 7,000 households.
	COCOBOD assisted shea nut farmers with wellington boots, hand gloves, and anti-snake-serum in order to promote the growth and development of the shea nut industry in the country and to increase the incomes of shea nut farmers.
Funding	COCOBOD also provided funding for three licensed buying companies to purchase shea nut from farmers.

Source: MoFEP, 2009a

6.3.9. 2010 Budget Statement and Economic Policy

An analysis of the budget statement and economic policy for the financial year from 1st of January to 31st of December 2010 showed no record of proposed policies for the shea industry and its activities (MoFEP, 2009b).

6.3.10. 2011 Budget Statement and Economic Policy

Table 6.9 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2011. The identified area addressed in this statement was on the provision of assistance in terms of road rehabilitation to improve transactions of shea nuts and butter.

Table 6.9: Budget statement and economic policy for 2011

Target Areas	**Policies/Interventions**
Farmer Assistance (Infrastructure)	Ghana COCOBOD has made available an amount of US$200 million for the rehabilitation of roads in cocoa, coffee, and shea nut growing areas.

Source: MoFEP, 2010: 116

Under the Cocoa Roads Improvement Programme (CRIP), the rehabilitation of roads was proposed to cover the six cocoa-producing regions namely, Eastern, Ashanti, Brong Ahafo, Central, Volta, and Western regions as well as some selected areas in Northern, Upper East, and Upper West Regions.

6.3.11. 2012 Budget Statement and Economic Policy

Table 6.10 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2012. The identified area addressed in this statement was on proposed research to be carried out by the Cocoa Research Institute of Ghana (CRIG) into ways of utilizing the by-products of shea such. These by-products were shea nut shells from the processing of shea nut into shea kernel and the resulting sludge after skimming off the shea fat after the kneading process discussed in Chapter 5. Another area was on the provision of assistance to rural women shea nut and butter producers to build their processing capacities and level of entrepreneurship.

Table 6.10: Budget statement and economic policy for 2012

Target Areas	**Policies/Interventions**
Research	CRIG would be encouraged to continue research into the utilization of by-products from cocoa shea-nuts and cashew.
Farmer Assistance (Infrastructure)	The Trades and Vocation module included self-employment modules like shea-nut Processing among others. This module trained and set-up beneficiaries.

Source: MoFEP, 2011

Because of the long gestational period of shea trees, which largely accounts for the limited interest and enthusiasm in shea tree domestication, the government of Ghana encouraged collaboration with research institutions. The Ghana Cocoa Board (COCOBOD) was mandated by the Government of Ghana to undertake research into shea. One of such institutions set-up by COCOBOD to conduct research into shea was the Cocoa Research Institute of Ghana (CRIG) (Ministry of Finance and Economic Planning. Previous governments have initiated collaboration between CRIG and the Ministry of Agriculture to develop improved planting materials for the development of shea trees. The Institute at Bole which was originally set up by COCOBOD to research cocoa was tasked to facilitate the conservation, increase in production and propagation of shea trees in shea-growing areas (MoFEP, 2011). Even though it was not presented in the financial statement, during the 2011 financial year, the Shea Unit of COCOBOD was established to facilitate the implementation of programs to revamp the shea industry in Ghana.

- **The Shea Unit of Ghana Cocoa Board**

The Shea Unit of the Ghana Cocoa Board,[36] made up of a 15-member National Steering Committee, was established and inaugurated in 2011 to facilitate the implementation of programs to revamp the shea industry in Ghana. This unit was expected to be transformed into the Shea Development Board (SDB) with the responsibility for the introduction of effective production, post-production and marketing initiatives, as well as the promotion and development of the various shea markets locally and globally as envisioned by Government in

[36] The mission of the Ghana Cocoa Board (COCOBOD) is to encourage and facilitate the production, processing and marketing of premium-quality cocoa, coffee and shea nuts in all forms in the most efficient and cost effective manner (Ghana Cocoa Board, 2019).

the Ghana Shared Growth and Development Agenda (GSGDA, 2010-2013). The government proposed an allocation of GH¢2.0 million to the Shea Unit to support its operations.

6.3.12. 2013 Budget Statement and Economic Policy

Table 6.11 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2013. The identified areas addressed in this statement were on proposed research and the provision of assistance to rural women shea nut and butter producers by providing livelihood assets which included portable water facilities and rehabilitating roads. Likewise to the previous financial year, research was proposed to be carried out by the Cocoa Research Institute of Ghana (CRIG) into ways of utilizing the by-products of shea such as the shells of the shea nuts and sludge.

Table 6.11: Budget statement and economic policy for 2013

Target Areas	**Policies/Interventions**
Research	The Cocoa Research Institute of Ghana (CRIG) will be encouraged to continue research into the utilization of by-products from cocoa, shea nuts, and cashew.
Farmer Assistance (Infrastructure)	The Rehabilitation and improvement of feeder road projects to provide access to cocoa, coffee and shea-nut growing areas will also be undertaken. Some works which commenced in 2012 will be completed this year.
	To improve access to potable water for 3,000 rural communities, with a population of 900,000 in cocoa, coffee, and shea nut growing areas, the Ghana Cocoa Marketing Board (GCMB) under the Cocoa Borehole Project (CBP) drilled 1,120 boreholes and fitted 972 with solar operated hand pumps.
	COCOBOD collaborated with the Ministry to rehabilitate, upgrade and maintain roads vital for haulage of cocoa, coffee and shea-nuts nationwide.

Source: MoFEP, 2012

6.3.13. 2014 Budget Statement and Economic Policy

Table 6.12 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2014. The identified areas addressed in this statement were on research, farmer assistance and funding.

Table 6.12: Budget statement and economic policy for 2014

Target Areas	**Policies/Interventions**
Research	In addition, the Cocoa Research Institute of Ghana and the private sector will be encouraged to continue with activities that lead to the utilization of products from cocoa, shea nuts, and cashew.
Farmer Assistance (Infrastructure)	The setting up of processing centres by GRATIS.
	Development in shea nut and butter export
Funding	COCOBOD will continue to fund the shea unit as part of its efforts aimed at promoting the production of shea nuts as the main cash crop for farmers in the North.

Source: MoFEP, 2013

The government proposed the training of 1,268 young men and women by GRATIS in employable skills and the setting up of a Minds-on, Hands-on, and Hearts-on (Practical) University. Under manufacturing, 200 hygienically and environmentally friendly agro/agri-processing centres (Good Practice Centres) in all districts in Ghana in various areas including shea butter processing were to be set up to create about 5,000 jobs, reduce post-harvest losses and rural poverty and increase exports and incomes (MoFEP, 2013). In this financial year, Government proposed support through the Export Development and Agriculture Investment Fund (EDAIF) for the development of planting materials and the commencement of commercial cultivation of shea trees. This was to ensure the sustained availability of shea nuts and butter for export. Support for the expansion of facilities for the processing of shea nut into shea butter and other tertiary derivatives was proposed to be provided for selected groups and enterprises (MoFEP, 2013).

6.3.14. 2015 Budget Statement and Economic Policy

Table 6.13 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2015. The identified areas addressed in this statement were on the provision of financial support to rural women shea producers and funding of the shea unit of the Ghana Cocoa Board.

Table 6.13: Budget statement and economic policy for 2015

Target Areas	**Policies/Interventions**
Farmer Assistance (Infrastructure)	Support from the Microfinance and Small Loans Centre (MASLOC).
	Establishment of the shea unit
Funding	COCOBOD to continue funding the Unit as part of its operational activities

Source: MoFEP, 2014

MASLOC proposed to continue the support of women in rural communities to achieve livelihood empowerment in areas such as shea butter processing. The Cocoa Research Institute of Ghana (CRIG) was tasked to continue the development of new products from by-products of cocoa, coffee, and shea under the Coffee Revamping Programme (CRP). Even though it was not presented in the financial statement, during the 2015 financial year, the Presidential Special Initiative (PSI) focussed on the shea industry by setting up shea demonstration farms to increase shea production.

The Presidential Special Initiative

To realize its private-sector development goals, the President's Special Initiative (PSI) was launched in August 2001 with the aim of identifying and developing potential business opportunities in the country (Arthur, 2006: 37). Support for the shea industry was considered under this initiative in 2014. It was aimed at guaranteeing increases in export earnings from shea. This initiative set up shea demonstration farms in Daboya (16 acres with 882 shea seedlings), Babilee (17 acres with 760 shea seedlings) and Balungu (10 acres with 580 shea seedlings) in the Northern, Upper West, and Upper East Regions, respectively (*News Ghana*, 2015).

6.3.15. 2016 Budget Statement and Economic Policy

Table 6.14 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2016. The identified areas addressed in this statement were on the provision of assistance to rural women and funding.

Table 6.14: Budget statement and economic policy for 2016

Target Areas	**Policies/Interventions**
Farmer Assistance (Infrastructure)	Gratis Foundation will design, develop and market a wide range of agro-processing plants including shea butter processing equipment.
	The Ministry collaboration with Ministry of Food and Agriculture identified shea nut among other crops for large scale commercial cultivation to promote the development of adequate agricultural raw material base for local manufacturing activities
	Establishment of a shea processing factory at Buipe.
	Development of the Shea Development Strategy (SHEDS)
Funding	COCOBOD was to provide funding the Shea Unit as part of its operational activities

Source: MoFEP, 2015

Due to the increasing visibility of shea globally, the government and COCOBOD proposed the development of the shea sector. A shea program was proposed in this financial year to enhance the livelihood and standard of living of people in the three northern regions. Government facilitated the establishment of a shea processing factory at Buipe to add value and increase foreign exchange earnings from the sector. COCOBOD was also tasked to continue funding the Shea Unit as part of its operational activities. The Shea Development Strategy (SHEDS) was formulated by COCOBOD in close collaboration with stakeholders to provide a long-term development perspective for the shea industry. The road map for the evolution of the Shea Development Board was also been laid.

- **Shea Development Strategy (SHEDS)**

The Shea Development Strategy (SHEDS, 2015 – 2030) was developed by the Government of Ghana through the Ghana Cocoa Board (COCOBOD) to give a clear direction for the development of the shea industry. The Shea Unit of the COCOBOD, which was made up of a 15-member national steering committee, formulated the Shea Development Strategy (SHEDS)[37] together with stakeholders to provide a long-term development perspective for the shea industry (MoFEP, 2015: 84-5). The vision of SHEDS is to achieve a sustainable shea industry in Ghana through the implementation of strategic objectives in research, extension, planting, development and conservation, strategic partnerships as well as product development, marketing, and quality standards. The policy document was subjected to a validation process by stakeholders, academia, parliamentarians and training institutions. The comments of these various groups were incorporated into the final draft, which was submitted to the Government of Ghana through the Ministry of Finance and Economic Planning (MoFEP). However, this policy document, which was drafted in 2012 and submitted to Parliament, has been stalled as a result of changes in governments.

6.3.16. 2017 Budget Statement and Economic Policy

Table 6.15 presents the Government of Ghana's policies for the shea industry in the annual budget statement and economic policy for the financial year from 1st of January to 31st of December 2017. The identified areas addressed in this statement were on the provision of farmer assistance and funding.

Table 6.15: Budget statement and economic policy for 2017

Target Areas	**Policies/Interventions**
Farmer Assistance (Infrastructure)	Facilitation of the shea program
	Development of SHEDS
Funding	COCOBOD to continue funding the Shea Unit as part of its operational activities to revamp the Shea industry

Source: MoFEP, 2017

[37] The Shea Development Strategy (SHEDS) is a road map facilitated by the Government of Ghana for the sustained growth and development of the shea industry.

Under the shea program, the government continued with the facilitation of the establishment of a shea processing factory at Buipe to add value and increase foreign exchange earnings from the sector. The Shea Development Strategy (SHEDS) formulated by COCOBOD in close collaboration with stakeholders to provide a long-term development perspective for the Shea sector was continued.

6.3.17. Labour Policies and Child-care

The Ministry of Gender Children and Social Protection states that;

> *Gender equality and women empowerment are strategies for reducing poverty levels, social injustices among women and men, improving health standards and enhancing the efficiency of public and private sector investments and domestic finance. Thus, achieving gender equality is regarded as the attainment of human rights and a pre-requisite for sustainable development (Ministry of Gender, Children and Social Protection, 2015).*

The 1992 Constitution of Ghana Act 27 clause (1) clearly spells out the opportunities to be accorded mothers as their right. It stipulates that "special care should be accorded to mothers during a reasonable period and after child-birth; and during those periods, working mothers shall be accorded paid leave" (The Republic of Ghana, 1996: 25). The constitution recognizes the importance of child-care by underscoring the responsibility of employers to act in the interest of mothers, their children and the community at large. Additionally, this clause also stipulates that "facilities shall be provided for the care of children[38] below school-going age to enable women, who have the traditional care for children, realize their full potential" (The Republic of Ghana, 1996: 25).

However, the findings of this study indicated that rural women do not have child-care facilities and paid leave are not characteristic of this home-based work. The working environment in the shea industry (as described in Chapter 5) does not protect and support rural women. There are no subsidized day-care facilities or adapted workplaces to meet the needs of parents, especially mothers. Research has shown a direct link between gender inequalities and harm to children (Okin, 1989: 17). Findings from this study revealed that women leave their children on spread-out jute bags and pieces of cloth under trees at the processing sites while processing activities

[38] Children below the age of 18 years (The Republic of Ghana, 1996: 26).

are at their peak. One participant describes disconcerting possibilities that poses harm to the children of rural women shea pickers.

> *"Some of them carry the baby at their back and at a point leave them under a tree and continue. Imagine in the middle of the bushes and even ants, there are snakes, scorpions. Once you leave the baby and you are there picking you have no idea what might happen to that baby. Look, something can crawl into the baby's ear, nose, it's just at the mercy of God. You have no idea (Rural Woman Respondent, January 31, 2017).*

Momsen (2008: 100-2) argued that developmental projects directed at women are often small, scattered and peripheral to the main aims of development. On the other hand, when general developmental projects are planned, women find themselves excluded because of restrictive and discriminatory entry conditions. It is also observed that because programs which advocate equity disturb the status quo and demand long-term commitment by governments, these programs are rarely implemented. However, addressing women's strategic needs is vital if fundamental changes to address their practical needs are to occur. Momsen (2008: 102) again cautions that the price for ignoring the needs of women is high and includes uncontrolled population growth, high infant and child mortality rates, a weakened economy, ineffective agriculture, a deteriorating environment, a divided society and a poorer life for all. The United Nations Research Institute for Social Development (2005: 60) noted that in order to improve the prospects of women's wellbeing and gender equality, the case for women must be built on rigorous analysis. Envisaging a clear vision of appropriate policy interventions and effective mobilization in the shea industry requires the foresight from the government to deliver on robust policies. In addressing the ambivalence in the discourses in and around the shea industry politically, one important point this study proposes is the dissecting and analysis of the shea industry in order to expose its hidden complexities, internal assumptions, and contradictions. It is only by moving away from the view of the shea industry as a generic system and assessing the industry holistically will the definition of the problem emerge more precisely. Table 6.16 provides a summary of challenges in the shea industry pertaining to the dimensions of sustainability.

Table 6.16: Challenges in the shea industry

Pillars	**Problems**	**Consequences for Rural women**
Economic (Financial Capital)	Economic Manipulation Lack of technical assistance Decrease in commodity price Access to employment	Decrease in productivity Decreases in the quality of livelihoods
Social (Human Capital)	Devaluing women's work Devaluation of women's knowledge Discrimination Representation Lack of financial resources Institutions and structures Lack of basic infrastructure	Low self-esteem Breakdown of the working class Conflict Decrease in income Reduced economic possibilities Unsafe working conditions
Political (Governance)	Low participation Lack of gender activism Lack of social protection Low policy results	Difficulty of organization Poor basic infrastructure Gender bias Violence against women Corruption Fundamental freedoms Lack of Security Poor living standards
Environmental (Natural Capital)	Logging Deforestation Bush fires Destruction of shea trees	Reduction of raw material Unemployment Loss of biodiversity Difficulties in access to raw material
Technology	Inadequate processing equipment unimproved processing technologies	Reduction in the quality of shea butter Low prices of shea butter Decreased income

Source: Field data, 2017

6.4. Analysis of the Budget Statements and Economic Policies

A healthy public policy according to Note (2012: 1) "improves the conditions under which people live secure, safe, adequate and sustainable livelihoods, lifestyles, and environments". This section analyses and discusses the strategic actions proposed by the Government of Ghana in the yearly budget statement and economic policies from 2002 to 2015 which had been "committed to developing the shea sector to enhance the livelihood and standard of living of people in the three Northern Regions" (Northern, Upper West and Upper East) of Ghana (MoFEP, 2002 -15). Milton *et al*. (2011) have noted the difficulties associated with judging the ultimate effects of a policy as its observation is usually time-dependent. Moreover, as they have noted, it is not easy to prove the existence of a cause and effect relationship because public policies represent a small scope of a multitude of factors that simultaneously influence the targeted problem. However, drawing on the work of Note (2012) in analyzing public policies, this section adopted and modified his analytical dimensions of assessing the success rates and impacts of policies. The sub-section below analyzed and presented the impact of policies and interventions in the shea industry centred on effectiveness, unintended effects, equity, feasibility, and acceptability.

6.4.1. Impact of Shea Policies in the National Budget Statements

To revamp and promote the growth of the shea industry in Ghana, several policies and interventions have been proposed in the budget statements over the years. A careful analysis of the policies and interventions indicated the government's knowledge of the persistent challenges of rural women and their need for assistance in the shea industry. There are several reasons for the stagnation in the shea industry in Northern Ghana, but poor policies have played a significant role. According to the World Food Program (2010: 14), the most vulnerable group in Ghana continue to be smallholder farmers in the Northern part of Ghana with rural women unevenly covered by existing safety nets and access to social services, which exacerbate the high chronic vulnerability of the livelihoods. Laube *et al*. (2017: 4) have argued that reigning discourses lack sufficient scientific basis and misinterpreted the actual dynamics of the shea industry. These discourses have become the drivers for policies because of the vested interest of important actors at local, national and international levels. Research by Awo and Anamam (2015), Jibreel *et al*. (2013) and Awo (2018) have criticized the effectiveness and the benefits of some policies or interventions based on the existing structure of the shea industry without consideration for the livelihoods of rural women in Northern Ghana which has values

embedded in patriarchal social structures which reinforce inequalities and the subjugation of women. The market-oriented policies and interventions mirrored in the national budget statements drivers for policies because of the vested interest of important actors at local, national and international levels. From their perspective, the unstructured nature of the shea industry results in the insufficient coordination of programs and policies among the various institutions in the shea industry.

In spite of the prominence of shea on the international market, priority is given to other higher foreign exchange earning crops such as cocoa. Sucked into this quagmire, researchers interviewed from research institutions such as the University of Development Studies have noted that research on shea has mostly been undertaken after the prioritization of cocoa. The results of the analysis of the national budget statements which have been corroborated by Isahaku *et al*. (2011), highlighted the government's vested interest in research into shea. The Cocoa Research Institute at Bole (in the Northern Region) has consistently been tasked to research the development of cultivable species of shea trees. However, Awo (2018: 25) has noted that this name of the Institute (with cocoa rather than shea) and its operations are examples of the conflict of interests that the government seems to be experiencing when it comes to putting emphasis on shea as an important national commodity. Although the government's shea industry programs and initiatives are managed under Ghana COCOBOD, it is evidently clear that the shea industry is less structured and far less organized compared to the cocoa sector (Awo, 2018: 35).

To foster competition in relation to transnational processors of shea and to bypass traders and middlemen, the government arranged to buy shea nuts directly from rural collectors through the Produce Buying Company (PBC). To assist the local actors in the 2008/2009 season, PBC paid above market prices. However, after the collection season, prices declined and the produce buying company encountered problems selling the collected shea. The plant was intended to directly employ 50 workers, while more than 5,000 others would have been engaged to prune trees and to pick and transfer the nuts to the processing plant (*Graphic Business*, 2014; *Ghana Business News*, 2009). As at the time of this study, this processing factory was not operational, because of errors in the procurement of various components of the processing machines. Research has criticized the feasibility of this and other interventions which only served to politicize the operations of the factory by a select and privileged few.

Acceptability

A majority, 82 per cent of rural women shea nut processors and shea butter extractors interviewed in this study, indicated that they did not receive any type of assistance from the government (Figure 6.2). This is corroborated by a study conducted by Awo and Anaman (2015) on the analysis of the production, marketing and constraints of women shea nut farmers in the Northern Region. Their study reported that 96 per cent of the 226 rural women interviewed indicated the absence of Government's assistance towards their activities in the shea industry. There is a relative paucity of data and information about the perceptions of shea-producing households towards the effectiveness and usefulness of government institutions and policies in the shea sector.

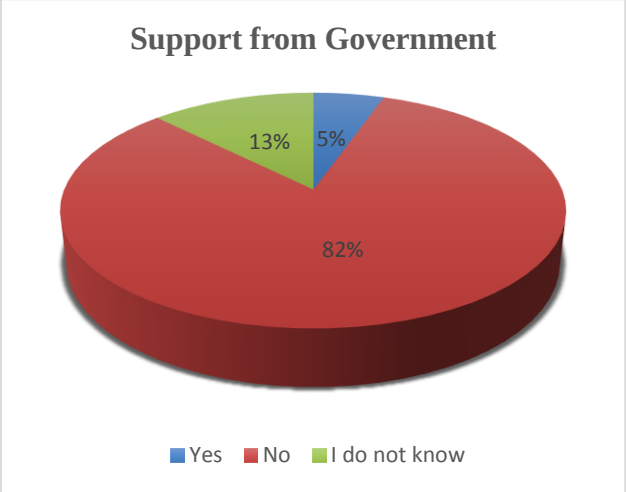


Figure 6.2: Responses of rural women to support from Government (Source: Field data, 2017)

Unintended Effects

This considered the undesirable effects that are produced by implementing the policies and interventions in the BSEP analyzed in this study. Likewise, it is very important to take into account equity and not only general effectiveness because, often, public policies improve population, but at the same time deepen social inequalities. Salamon (2002) acknowledged the complexities within the interactions in human societies. He noted that it is impossible to control a policy so fully as to ensure that it produces only the desired effect and no other. A watershed moment for the Ghanaian economy was the restructuring of the economy in the early 1980's which included structural adjustment programs (SAP). These strategies have been described as a double-edged sword when viewed as a purveyor of prosperity to all involved. As argued by (Datta and Kornberg, 2002: 164), these structural adjustment programs have significantly worsened women's economic situations and have had consequences for their social, economic

and political security around the world. As a remedy to the unintended consequences of the shea export policy and to demonstrate the government's commitment to improving the conditions of shea-nut pickers and processors, the Ghana Cocoa Board (COCOBOD) proposed the setting of floor prices for shea. This intervention was a response to the inequitable distribution of shea income among the shea actors in the industry. The setting of this floor price considered the average cost of production of shea nut and butter and a margin to ensure profit. This purchasing price was expected to prevent the exploitation of primary producers by marketing agents. However, this price was far lower than the prevailing open-market price and that did not augur well for players in the industry, especially rural women shea pickers and processors (*Graphic Business*, 2014). Without considering the prevailing socio-economic factors among rural women in Northern Ghana, these interventions further perpetuated the marginalization of rural women and increased inequalities in the distribution of resources (Laube *et al*., 2017).

6.4.2. The Chasm between State Policies and Regional Agendas

The quality of cooperation between the actors involved in the implementation of policies and strategic interventions has a concrete impact on a policy's feasibility (Salamon, 2002). Increasing research (Fold, 2008: 120; Laube *et al*., 2017: 3) have alluded to the failure of state policies to fulfil regional rural agendas that aim to produce change on social differentiation and marginalization in Ghana's underdeveloped North that results. Research by Laube *et al*. (2017: 4) argued and questioned how far the current discourses on the pro-poor impact of shea nut and butter production on livelihoods are based on a thorough analysis of facts. They note that the reigning shea discourse fits both the political rationalities of Ghana's government that needs to satisfy the aspirations of its Northern constituencies and the neo-liberal, market and export-oriented policies of mainstream development organizations. A previous study on the institutional structures and policy measures in the shea industry in Ghana by Awo (2018: 24) identified institutional structures that shaped the opportunities, constraints, and obstacles facing women pickers and local processors who relied on shea as an important source of income and economic empowerment. Such institutions included the cultural environment, community support systems and the state regulatory and support systems. These state and non-state institutions designed various policies, interventions, and programs for the shea industry with the objective of reducing market failures and to improve incomes of the shea processing households. Nonetheless, Awo (2018) noted the disconnect and conflict between these institutions in terms of the inadequate and inefficient coordination of programs and policies. It

has been argued by Gupta *et al*. (2015) that promoting rural development through policy measures such as liberalizing trade and commercializing local products does not in itself lead to inclusive development. Amponsah (2006) also noted the existence of fundamental institutional impediments that are external to neoliberal agendas, and that must be addressed for any market reform to succeed. Dietz *et al*. (2013) proposed that it is imperative for governments to develop good relationships with the private sector, and to forge partnerships as part of the development plan. In addition to this pragmatic problem in implementation, the underlying question of whether the shea industry has the potential to become more than a feminized subsidy from nature, and whether smallholder integration into a liberalized and a highly unstructured shea marketing chain is a promise or a peril remains.

6.5. Conclusion

This chapter presents the results of the content analysis which was systematically applied to secondary data to answer the second objective of this study which was to identify policies in the shea industry. This secondary data analyzed was the annual budget statement and economic policy from 2002 to 2017 sourced from the website of the Ministry of Finance (MoF). This chapter also investigated the success rates and the impacts of these policies on the shea industry. The increasing complexities in societies especially a society such as Northern Ghana poses challenging and fuzzy problems that require robust policies and interventions to mitigate oppressive conditions and the continuous marginalization of the poor. The government of Ghana through the annual national budget statements proposed and implemented several policies and interventions to revamp the shea industry. But suffice it to say that the struggle of shea actors, especially rural women has persisted. Policies proposed on the national level without bridging the chasm between the state and traditional authority fails to optimize socio-economic benefits. Such interventions fail to produce the needed impact on the regional and micro-level in igniting a social change towards the plight of rural women in the shea industry in Ghana. Most Governmental initiatives suffer from their own inefficiencies and governance problems. Most of these initiatives in the shea industry in northern Ghana have also proven to be mal-directed and piece-meal. Moreover, the means to achieving success in such reforms require a holistic approach, taken carefully and as part of a long term effort to benefit future generations. The next chapter presents causal loop diagrams which explored the sustainability of the shea industry among rural women as a result of the implementation of the shea export policy by the government of Ghana to increase shea nut and butter revenues.

CHAPTER 7: CAUSAL LOOP DIAGRAMS

7.1. Introduction

The problems of the shea industry presented in Chapters 5 and 6 were not linear in the way they unfolded but transcended beyond simple laws of cause and effect. In this chapter, causal loop diagrams are used to explore the sustainability of the shea industry among rural women in Northern Ghana. The review of literature guided in the variable selection for the development of the causal loop diagrams in order to answer the final objective of this study. These diagrams describe the dynamics of the shea industry based on the underlying feedbacks and interactions between the different parts. This chapter begins by presenting the steps leading to the construction of the causal loop diagrams. The basic or preliminary relationships through causal loop diagrams are illustrated after which more details were added to capture the complexity in the shea industry. Leverage points for interventions are also identified. The causal loop diagrams are constructed with the aid of the VENSIM PLE (Personal Learning Edition), which is free for educational purposes. Data generated from the analysis of existing literature and qualitative (interviews) discussed in Chapter 4 is used in the VENSIM software to draw the causal loop diagrams.

7.2. Results of Causal Loop Diagrams

This section developed causal loop models to illustrate the complexity associated with the shea industry as a result of the implementation of the shea export policy. This causal loop diagram is reinforcing as evidenced by all the 5 major loops that have been identified.

Boundary of the Causal Loop Diagrams

The boundary of the causal loop diagram focussed on the state of the industry as far back as the history of what necessitated the implementation of the shea export policy and the status quo of the current happenings in the shea industry.

Causal Loop Diagrams

An expanded overview of the historical trend of the shea industry was conceptualized in the preliminary causal loop diagram in Figure 7.1 which explicitly shows the cause and effect relations between the variables. The persistent decline of the cocoa industry in Ghana during the early 1970s (Batie, 1985: 1) as a result of shifting demand patterns and world prices promoted the desire for a cocoa butter substitute by processing companies which utilized cocoa

butter as a raw material in their formulations (Kolavelli and Vigneri, 2011; Adam and Abdulai, 2014: 2). Shea butter was discovered in the 1970s as an alternative to cocoa butter made from cocoa beans (Saul *et al*., 2003), this was because the two components had identical physical and chemical properties (Moore, 2008: 211). This desire for a cocoa butter substitute and the discovery of shea butter as a suitable and cheap substitute increased the focus of the government of Ghana on shea nut and butter production (Wardell and Fold, 2013). This increase in focus on shea nut and butter production increased the activities of state-controlled marketing boards in the marketing of shea (Fold, 2008: 94; Laube *et al*., 2017: 4). However, the operations of these marketing boards were largely unsuccessful and resulted in a decrease in revenue for shea and nut butter sales (Chalfin, 1996). The state-controlled marketing boards which included the Cocoa Marketing Board, the Produce Buying Company (PBC) and state licensed traders as key actors, were considered as inefficient and a continuous loss-making board preying on agricultural producers (Batie, 1985: 4; Fold, 2008: 94; Laube *et al*., 2017: 3). Increases in agricultural exports was one of the main components in the SAPs, thus the continued interference by the marketing boards put successful implementation in jeopardy (Batie, 1985: 4). This decrease in revenue increased the desire for government intervention and this led to the shea export policy which was a structural adjustment program implemented in the late 1980s and early 1990s (Kubo, 2017). After liberalization, shea trading was taken over by a number of international as well as local trading companies who started buying shea nuts at local and district level, often recruiting networks of shea purchasing agents the government had previously created (Chalfin, 1996). The implementation of the shea export policy in the shea industry influenced increases in the production of shea nut and butter (Laube *et al*., 2017: 4). The feedback loop identified is the reinforcing loop R1.

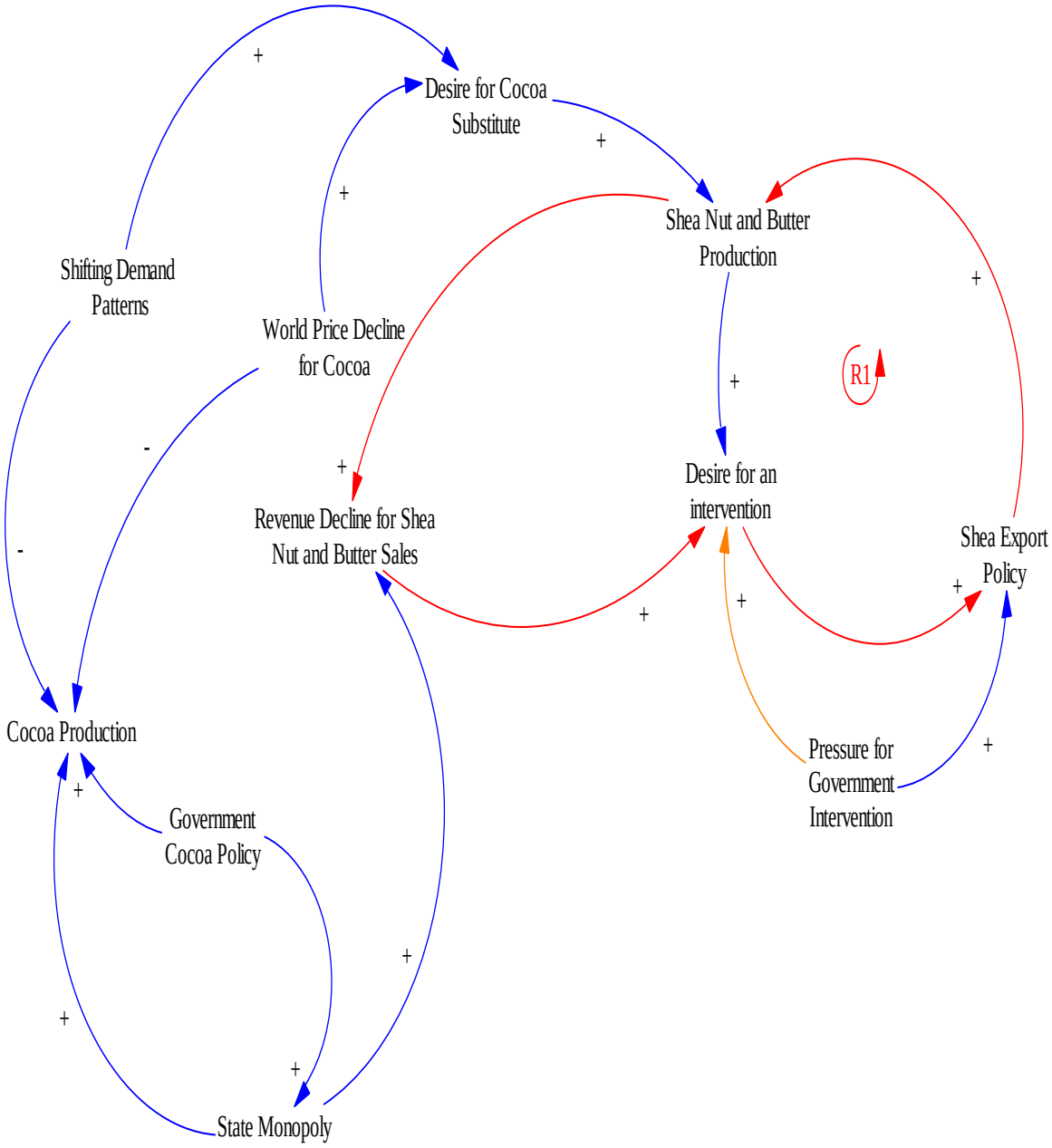


Figure 7.1: Historical Trend of shea industry loop R1

The economic benefits as a result of the shea export policy loop in Figure 7.2 has 3 reinforcing loops. From Figure 7.2, the reinforcing loop R2 shows that the implementation of the shea export policy led to the increases in the advent of middlemen and export companies who were private entities (Fold, 2000; Fold, 2008). This increases in the involvement of these entities as a result of the government relaxing and reducing its control in the shea industry led to increases in the global visibility of shea nut and butter (Moore, 2008: 211).

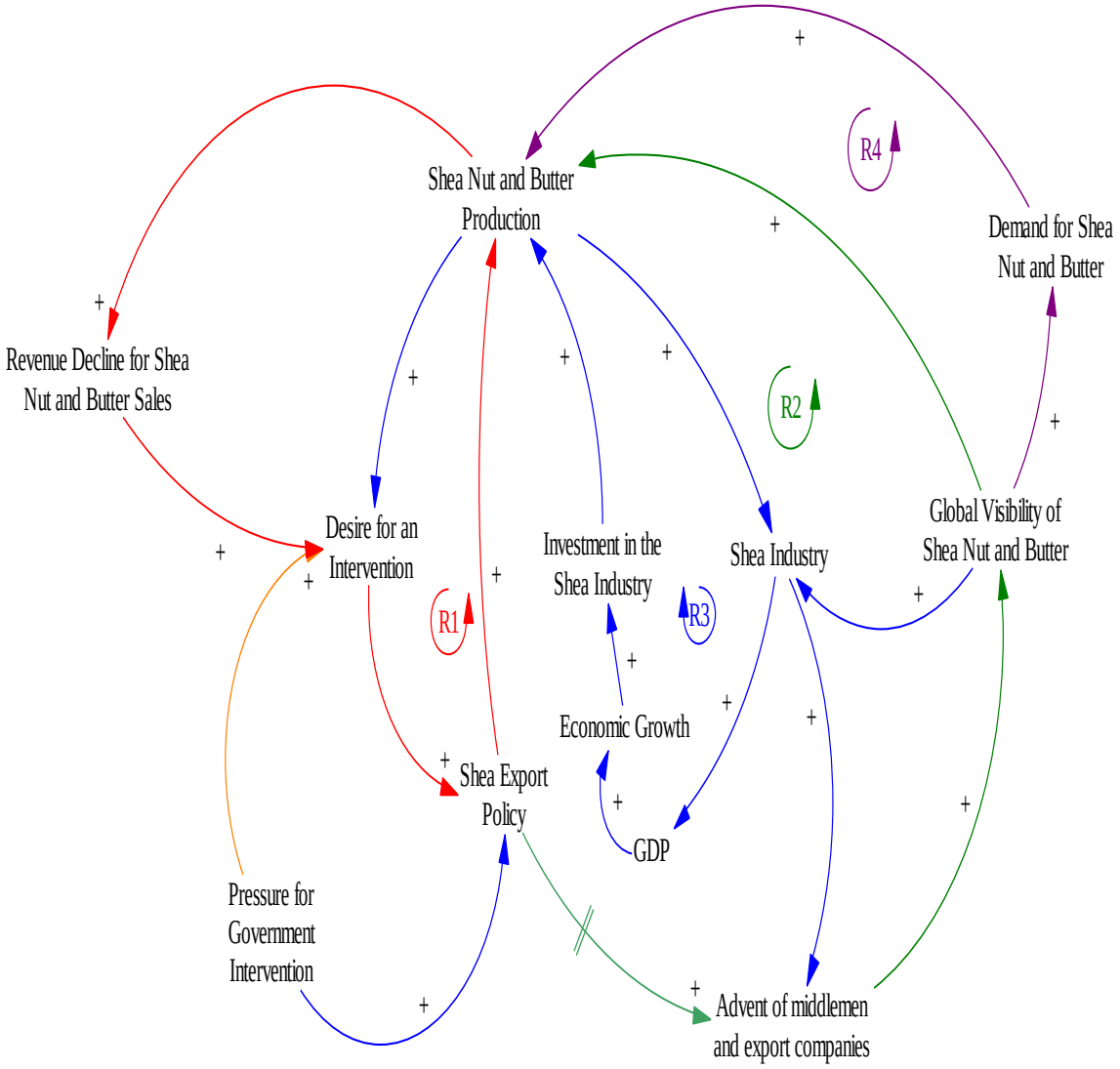


Figure 7.2: Economic benefits of shea export policy loop (R2, R3, and R4)

This increase in the shea nut and butter visibility on the international market which is illustrated in the reinforcing loop R2 promoted the increases in shea nut and butter production (Moore, 2008: 216). Increases in the production of shea nut and butter resulted in increases in the growth of the shea industry in Ghana (Laube *et al*, 2017: 4). This growth in the shea industry promoted increases in the gross domestic product (GDP) of the country which led to increases in economic growth. This increase in growth led to further increases in investment in the shea industry (Chalfin, 1996) and this subsequently resulted in increases in shea nut and butter production (Moore, 2008: 216). Since the mid-1990s international and local companies have developed Ghana's shea industry to a point in which the country has become one of the largest

exporters of shea nuts worldwide (Holtzman, 2004: 4). This is illustrated in the reinforcing loop R3 in Figure 7.2.

Increases in the global visibility of shea nut and butter led to increases in the demand of shea nut and butter on the international markets (Chalfin, 1996, Fold, 2008: 11). This increase in demand resulted in increases in the shea nut and butter production (Kubo, 2017). The feedback loop R4 which is a reinforcing loop illustrates a benefit of the shea export policy which is presented in Figure 7.3.

However, from R2, the increases in the advent of middlemen and export companies resulted in increases in unfair business practices (Laube *et al*., 2017). Increases in the influx of middlemen and private entities resulted in increases in the price setting of shea nut and butter by these entities (Awo and Anaman, 2015: 13; Laube *et al*., 2017). Increases in the unstructured and fragmented structure of the shea industry led to decreases in the agency of rural women in the shea industry in the making of decisions concerning the price setting of their shea nuts and butter (Fold, 2000). This resulted in a decrease in the motivation of rural women in the production of shea nut and butter (Laube *et al*., 2017) and this potentially leads to a decrease in the transfer of generational knowledge. This decrease in the transfer of knowledge has an impact on the shea industry in Ghana through the decrease in the production of shea nut and butter which contributes to the decline of the shea industry.

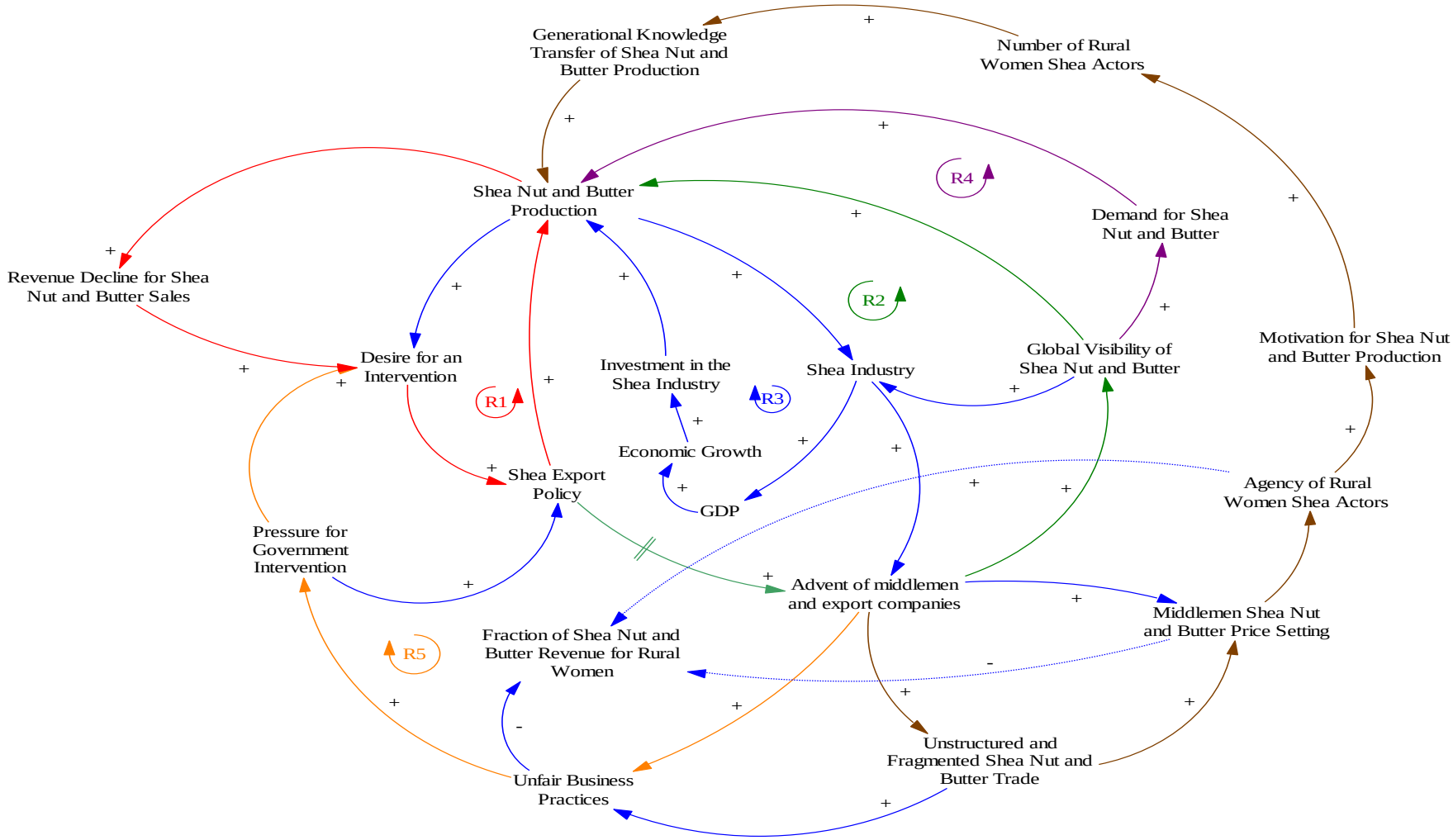


Figure 7.3: Effect of shea export policy loop (R5)

7.2.1. The Overall Causal Loop Diagram

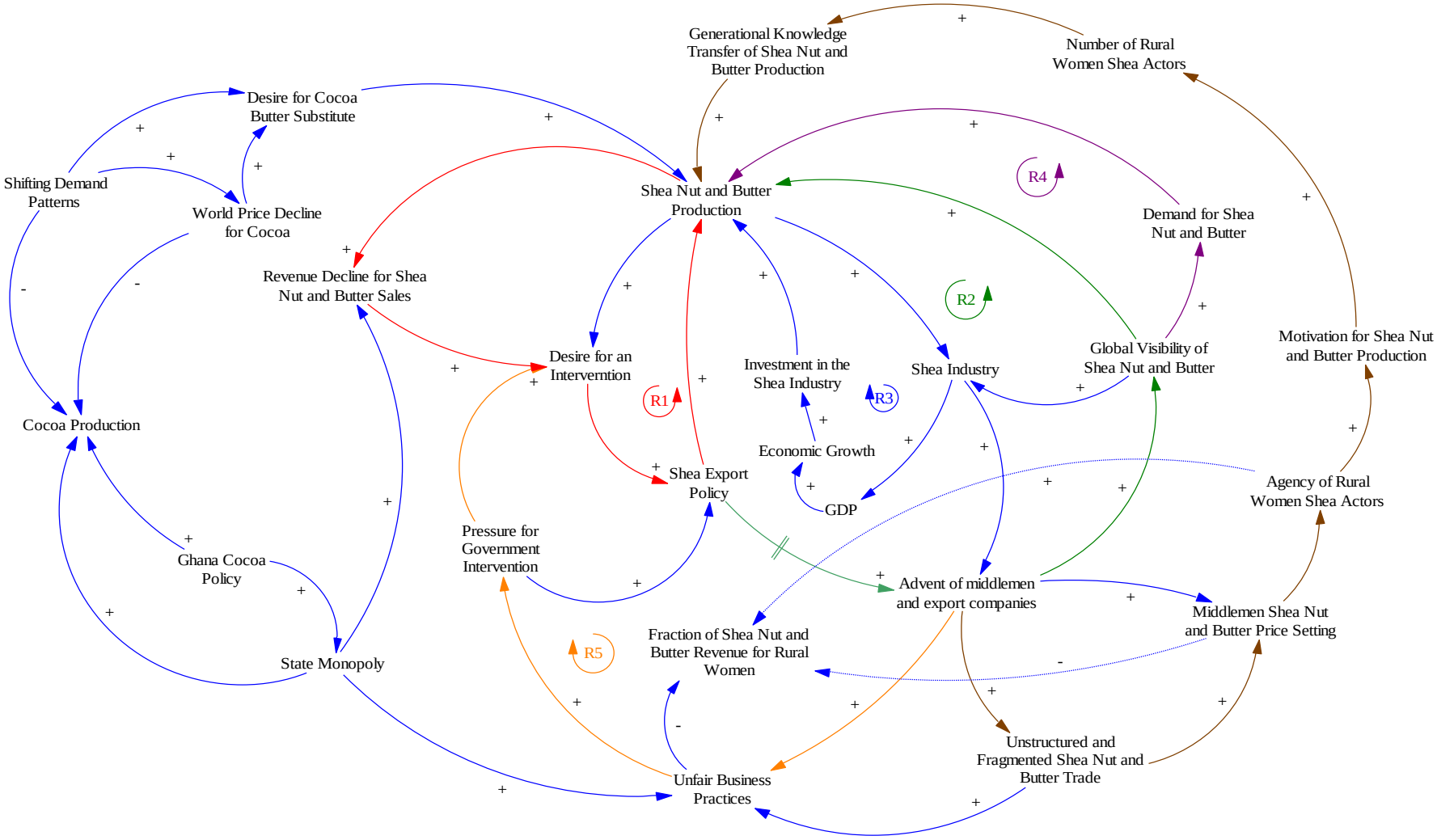


Figure 7.4: Overall causal loop diagram

The overall causal loop diagram in Figure 7.4 conceptualizes the shea industry to illustrate the impact of the implementation of the shea export policy in the shea industry in Northern Ghana. One of the strengths of the CLDs was its ability to create a broader picture of the sustainability of the shea industry and improve the understanding between the different levels of interactions. Five reinforcing loops in the overall causal loop diagram were identified.

7.3.Discussion

The variables and their relationships illustrated in the causal loop diagram were identified from existing literature and partly from interviews with research participants. The overall influence diagram illustrates two important attributes namely that the shea industry is a complex industry and secondly there is the need for strategic interventions. This complex industry has five reinforcing loops that tend to increase the persistence of unintended consequences of the shea export policy, and lastly achieving desired outcomes requires strategic interventions.

7.3.1. A complex system

This overall causal loop diagram in Figure 7.4 highlighted the cascading effects of the implementation of the shea export policy in one part of the shea industry on other parts. A key implication is that decision making to maximize outputs of one variable without careful consideration in its enactment and implementation can potentially have negative consequences on other variables in other sectors, and thus raises a number of challenges for governance institutions. An important finding from this overall influence diagram was that the current state of the shea industry is reinforcing. In other words, without strategic and well-planned interventions that consider the differences between the governance structures of the state and the traditional society, the development paths for sustainability will remain elusive. Such ill-planned interventions will continuously diminish the contribution of rural women to the shea industry, their agency, the equitable distribution of the revenues from shea nuts and butter sales, and distort the marketing structure of the shea industry. This causal loop diagram provides a framework for policymakers to explore how to maximize benefits and minimize perverse outcomes in the shea industry, in order to make more informed decisions.

7.3.2. Shea Framework of Interventions

From the causal loop diagram in Figure 7.4, there are several informative leverage points that were identified. A leverage point according to De Pinho (2015: 17) and Pittock *et al*. (2016: 1), is a place in a system's structure where management interventions can be applied to change the outcome. This chapter located within the overall causal loop diagram, high leverage points where small levels of intervention could potentially cause large changes in the industry's behaviour. The leverage points identified in the causal loop were unstructured and fragmented shea nut and butter trade, middlemen shea nut and butter price-setting, and unfair business practices. The strategic interventions proposed in this study (Figure 7.5) from these leverage points were categorized into two namely;

i. a shea actor multi-platform business model and
ii. shea nut and butter regulatory framework

These two strategic interventions were considered largely complementary. This study suggests that the primary challenge for societies and governments to implement this approach lie in leadership, partnership, and transparent implementation. Leadership and support are required for the implementation of these strategic interventions. The next sub-sections discussed these interventions.

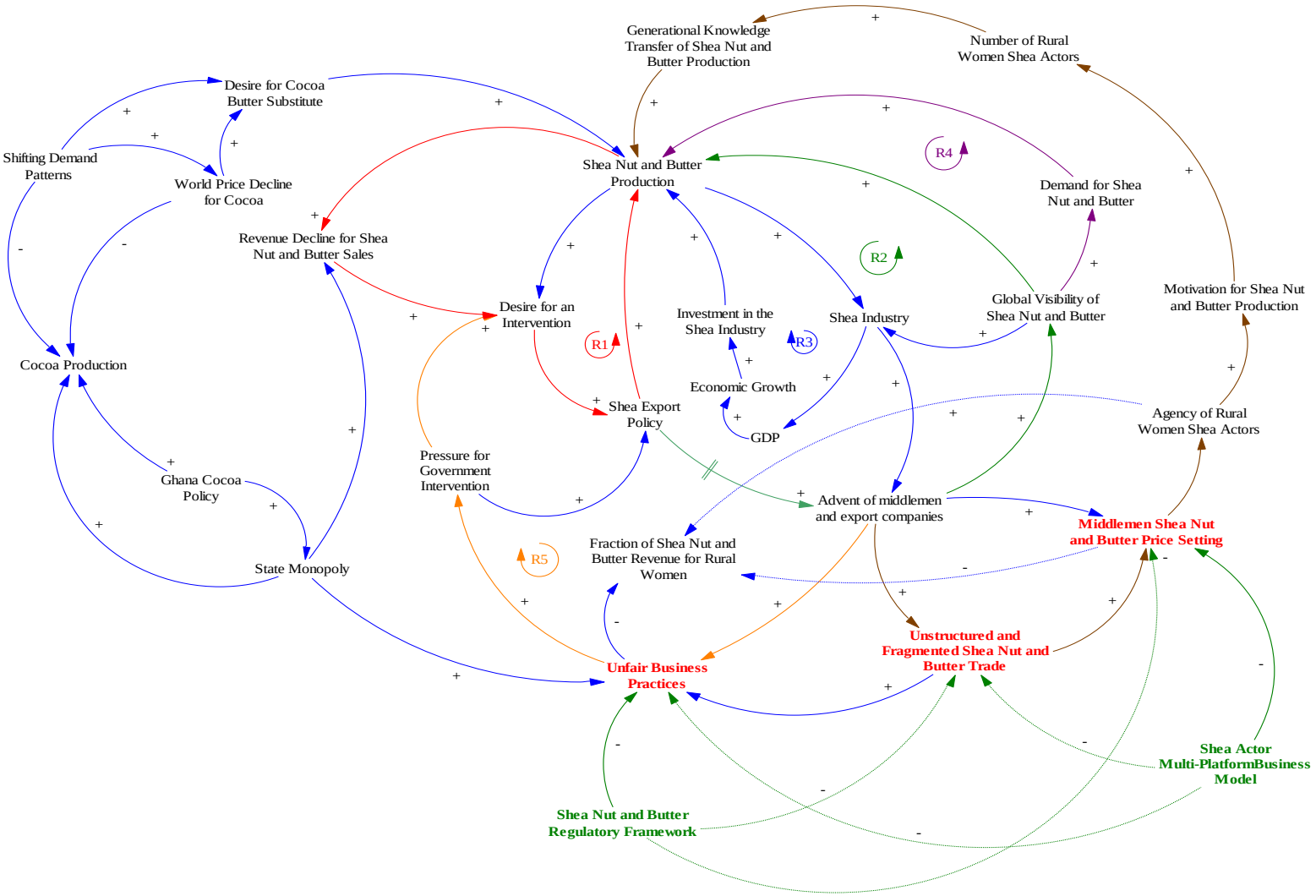


Figure 7.5: Overall causal loop diagram with strategic interventions

i. A Shea Actor Multi-Platform Business Model

Evans and Schmalensee (2005) have defined a multiplatform business as two or more groups who need each other in some way but who cannot capture the value from their mutual attraction on their own and rely on a catalyst to facilitate value-creating interactions between them. Sanchez-Cart (2018: 7) noted that the focus of the platform is in creating value that would not exist or would be much smaller in its absence. This value is created as a result of solving a coordination and transaction cost problem between the groups. The generation and allocation of this value between the multiple sides are determined simultaneously. How much value each side adds determine whether they participate and also how much is left over as profit for the platform. This platform model will entail dialogue and collaboration between rural women who add value to shea nuts and butter in the supply chain through their processing activities, middlemen who add value through the movement of shea nuts and butter from one location to the next and shea nut and butter sourcing companies. This platform in this study suggests the acknowledgement of the activities of middlemen and their inclusion in the proposed model. Middlemen play a vital role through the activities in the shea industry, thus serve as catalysts to facilitate value-creating interactions between rural women shea nut and butter processors on one hand and manufacturing companies on the other hand. A shea nut and butter pricing framework will significantly change outcomes in this model. The rationale for this platform model is for the Government of Ghana, in consultation with shea producer groups, middlemen, and stakeholders to decide the ceiling and floor prices of shea nuts and butter. This effort has the potential to streamline and contribute to structuring marketing in the two shea commodity chains namely the shea nut and butter marketing chains and production activities to enable rural women whose livelihoods depend on shea reap its full benefits. This will also cushion shea farmers against losses incurred during periods of declining and fluctuating prices. This suggests the need for guidance and collaboration on the organizational skills required to form structures to negotiate terms and conditions of sale of shea with middlemen and international buyers and investors. In the overall causal loop, this intervention will mitigate the gold-rush mentality of middlemen and private entities in the shea industry.

Additional, drawing on the chocolate processing model of bean to bar chocolate, the confectionery, pharmaceutical, and cosmetic industries, and other secondary processors who utilize shea in their formulations must adapt and modify this model to guide the movement of shea products. The bean to bar chocolate making process has been documented by research as an important model in

facilitating marketing communications (Doherty and Tranchell, 2005; Nesto, 2010; Gallo *et al*., 2018). This trading model in the chocolate manufacturing industry generally indicates that one brand controls every stage from the purchasing of the beans to the creation of the bar. This model will be of exceptional importance to confectionary industries especially chocolate makers who use shea butter as a Cocoa Butter Equivalent (CBE) in chocolate manufacturing or as a Cocoa Butter Replacement (CBR) for the manufacture of other sweets; and to cosmetic companies who advertise shea as a major base of their formulations which appeal to ethical consumers. To ensure the origin and quality of shea in product formulations, companies who utilize shea in formulations must adopt and promote this model. This trade model has the potential to respond to issues of social, economic, technology, environment and governance in the shea industry. It has the potential to support the shea industry in terms of quality; reducing at the origin, uncertainty about the processes of extraction, sustainability, and transparency. It enables traceability which creates and increases the awareness of producers and ethically conscious consumers on production and processing practices. This is particularly important in monitoring the use of forced labour, child labour and the inequitable distribution of shea income. It also ensures that best practices are followed and assists in improving working conditions, promote justice as fairness, sustainability, minimal environmental impact, and community enhancement. This strategic intervention will help address the gender inequalities and the exploitation of rural women in the shea industry particularly in terms of the shea income distribution among the various actors. These aspects will also contribute towards the empowerment of rural women shea nut and butter producers in the industry by their acknowledgement and direct involvement in the flow of shea nuts and/or butter to other processors of shea.

Drawing again from the cocoa industry, the direct trading of shea nuts and butter between rural women and secondary processors is proposed. This is a promising method where rural women will be paid a premium for the quality of their commodity in addition to the benefits derived from environmental aspects such as growing the shea tree resource in a sustainable agroforestry system. To ensure the active participation of rural women in the multi-platform business model, the following sub-set of strategic interventions were proposed towards enhancing their livelihood assets.

- **Community-based Rural Producer Groups**

The shea industry has the capability to give poor and vulnerable women opportunities to improve their livelihoods and to raise their living standards with well-planned organizational structures. With reference to the Kuapa Kokoo Farmers Union in the cocoa industry, the shea industry can adopt and modify this as an organization for mediating on behalf of women pickers and processors in price negotiations. Measures must also be taken to improve the quality and productivity of shea and address the welfare issues of rural women for better livelihoods. Collective aggregation and marketing of shea has the potential to create many benefits for women. It has the potential to increase their negotiating power within a chain. Collectively, women can use their networks to ensure a supply of shea in the proposed business platform model. Better marketing of shea through collective action and improved negotiation power, division of labour and economies of scale (input), management and budgeting skills are needed. Once established, the community-based rural producer groups will become a representative structure through which support organizations can resourcefully provide extensive training to rural women shea actors.

- **Capacity Building**

The relationship between economic development and entrepreneurship is one that cannot be ignored. Considering the high levels of entrepreneurship, especially in the agricultural sector in Ghana, one important policy that must be implemented by the government of Ghana and stakeholders must be that related to education. Rural women must be provided the platforms to engage in a review of skills development programs and projects in order to strengthen their agency. As highlighted in this study, the majority of women active in the shea industry have no formal education, thus it remains crucial to implement adult literacy programs to enhance their indigenous knowledge and enhance their participation in shea marketing. An inventory of existing materials and training curricula should be a starting point from which to develop future training and extension programs. Training in production, improving and maintaining quality standards and gaining access to basic inputs for shea picking, processing, and packaging, will lead to the production of shea of high quality. Thus education becomes a vital step empowering rural women in the area of entrepreneurship, quality improvement, ability to access loan facilities and information.

- **Entrepreneurship**

Capacity building has the ability to improve the skill sets of shea actors, strengthen their agency in business decisions as well as their ability to take on financial risks. Rural women must contribute to setting the rules and standards of conduct based on principles of equity and ownership. The power to remain in a shea industry with increasing global presence with new and higher standards of production and certification measures geared towards the export market is critical. There should be collaboration between stakeholders and rural women towards the adoption of strategies for the implementation of international standards for shea and the enhancement of quality standards such as product traceability in order to trace shea to its point of origin. Shea traceability will reveal the activities and contribute to the acknowledgement of the contributions of rural women. The improved skill sets will empower rural women in their participation in the business model.

- **Quality Improvement**

It is important to support women's technological innovations and to ensure their access to improved technologies. Suitable machinery saves time, money and energy, and increases production output and returns. The availability and adoption of new technological methods will reduce the strenuous work required in the traditional methods of shea production. While the development of further value-added shea products such as cosmetics and confectionaries may require access to specialized equipment and expertise, shea butter of equally high quality can be developed in rural areas. This can be achieved with a training background in production, quality standards and access to basic inputs for product formulation, packaging, and labelling. This means that rural women shea producers will be able to meet the quality requirements for the supply of shea to international markets. Collaboration between rural women shea producers and an institution such as Gratis[39] foundation should be fostered to design and manufacture appropriate technologies to alleviate the drudgery involved in shea activities. Machinery such as the shea picker should be designed and fabricated to conveniently pick shea nuts in the wild and on

[39] This is a governmental organization specialized in the designing and fabricating of precision processing and sanitation equipment including millers, roasters, palm oil processing, fruit juice extractors, oil extractors, cassava graters and feed mixers, among others.

farmlands. However, caution must be taken so that mechanization of shea activities does not negatively affect the social benefits and exchanges rural women gain from manual labour.

ii. Shea Nut and Butter Regulatory Framework

Beneficial to the shea industry will be the development of a shea framework. The purpose of the framework must validate and affirm the contribution of rural women and the protection of their rights in the shea industry. It must address the main elements needed for understanding the industry, formulate strategies at a national level and also at the level of small shea enterprises. Even though the shea industry is categorized under the informal sector in Ghana, this research proposes the formalization of the industry in terms of proper documentation. This should be developed as a strategy to give clear direction for the development of the industry. This policy guideline should be backed by law and tailored to fit the shea resource use, its sustainability and the needs of rural women. Government must acknowledge the importance of guidelines to streamline shea activities. This framework has the potential to reduce the risks in the marketing of shea by providing information for decision making. It must include research and development directions, indicate new markets, revitalize old markets, encourage the adoption of new technologies, as well as promote incremental improvements in existing technologies.

A gendered perspective must be integrated into the preparation, design, implementation, monitoring, evaluation of policies and regulatory measures. This framework should mainstream gender concerns into the national, sectoral, district and local level development processes in order to improve the conditions of rural women shea actors in the industry. The weaknesses of existing governance structures on issues of gender and social protection are regarded as a factor in the disempowerment of women. As a remedy for this weakness, a policy framework led by the government with the support from relevant stakeholders must guide interventions in the shea industry. Such a framework should provide clear strategies and related guidelines for short-, medium- and long-term development. Subsets of the shea nut and butter regulatory framework consists of the regulatory role and partnerships.

- **Regulatory Role**

Because of the shea export policy, there are numerous exporters and buyers in the shea industry and these actors operating must have licenses and their activities must be regulated. Institutions

such as the Ghana Cocoa Board (COCOBOD) must maintain a regulatory role by vetting and approving the applications of private buyers seeking to purchase and/or export shea nuts and shea butter. The licensed private companies must be required by regulations and guidelines to submit periodic reports on shea nuts and butter marketing operations to COCOBOD. A national structure must be created to provide globally recognized certification and accreditation to these exporters and buyers.

- **Partnerships**

As discussed in Chapter 6, the quality of the cooperation between the actors involved in implementation has a concrete impact on a policy's feasibility. The importance of communication as a catalyst for effective collaboration at the national, local and regional levels must be prioritized. For the sustainable management of shea to improve the livelihoods of its primary producers and for the sustainability of the industry as a whole, it is necessary for cohesion in national policies and rural development agendas. A broad governance approach, which must be geared towards effective vertical and horizontal communication must be promoted. Dialogue must be encouraged around the gendered nature of the shea industry to acknowledge and address the realities of rural women actors within a culture that is highly patriarchal. An assessment and interpretation of operations of customary laws in Northern Ghana must be analyzed to determine how it can incorporate gender-sensitivity. Change agents such as religious and traditional leaders must be encouraged and supported on the clear interpretation of their laws to improve the rights of rural women and their inclusivity in economic and social activities. Additionally, developmental agencies must assess their governance structures to include a range of actors, especially rural women, on their boards and ensure more transparency than has historically been the case. Business risks should be shared with rural women in the shea industry in co-owned and co-managed enterprises. Alliances and joint ventures between cooperatives must be formed to enhance communication and the regular dissemination of prices and increases in the bargaining power of sellers with a limited number of large-scale buyers. Empowering women through such micro-enterprises will have an effect on their decision-making powers with regards to the setting of prices of shea products.

7.4. Conclusion

In this chapter, causal loop diagrams were used to explore the key drivers affecting the sustainability of the shea industry in Northern Ghana as a result of the shea export policy which was a policy introduced by the Government of Ghana in the late 1980s and early 1990s as a structural adjustment program. The causal loop diagrams were formulated to provide an endogenous explanation while at the same time portraying the essential components and interactions in the shea industry. This section presented snapshots or pictures of the complexities produced as a result of the interactions of the variables in the shea industry. Chains of causality were constructed and the contributory factors which triggered the problem systems identified. The causal loop diagram captured in a succinct manner the feedback structure of the shea export policy and its impact on the shea industry in Ghana. The feedback loops which consisted of five reinforcing loops were identified. Exploring the sustainability of the shea industry using causal loop diagrams demonstrated how changing one variable can be seen to have knock-on effects throughout a complex system. Developing the causal loop diagrams also enabled the identification of options for strategic interventions to maximize benefits while minimizing negative impacts. The interventions proposed were classified as the shea framework of interventions which consisted of the multiplatform business model and the shea nut and butter regulatory framework. These strategic interventions proposed in this study were complementary and require dialogue, collaboration at all levels and the capacity building of rural women. The next and final chapter presents the conclusions and recommendations of this study.

CHAPTER 8: CONCLUSIONS AND RECOMMENDATIONS

8.1. Introduction

This chapter presents a summary of the key contributions and findings of this study. It highlights the link between rural women and the shea industry and addresses the complexities in this relationship. Likewise, the misrecognition of rural women in the shea industry situated in a gender-biased and patriarchal society such as the Northern Region of Ghana is addressed. The theoretical and practical implications are identified and discussed. Limitations of the study are discussed and suggestions for addressing these limitations are highlighted. Recommendations for further research are finally presented.

8.2. Contributions

This study contributed to the development of a conceptual diagram useful for investigating the sustainability of the shea industry among rural women in Northern Ghana. Based on this premise, leverage points for interventions were identified and strategic interventions involving the collaborative efforts of all stakeholders were proposed. Causal loop diagram was the learning tool which provided the necessary guidance towards understanding the system boundaries for long-term sustainable development of the shea industry. Conducting this study in a systems approach and building the causal loop diagram is an under-researched area in the context of the Ghanaian shea industry and contributed uniquely to narrowing this knowledge gap.

Most literature on the state of the shea industry mainly focuses on three dimensions of sustainability, namely the economic (mainly cost-effectiveness), social and environmental aspects. There is a limited account of the governance and technological dimensions of the sustainability discourse on shea. Emphasis in this study was placed on the need for collaboration with rural women as part of the policy formulation and implementation process. This was done by creating multi-stakeholder platforms within a participatory approach, as was utilized in this study in the collection of data.

8.2.1. Addressing Complexities between Rural Women and the Shea Industry

The role of the rural woman is central to the shea industry and appears in an important way as a link in the transformation process (shea fruit to shea nut and butter) and in value addition. A focus

on the contributions of the various actors and how they are impacted by the shea industry highlights the various challenges and the uneven distribution of resources. The current shea environment, with its fragmented and unstructured shea nut and butter marketing chains, is unfavourable to rural women shea nut and butter producers who are disadvantaged in terms of gender imbalances associated with the unequal distribution of opportunities in Northern Ghana. Coupled with this, the lack of recognition of the contribution and inclusion of rural women gives the false impression that generic policies will be a one-time fix for all problematic issues and challenges in the industry. This lack of diversity along lines of gender, socio-economic status and physical abilities, among others, is rooted in deeply masculinized societies in Northern Ghana. The voices and lives of rural women in Northern Ghana who are situated in this industry have been relegated to the margins and periphery of knowledge creation. This study argues that the point of intersection of the experiences of rural women shea actors in the shea industry and in Northern Ghana is unique and has equally unique implications for proposing and enacting policies to contribute to the sustainability of the shea industry.

Complexities intrinsic in any system are not arranged in a straight line. One of the major features of this dissertation was addressing the complexities of "wicked problems" in a policy context through causal loop diagrams. Complex or wicked problems do not fit the linear models of most scientific discourses. For the sustainability of the shea industry, the assumptions were that there is nonlinearity and unpredictability in the components of the system and that there are thresholds that cause irreversible outcomes. The study addressed the multiplicity of challenges in the shea industry that is encountered by rural women in their contributions to the shea industry. The multidimensional nature of these challenges was highlighted and this, in turn, required the theoretical orientations of more than one framework. It also required a participatory approach which necessitated the standpoint of more than one actor in the industry. These actors brought different perceptions and values to the identification of the challenges in the shea industry. Because of the nature of the complexities, the challenges in the industry are never completely and thoroughly resolved, thus interventions recommended are not linear and a once-off fix to all the challenges in the industry. Therefore, there is a need for constant and continuous collaboration between all the various stakeholders in order to minimise and mitigate undesirable effects of proposed interventions.

8.2.2. Addressing the Misrecognition of Rural Women in the Shea Industry

This study highlighted the state of the shea industry among rural women in Northern Ghana which is situated in a patriarchal society that does not recognize the rights of rural women shea actors and adheres to discriminatory practices that reinforce inequalities. The inherent cultural gender bias and the patriarchal system in Northern Ghana coupled with the dynamics of the execution of the shea export policy has perpetuated gender inequality and the exploitation of rural women.

The politics of recognition by Taylor (1994: 24-5), argued that misrecognition or the lack of recognition exists in the social realities and promotes a demeaning of an individual's identity. It is further argued that women in patriarchal societies have been induced to adopt self-depreciatory images and an internalized picture of their own inferiority, such that even when some of the objective obstacles to their advancement fall away, they are incapable of taking advantage of new opportunities (Taylor 1994: 25). The challenges of rural women in the Northern Region and in the shea industry are interlinked in diverse ways. The exercising of the agency of rural women in the shea industry is often limited by the parameters dictated by patriarchal social structures embedded in Northern Ghana. The burden on gender roles and responsibilities in Northern Ghana as noted by Chalfin (2004a) has weighed heavily on the production of shea nuts and butter. An important way of addressing the problem is to re-evaluate the role of women within society and to formulate policies that address the misrecognition of women in the rural areas. This approach is deduced from the theory of justice which was proposed by Nancy Fraser. The theory of justice by Nancy Fraser argues that justice can be comprehended in two separate but interrelated paradigms which are integrated in a single and comprehensive framework (Fraser, 1998). These are redistributive justice and the justice of recognition. Distributive justice is justice in terms of a more equitable distribution of resources whiles justice of recognition is in terms of equal recognition of different identities or groups within a society. The realization of participation equality requires equal distribution of material resources regardless of the participants' differences in gender, race and other features. This study proposes that this should begin with the conscientization of everyone to the appreciation of gender differences and the social and economic implications of this appreciation in the shea industry. Also, recognition of the roles and contributions of rural women and other actors in the industry must be clearly delineated. Tamale (2014) has posited that for any discourse of a renaissance to have substance in Africa, issues of gender inequalities must be prioritized and addressed.

It is important not to romanticize the work of rural women in the shea industry which is situated in the informal sector of Ghana. The results of this study have shown that the working conditions in this industry are often difficult with few protections against shocks. This points to the importance of tackling decent work and social protection deficits in the informal sector. According to Gouws and Stasiulis (2014: 7), unless there is a redistribution dimension to the recognition of women living under customary law, there will be no improvement in the conditions of women. They posit that for gender justice to prevail in post-colonial societies, there needs to be parity of participation for men and women living under customary law so that women can negotiate their rights on their own behalf as well as the associated redistribution of resources.

8.3. Theoretical and Practical Implications of the Study

Using the participatory rural appraisal in this study into an industry in which shea picking, shea butter extraction, and marketing activities are dominated by different actors produced a number of useful lessons. First and most importantly, this approach allowed actors especially rural women shea nut processors and shea butter extractors recount the stories of their everyday lives and activities in the shea industry. This process of knowledge co-production provided an opportunity for the empowerment of rural women through storytelling. Moreover, this approach made it possible to understand the multifaceted nature and context in addressing issues of sustainability of the shea industry and provided an understanding of different pathways to this sustainability. Acknowledgement and utilization of this approach in future assessment by practitioners, as well as policy and decision-makers in other aspects of the Ghanaian economy has the potential to facilitate meaningful communication between different actors.

The use of the participatory approach also highlighted the rift between the policies enacted and implemented at the national level and the development agendas needed at the regional level. Accordingly, the challenges in the acceptance and success rates of these policies have been documented throughout this study.

Finally, using the systems approach enabled this study to critically assess the interconnectedness and interdependence between the various elements that form the dynamics of the shea industry. This study adds new findings and methodological lessons for managing the industry in order to contribute to sustainability. The application of causal loop diagrams is not only an analytical tool but also facilitates dialogue among actors across sectors on various issues.

8.4.Recommendations of this Research

Based on the findings of this study, the following recommendations are proposed. The first recommendation is the need for a shea actor multi-platform business model which must be developed between shea primary producers, middlemen and shea sourcing companies with the Government of Ghana and stakeholders as collaborators. Even though this study has highlighted the detrimental activities of some middlemen in the unstructured marketing and supply chains in the shea industry in Ghana, they play vital roles. Middlemen serve as catalysts in facilitating value-creating interactions by providing logistic services between rural women shea nut and butter processors on one hand and manufacturing companies on the other hand. The value added by middlemen in the shea supply chain is in the movement of shea nuts and butter from one location to the next. This recommended business model will entail dialogue and collaboration between the Government of Ghana, rural women, middlemen and companies who process shea butter into other products for consumers. The rationale for this platform model is for the Government of Ghana, in consultation with shea producer groups, middlemen, and stakeholders to decide the ceiling and floor prices of shea nuts and butter. This will contribute to structuring production and marketing activities. Subsets of this intervention include promoting community-based rural producer groups, capacity building, entrepreneurship and quality improvement.

Second is the need for a shea industry regulatory framework. The rationale for this framework is to ensure a guideline for the distribution and recognition of the various actors in the shea industry, especially rural women. It is to also validate and affirm the contribution of rural women and the protection of their rights. This framework encompasses the regulatory role of the Government of Ghana in the licencing and registration of activities of shea actors and the promotion of partnerships between actors in the shea supply chain.

This study recommends building the awareness on the lucrativeness of the shea industry. There should be an integrated plan by the various stakeholders in the shea industry to strategically introduce people into the shea industry. This plan must be included in the existing Youth Employment Agency (YEA) under the auspices of the Government of Ghana to train and equip the youth with practical skills in agriculture and agribusiness. This would to a large extent erase the stigma associated with shea as a job for the uneducated. Integrating the youth into shea would help bring on board various creative ideas, skills and innovations that would help develop the

industry, reduce rural-urban migration and increase sustainability. One contributory reason for the scarcity of labour for activities ranging from shea picking and processing into butter is rural-urban migration. As a solution to this phenomenon and using the case of the COCOBOD Farmers' Scholarship Trust in Ghana as a guide, a similar scholarship initiative should be instituted in the shea industry. This COCOBOD Farmers' Scholarship trust was established in 1951 to offer support to the needy but brilliant children of cocoa farmers. On average, COCOBOD sponsors between 7 500 and 10 000 students over a 3- to 4-year period at the second cycle and tertiary levels of education. Implementing a similar strategy in the shea industry will contribute to the achievement of the sustainable development goals of poverty alleviation, the creation of decent work and promoting economic growth. This strategy will also contribute to minimizing the migration of young girls to other parts of the country.

Another recommendation is the introduction of improved planting materials through the field of scientific research. Ghana must begin intensive cultivating of the shea tree resource rather than relying solely on natural regeneration. Cultivation of the shea tree resource can be increased once research is successful in the propagation and cultivation of improved shea planting materials. The Cocoa Research Institute of Ghana (CRIG) must conduct further research into reducing the gestation period of shea (which takes 15 years to fruit after it has been planted, and between 20 to 45 years to reach its optimum yield). Research in top-working, which is a grafting technique which entails grafting a mature shea tree on a young shea plant, must be encouraged. Results of this study indicated that rural women were skilful in the grafting techniques because of the field training they had received from research institutions. It was also found out that such activities were lucrative and supplemented the incomes of rural women. Therefore in the lean seasons when shea activities are at a minimum, research institutions must provide grafting training and opportunities to rural women as a means of empowering them to be able to increase the number of shea tree resource.

The role of gender needs to be carefully taken into account in terms of the sustainability of the industry and in shea resource management practices. Findings of the research have confirmed that women have very specific knowledge about shea trees, their uses as well as their management and conservation. Vital areas in the industry necessary for the inclusion of the expertise of women (men should also be included) should be the promotion of parkland, shea tree management and conservation practices. Rural women (and men on whose lands shea trees are found) must be trained in farmer-managed natural resource regeneration. This involves training on how to manage

naturally existing shea saplings and trees through pruning. A national strategy such as the Tree Crop Policy (TCP) must be revamped to restore and preserve shea landscapes.

Women's access to land must be promoted through processes such as policy making, drafting of new legislation, implementation and enforcement. The participation of women in the process of developing land policies are fundamental to increasing their access to land. To ensure equal access to land, land policies must be based on the principle of gender equality and have clear objectives or goals with baseline data to enable evaluations. Governmental and non-governmental organisations must support the development of gender-responsive land policies by supporting women's organisations and groups to participate in land policy formulations and reforms. Efforts must be supported to sensitize local and traditional leaders, officials and others to protect women's rights to land in Northern Ghana. The drafting of new laws on land tenure provides an opening toward a more gender-equal legal framework. This must begin with the analysis of how existing land legislation, inheritance and customary laws interact in terms of rural women's access to lands for shea plantation. Customary laws in Ghana and especially in Northern Ghana, are not subject to legislative processes thus efforts to improve women's land rights need to focus on the interpretation of these laws. Civil society, gender experts and local leaders must be encouraged to participate in the interpretation of customary laws in order to ensure a critical mass of women's representation, leading to the parity of participation throughout the process.

Shea picking can be an effective means of poverty reduction if well-planned policies are enacted and implemented to protect shea trees. The indiscriminate felling of shea trees for fuelwood, charcoal burning and for the establishment of plantations for other economic trees such as mango must be critically evaluated. A shea tree protection policy should be enacted and enforced to protect existing shea trees from exploitation or destruction. In addition to this, the Environmental Protection Agency and Ghana Forestry Service Division together with the Ghana Police Service should collaborate in enforcement of regulations to protect shea trees.

This study recommends the promotion of the utilisation of alternative and clean renewable energy sources in the processing activities of shea nuts and butter. Ghana has the capability to become one of the world's leading producers of shea. To achieve this, the country must attain and preserve an image as a green country by protecting its natural resources. There is no doubt about the growing section of environmentally conscious and ethical consumers of shea of organic and natural sources

as an ingredient of cosmetics, confectionaries and pharmaceuticals. The processing activities of shea must be improved through the introduction of environmentally friendly stove designs. These are safe and have the capacity to increase efficiency, conserve fuelwood and protect shea butter from smoke contamination. The development of biogas and other alternative sources of energy to fuelwood needs to be actively explored. Compared to other biodiesel fuels, shea butter biodiesel is resistant to oxidation because of the presence of natural oxidants. This energy, if developed by research institutions such as the various universities, Centre for Scientific and Industrial Research (CSIR) and biodiesel companies operating in Ghana such as Biofuel Africa, among others, can promote environmentally friendly and sustainable shea-processing activities. A benefit of converting shea butter into biodiesel will be the heightened cultivation of shea plantations and the protection of existing viable shea trees by the communities. The successful implementation of shea planting projects will create jobs and improve the livelihoods of rural women thus contributing to their empowerment and the achievement of sustainable development goals.

8.5.Limitations

In Ghana poor record-keeping has been identified as one of the basic problems which affects the production of accurate and reliable market information. A lot of activities take place in the informal sector of the economy, but information on this sector is usually not recorded or readily available. The refusal of some medium to large-scale shea dealers to release data on their operations contributed to the challenges of this study. A drawback of this study is the fact that the survey was conducted only in the Northern Region of Ghana and not the other two major shea growing regions of the country – Upper East and Upper West Regions. This geographical constraint was due to limited funds. Hence the conclusions of the study are limited to the Northern Region and not all the shea growing areas of Ghana.

A limitation of the calculation of cost in chapter 5 of this study was the inability to collect time-use data on the activities of rural women shea nut processors and shea butter extractors. In order for precise and accurate calculations of the contributions of rural women in terms of their labour, time use data is needed to capture the objective and subjective circumstances of their participation in the processing of shea nuts into kernels and kernels into butter. The work burden of rural women respondents in the case study affected the progress of the study. This was because the period of data collection coincided with their shea activities, which made it difficult to meet the respondents

at home because of their schedules. The productive and reproductive activities of rural women, which encompassed shea transformation and household activities made time allocation for the interviewing processes another challenge. Meetings were therefore arranged at suitable moments that favoured the rural women (most of the meetings took place in the late afternoons at the processing site).

The unwillingness of respondents to give detailed information was another limitation. Some respondents, especially rural women shea actors, were sceptical of the reasons for the interview process and felt reluctant to get involved in the exercise. Others were reluctant because there was no monetary incentives or immediate benefits. Some suggested that researchers sold their narratives or stories which resulted in their uncooperativeness. Because of previous methodological approaches used by other researchers, there was an issue of trust and this may have introduced some bias into the research process. Research participants were, however, assured that this was an academic exercise and although there were no immediate monetary rewards, the study aimed to highlight their important roles and valuable contributions to the shea industry and to inform better policymaking.

Volunteering of information is key to the success of any research activity. However, the clandestine nature of the activities of some actors in the shea industry created a huge information gap in this study. The study had intended to obtain detailed information from medium to large-scale shea traders on the quantities of nuts and butter to support the computation of the cost structure analysis of the shea industry, but this was a challenge. The unorganized nature of the shea industry also added to the difficulties in eliciting relevant research information on the quantities of shea nuts and butter. The lack of record-keeping among small-scale shea dealers and the refusal of most medium to large-scale shea dealers to release data on their operations was a challenge in establishing the revenue and employment potentials of the shea industry. The study had to rely on detailed narratives on the costs and benefits mainly from rural women shea actors.

8.6.Recommendations for Further Research

There are opportunities for future research that were identified in the study. First, there is the opportunity to construct a simulation model based on the qualitative system dynamics analysis carried out in this study. This simulation modelling consists of formal model construction and

testing. Quantitative data must be generated through data collection to populate the stocks and flows for the mathematical model to access the impacts of the proposed interventions.

The total sample size of 76 respondents in their various capacities in the industry can be increased and the research conducted at multiple shea-processing centres across the shea-producing regions in Ghana. This study was confined to rural women shea actors in Tamale in Northern Ghana; however, comparative research among the regions in Ghana where shea is found can be carried out to ascertain if the current conditions among rural women shea producers in Northern Ghana are the same for the other regions.

A detailed and extensive cost calculation of all the actors in the shea industry is recommended. The use of time-use data, collected with time dairies provides an ideal approach for the collection of activity data. This diary will place activities or shea actors especially rural women shea nut pickers and shea butter extractors in the shea industry in Ghana in their natural context and provide a record of all activities during a specified period along with a potentially rich array of contextual information. Currently, the waste from shea processing activities, such as the waste from the extraction of the kernel from shea nut, and the sludge from the processing of butter are used as fuel in shea-processing activities and for other activities. However, in its unprocessed forms, this fuel source is environmentally unfriendly because it contributes to the adverse effects of climatic change. Advanced research is needed into the conversion of waste from shea into environmentally conscious, green and sustainable sources of fuel. Research is also needed in the manufacture of appropriate technology to help rural women in the effective and efficient picking of shea nuts and/or fruits to reduce its labour-intensive nature.

8.7. Conclusion

The purpose of this study was to investigate the sustainability of the shea industry among rural women in Northern Ghana. This entailed three objectives which were to determine the challenges encountered by rural women, identify policies and to develop causal loop diagrams to explore the sustainability of the shea industry as a result of the implementation of the shea export policy.

The shea export policy was implemented by the Government of Ghana in the late 1980s and early 1990s as one of the structural adjustment programmes and as a solution to the economic challenges in the shea industry in Ghana. The implementation of this policy changed the marketing of shea

nuts and butter from a state monopoly to an oligopolistic trade. This increased the global visibility of shea which resulted in increased demand. However, this change with a backdrop of the socio-economic realities of rural women shea nut and butter producers in Northern Ghana produced a plethora of challenges. Findings from this study revealed that socio-economic realities of rural women in Northern Ghana such as gender bias, unequal distribution of resources such as land coupled with difficulties in capital acquisition, economic manipulation and lack of market information among others in the shea industry produced fertile grounds for the continued marginalization and oppression. The crude shea pricing system and the exploitation of shea trees were also found to be challenges. The study found gaps in the policies that contributed to accommodating and normalizing the already rife socio-economic challenges in the Northern Region. A major problem identified in the policies by the government is the lack of political support for the enactment of laws and policies. As a result, policies and interventions proposed at the national level all too often failed to achieve its desired impact on the micro-level in the region.

To ensure that the strategic interventions proposed in this study were viable to minimize unintended consequences, the systems approach was adopted for this study. In this approach, causal loop diagrams were used as a tool to conceptualize the structure of the shea industry. The diagrams illustrated the historical and current perspectives of the shea industry in Ghana. It presented the shea industry before the implementation of the shea export policy which was a policy under the structural adjustment programs (SAPs) and the impact of this policy on the current state of the industry. Based on these illustrations which communicated the implied causality explicitly, leverage points were identified. Strategic interventions with large impacts informed by the identification of the leverage points were recommended. A shea framework of interventions was proposed in this study and consisted of a shea actor multi-platform business model and a shea nut and butter regulatory framework. A concerted effort by various stakeholders identified in this study was proposed to ensure the adoption of effective vertical and horizontal lines of communication to guarantee the success of these interventions.

The shea industry among rural women in Northern Ghana is seemingly sustainable at the national level in shea nut and butter discourses. On the contrary, this sustainability has been elusive regionally and at the micro-level among rural women who are primary producers of shea nut and butter. In conclusion, the important intersection of the experiences of rural women in the shea industry and their socio-economic realities in Northern Ghana must not be overlooked in the

implementation and enactment of policies for the sustainability of the shea industry. Sound policies and legislation which are effective, feasible and acceptable and bridges the gap between the agendas at the national and regional levels, are needed to address the challenges and contribute to the sustainability of the shea industry among rural women in Northern Ghana.

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APPENDICES

Appendix A: Publication

A1: Peer Reviewed Journal

Yayah, A. (2018). Rethinking the agency of women in the shea industry. *Politeia*, *37*(1), 1-16. ISSN: 0256-8845. DOI: http://orcid.org/0000-0003-2562-5077

A2: Conference Proceedings

Abiba, Y. 2017. Rethinking the Agency of Women in the Shea Industry. Selected Paper presented at the Conference Co-Hosted by RC07 (Women and Politics in the Global South) and RC19 (Gender Politics and Policy). SARChi Chair in Gender Politics 8-10 August 2017. STIAS – Stellenbosch Institute for Advanced Studies, Stellenbosch University, South Africa.

Appendix B: Consent Form

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

STELLENBOSCH UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH

Investigating Sustainability of the Shea Industry among Rural Women in Northern Ghana.

Shea Actor:

You are asked to participate in a research study conducted by Abiba Yayah, from the Political Science Department at Stellenbosch University. The results from this research study will contribute to the research dissertation. You were selected as a possible participant in this study because of your role in the shea value chain and your extensive knowledge of shea activities in Ghana.

1. PURPOSE OF THE STUDY

i. To determine the socio-political and socio-economic challenges facing rural women shea processors in the shea butter industry in Northern Ghana.
ii. To identify current strategies that support shea processors in the shea industry in Northern Ghana.
iii. To develop a Shea framework towards sustainable development which integrates policies on economic, social, environment, governance and technology with long term effects to support and empower rural women in the shea industry in Northern Ghana.

2. PROCEDURES

If you volunteer to participate in this study, we would ask you to do the following things:

i. To facilitate the interviewer's job, the interview will be recorded with a tape recorder and occasional note-taking. ii. Interviews will last for about one hour and questions will deal with shea processing activities and the value chain.

3. POTENTIAL RISKS AND DISCOMFORTS

There will be no foreseeable or anticipated risks, discomforts or inconveniences, however, in the event of any of these, you have the right to halt the interview without prejudice to yourself.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The findings of this study will inform and contribute to the formulation of effective and timely policies by policymakers and stakeholders to address social issues of shea processing and increases in economic growth. This will contribute to the improvement of activities in the shea industry to support and empower rural women in the industry in Northern Ghana.

5. PAYMENT FOR PARTICIPATION

The subject will not receive payment.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of;

i. the transcribed interviews and the data from the questionnaires entered into SPSS will be protected by a password and accessible to the primary investigator only.
ii. information will not be released to any party for any reason.
iii. participation and responses to questions will be kept private, anonymous and confidential and names will not be connected to responses.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact

i. Principal Investigator: Abiba Yayah
ii. Co-Investigator (1): Laalipak Nung
iii. C0-Investigator (2): Abubakar Sadek
iv. Supervisor: Prof. Amanda Gouws

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms. Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to [me/the subject/the participant] by ..... in ..... and [I am/the subject is/the participant is] in command of this language or it was satisfactorily translated to [me/him/her]. [I/the participant/the subject] was given the opportunity to ask questions and these questions were answered to [my/his/her] satisfaction.

[I hereby consent voluntarily to participate in this study/I hereby consent that the subject/participant may participate in this study.] I have been given a copy of this form.

_____

Name of Subject/Participant

_____

Name of Legal Representative (if applicable)

_____ _____ **Signature of Subject/Participant or Legal Representative** **Date**

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____ [name of the subject/participant] and/or [his/her] representative _____ [name of the representative]. [He/she] was encouraged and given ample time to ask me any questions. This conversation was conducted in ..... and [no translator was used/this conversation was translated into _____ by _____].

_____ _____

Signature of Investigator **Date**

Appendix C: Introductory Letter

7 December 2016

To Whom it May Concern

I am the supervisor for the Ph.D dissertation of Abiba Yaya, who is doing research on the sustainability of the shea industry in Ghana and on women's involvement in this industry.

Abiba's research is very important and she needs your co-operation to make a success of the fieldwork for her research. We kindly request that you co-operate with her. We appreciate the investment of your time in this research project.

She is doing this research with the consent of Stellenbosch University in South Africa where she is registered as a Ph.D student.

If you need further information please contact me at ag1@sun.ac.za

Yours sincerely

Prof Amanda Gouws
SARChi Chair in Gender Politics
PhD Promotor

DEPARTEMENT POLITIEKE WETENSKAP
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Appendix D: Ethical Clearance

UNIVERSITEIT•STELLENBOSCH•UNIVERSITY
jou kennisvennoot • your knowledge partner

Approval Notice
New Application

05-Jan-2017
Yayah, Abiba A

Proposal #: SU-HSD-003874
Title: SUSTAINABILITY OF THE SHEA BUTTER INDUSTRY OF WOMEN IN NORTHERN GHANA USING A SYSTEMS APPROACH

Dear Miss Abiba Yayah,

Your **New Application** received on **14-Nov-2016**, was reviewed.
Please note the following information about your approved research proposal:

Proposal Approval Period: **05-Jan-2017 -04-Jan-2020**

Please take note of the general Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

Please remember to use your **proposal number** (**SU-HSD-003874**) on any documents or correspondence with the REC concerning your research proposal.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Also note that a progress report should be submitted to the Committee before the approval period has expired if a continuation is required. The Committee will then consider the continuation of the project for a further year (if necessary).

This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki and the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health). Annually a number of projects may be selected randomly for an external audit.

National Health Research Ethics Committee (NHREC) registration number REC-050411-032.

We wish you the best as you conduct your research.

If you have any questions or need further help, please contact the REC office at 218089183.

Appendix E: Data Collection Schedule

MONTH	WEEK	ACTIVITY	DAY						
			Mon	Tues	Wed	Thur	Fri	Sat	Sun
January	1	Pilot Survey	16	17	18	19	Transcription		
	2	Corrections on Questionnaires	23	24	25	26			
	3	Rural Women Shea Actors	30	31	1	2			
February	4		6	7	8	9			
	5		13	14	15	16			
	6		20	21	22	23			
	7		27	28	1	2			
March	8		6	7	8	9			
	9		13	14	15	16			
	10	Middlemen	20	21	22	23			
	11		27	28	29	30			
April	12	Stakeholders	3	4	5	6			
	13		10	11	12	13			
	14	Policy Makers	17	18	19	20			

Appendix F: Permission Letter

TIEHISUMA SHEABUTTER PROCESSING CENTER
(Shea nut and butter Processing)
P.O.Box ER 251 • Tamale • Ghana
Tel: +233(0)244950827/0543125400 Mob: Email: teviu.tsghana@yahoo.com

19th September, 2015

TO WHOM IT MAY CONCERN

This is to confirm that Abiba Yayah, a PhD Political Science student from the University of Stellenbosch, South Africa, has my permission for women Shea processors in the Tiehisuma Sheabutter Processing Center, Tamale, Ghana, to be interviewed with a semi-structured interview guide and to complete a questionnaire as part of her research project.

This survey, with my permission and consent, will be carried out from January to March 2017. I am aware that Ms. Yayah's research is based on the sustainability of the Shea butter industry of women shea processors in Northern Ghana using a systems approach.

To ensure confidentiality and the protection of privacy, Abiba Yayah's undertaken not to divulge my name or the names of the women Shea processors in her thesis. Finally, I am also aware that her research is conducted in accordance with the University of Stellenbosch's Policy on Research Ethics.

Yours faithfully

Daniel Teviu
Managing Director

TIEHISUMA SHEABUTTER PROCESSING CENTER is Registered in Ghana with registration No: BN – 38,744D

Appendix G: Permission Letter B

Stellenbosch University,
Private Bag X1,
Matieland, 7602,
South Africa
22nd April, 2016.

The CEO,
Ghana export promotion authority,
P. O. Box m146,
Accra, Ghana.

Dear Sir/Madam,

REQUEST FOR DATA ON SHEA NUTS AND BUTTER

My name is Abiba Yayah, a postgraduate Ghanaian student in Stellenbosch University, South Africa. I am currently writing up my thesis on the shea butter industry in Ghana, specifically fair trade in the shea butter industry.

I kindly need the assistance of your organization with regards to the following for academic purposes;

i. export values and volumes on shea nuts and shea butter for the period of 1995 to 2015
ii. volumes and values per shea regions
iii. any records of fair trade shea butter exports
iv. Exporters
v. Countries exported to

I look forward to hearing from you.

Thank you.
Yours Faithfully,

Abiba Yayah

Appendix G: Questionnaires and Interview Guides

G1: Semi-Structured Interview Guide for Women Shea Actors

Investigating Sustainability of the Shea Industry among Rural Women in Northern Ghana.

Interview start time	
Time Ended	
Gender	☐ Male ☐ Female
Age	
Location	
Value Chain Actor	
Date of Interview	
Recording Number	
Interviewer Name	
Additional Information	

A. Shea Processing

i. How would you describe the shea season(s) and the activities you undertake to a relative who just arrived into town from the South (Accra) or another region in Ghana?

Follow-up question:

ii. Can you describe how you acquire finances for your shea activities and if there are terms and conditions involved? iii. Apart from shea activities, what are the other activities you indulge in during the shea seasons and off-seasons?

iii. Do you feel your current processing technique and the rate at which you produce shea butter will be able to support you and your children in the years ahead?

Probing Questions:

i. How important is the role of shea in your livelihood?

ii. Think of the challenges you face in your shea activities. How will you describe them to a relative of yours who has decided to start processing shea nuts and has come to you for advice?

iii. Do you feel your work is appreciated or rewarded and in what ways is it valued?

B. Structure of the Value Chain

iv. How do you understand the shea value chain and who are the actors in the value chain?

v. Do you feel the current structure and conditions of the Ghanaian shea value chain will be able to support you and your children in the years ahead?

Follow-up question:

vi. Think of the numerous transactions you have had with other people in this shea business. Describe who has much power or authority during these transactions and why this is so?

Shea Butter Marketing

vii. Can you tell me to whom you sell your finished product and why?

viii. Can you tell me factors that affect your ability to take advantage of market opportunities?

Follow-up question:

xii. How are prices determined for the finished product?

xiii. Can you give me a detailed description of the activities of the middleman in the shea chain?

Policies in the Shea Industry

xiv. Can you tell me if there are policies or strategies in the industry ensuring the sustainability of the trade and what strategies you will introduce if you are given the opportunity?

xv. Are there further questions on other areas I have overlooked and should have asked? Is there anything you would like me to explain? What comments or questions do you have for me? Can a brief follow-up interview be scheduled at a later date if necessary?

Thank you for your time and feedback. I assure you once again that your responses are completely anonymous and confidential. Would you like me to send you a typed copy of the interview so that you could check the accuracy of the responses I have ascribed to you?

G2: Semi- Structured Interview Guide for Policy/decision Makers

Investigating Sustainability of the Shea Industry among Rural Women in Northern Ghana.

Gender	☐ Male ☐ Female
Age	
Organisation	
Title	
Location	
Date of Interview	
Recording Number	
Interviewer Name	
Additional Information	

A. Introductory Questions

1. Can you briefly describe your position in the policy structure in the shea industry?
2. What is the influence of your activities on the shea industry in Ghana?
3. Which actors in the shea value chain do you have direct interaction with?
4. Do you have direct contact or interactions with rural women in the shea industry and what does this involve?
5. Do you have direct contact or interactions with rural women in the shea industry and what does this involve?

B. Shea Trees

5. What programmes exist for replanting of shea trees?
6. In what ways are shea trees being exploited beneficiated in Ghana?

C. Shea nut picking

7. What are the major issues or challenges concerning shea nuts in Ghana?
8. Each year, shea nuts are left uncollected on the fields, what is being done to improve the current yield of shea nuts picked from the fields each season to minimize waste?

D. Shea butter production

9. What are the major issues or challenges concerning shea nuts in Ghana?
10. What is being done to improve the current yield of shea butter produced each season to minimize waste each year?
11. How do you see the competitive environment of shea?
12. What do you think can be done to improve things?

E. Policies

13. In the past have there been any national, regional, district or local policies or initiatives implemented and what were their success rates?
14. What are the current national, regional, district or local policies present to promote the sustainability of the shea industry for the present and the future of women processors and their families?
15. What fiscal policies exist in the shea industry for rural women in the industry in the Northern Region of Ghana?
16. In your opinion what has been the challenges in translating policies and initiatives into practice?
17. Given the current policies, how sustainable is the current state of the shea butter industry (economic, social, environment, technology and governance), and especially to rural women shea actors in the Northern Region of Ghana?

18. Shea activities are the main source of sustenance and income-earning for more than 900,000 marginalised and uneducated rural women who live in abject and systemic poverty in Northern Ghana. What policies are in place to support this home-based activity which is categorised under the informal sector?
19. How are these rural women protected in the marketing of shea from exploitation?
20. How do you incorporate sustainability in decision making and policy formulation?
21. To what extent do you consider the primary producers during policy or program formulation and implementation?
22. In your opinion what renewable energy sources can substitute the chopping down of trees (shea trees) or firewood for shea activities?
23. How are sustainability initiatives integrated into policies directly relevant to rural women in the shea business?
24. What labour policies exist in the shea industry specifically for rural women who are involved in this home-based work in terms of;
    i. Pregnancy
    ii. Childcare facilities
25. Do you have any programs to educate rural women and other people not involved in the shea business on the sustainability of shea?
26. How do the women shea producers find out about such program?
27. Shea is mostly propagated by natural regeneration but are there any measures to increase the number of trees?
28. Are there policies protecting shea trees from exploitation?
29. Does your department have any funding specifically to address the needs of women shea producers?
30. How is this funding accessible to rural women in the shea industry?
31. Where do rural women shea actors seek redress on problems pertaining to shea?
32. What opportunities exist in the shea industry for rural women and the other actors?

33. Are there policies concerning the technologies used in the converting shea nuts into shea butter?
34. Are there policies to strengthen and regulate the operations of intermediaries in the shea value chain in order to strengthen the primary producers?
35. Are there further questions on other areas I have overlooked and should have asked?
36. What comments or questions do you have?
37. Can a brief follow-up interview be scheduled at a later date if necessary?

Thank you for your time and cooperation. I assure you once again that your responses are completely anonymous and confidential.

G3: Semi-Structured Interview for Shea Intermediaries

Investigating Sustainability of the Shea Industry among Rural Women in Northern Ghana.

Gender	☐ Male ☐ Female
Age	
Organisation	
Title	
Location	
Date of Interview	
Recording Number	
Interviewer Name	
Additional Information	

1. Can you briefly describe your position in the shea value chain?
2. Can you describe the impact of your activities on the shea industry in Ghana?
3. Do you operate independently in the shea value chain or are you part of a group?
4. Can you please explain the reason for your answer in question 3?
5. What caused your involvement with the shea business?
6. Who in your view are the actors in the shea value chain?
7. Where in the value chain are you positioned?
8. What products in the shea value chain do you deal in?

9. Do you have direct contact or interactions with rural women in the shea industry and what does this involve?
10. If yes, how?
11. If no, why?
12. What are the locations of your transactions?
13. Which of the actors in the value do you purchase shea from?
14. Why do you deal with these actors?
15. Do you have contracts with the shea actors you purchase from?
16. If yes, how do you identify these actors?
17. If no, how did these actors find you?
18. What was the price at which you bought a kilogram of shea nut last year?
19. What was the price at which you sold a kilogram of shea nut last year?
20. To whom did you sell shea nut to last year?
21. Do the same people buy shea nuts each year?
22. What was the price at which you bought a kilogram of shea butter last year?
23. What was the price at which you sold a kilogram of shea butter last year?
24. To whom did you sell shea butter to last year?
25. Do the same people buy shea butter each year?
26. How are these prices set and which actors in the value chain set these prices?
27. Where do you get information on shea prices?
28. Do you pre-finance the shea activities of rural women in Northern Ghana?
29. What are the terms and conditions of pre-financing shea activities?
30. What is your contribution towards the sustainability (economic, social, environment, governance and technology) of the shea industry in Ghana?

31. What do you think policymakers or stakeholders must do to ensure better opportunities for rural women for the growth of their shea business so that yours also grows?
32. Additionally, what do you think can be done (and by whom) to present more opportunities to rural women shea processors?
33. Are there further questions on other areas I have overlooked and should have asked?
34. What comments or questions do you have?
35. Can a brief follow-up interview be scheduled at a later date if necessary?

Thank you for your time and cooperation. I assure you once again that your responses are completely anonymous and confidential.

Semi- Structured Interview Guide for Stakeholders

Investigating Sustainability of the Shea Industry among Rural Women in Northern Ghana.

Gender	☐ Male ☐ Female
Age	
Organisation	
Position	
Location	
Date of Interview	
Recording Number	
Interviewer Name	
Additional Information	

A. Introductory Questions

1. Can you elaborate further on your current position or role and the nature of activities in your institution?
2. How would you describe the contribution of your organization or institution to the shea industry in Ghana?
3. How long has this institution been involved in shea activities?

B. Shea Trees

4. What is the total land area of shea trees in Northern Ghana?

5. How many shea trees are in Ghana and particularly in Northern Ghana?
6. What is the yield per shea tree in Northern Ghana?
7. What determines the yield of shea trees and where does the determination of yield starts from?
8. What can be done to improve the current yield of shea trees in Ghana?
9. What are the benefits of shea trees to the environment?
10. What are the carbon sinks of shea trees?
11. In what ways are shea trees being exploited in Ghana?
12. How many trees are destroyed each year for other gains?
13. In what ways is the current shea processing of rural women contributing to environmental destruction or distress?
14. How is rural sprawl affecting shea trees?

C. Shea Picking

15. What is the yield of shea nuts picked in Northern Region of Ghana in 2016?
16. What quantity of shea nuts are neglected or not picked on the fields each year?
17. What is being done to improve the current yield of shea nuts picked from the fields each season to minimize waste?

D. Shea Butter Production

18. What is the current yield after the conversion of shea nuts into shea butter?
19. What is the potential optimum yield of shea butter from shea nuts that can be processed by rural women shea processors each year?
20. What can be done to improve the current yield of shea butter produced each season to minimize wastage each year?
21. What are the residues from shea activities (shea picking and shea processing)?
22. What are these residues from shea activities currently used for?

23. What are the potential uses of waste from shea processing activities?

E. Structure of the value chain

24. Who are the actors in the value chain and what are their activities?
25. Do you have direct contact or interactions with rural women in the shea industry and what does this involve?
26. Which actors in the shea value chain wield the most power?
27. In which aspect of activities in the shea value chain do these actors generally wield this power?
28. Generally, middlemen or women are essential for product movement. But how have they contributed to the sustainability (social, economic, environmental, governance and technology) of women processors?

F. Economic

29. Presently how many rural women are active in the shea Industry?
30. How many households rely on shea for their sustenance?
31. How do rural women shea actors acquire market information on shea prices and on their activities?
32. How much was a kilogram of shea nut last year?
33. How much was a kilogram of shea butter last year?
34. How are these prices set and which actors in the value chain set these prices?
35. If rural women shea actors are not the price setters, how can they be empowered to set prices for their products and make decisions concerning their activities?
36. In your opinion, do rural women shea actors add value (process more shea butter from shea nuts) or sell the shea nuts to other buyers?
37. If the sale of shea nut is predominant, why is this the case?
38. Generally, how sustainable is the shea industry provided all conditions are optimum?

39. In your opinion, how sustainable is the current state of the shea butter industry (economic, social, environment, technology and governance), and especially to rural women shea actors in the Northern Region of Ghana?
40. In your opinion, what do you see as major critical issues facing the shea industry in Ghana?

G. Policies in the shea Industry

41. What strategies are currently present to promote the sustainability of the shea industry for the present and future of rural women shea actors and their families?
42. Shea is mostly propagated by natural regeneration but are there any measures to increase the number of trees?
43. Are there policies protecting shea trees from exploitation?
44. In your opinion, what have been the challenges in translating policies and initiatives into practice?
45. Where do rural women shea actors seek redress on issues pertaining to shea?
46. In your view, what do you think policymakers must do to ensure better opportunities to grow the shea business especially for rural women involved?

H. Technology

47. Are the processing techniques currently used in shea processing sustainable?
48. How does the current shea processing technology and equipment used by rural women in the shea industry affect the quality of shea butter produced?
49. What are the energy sources used by rural women shea processors?
50. In your opinion, what renewable energy sources can substitute the chopping down of trees (shea trees) or firewood for shea activities?
51. Are there further questions on other areas I have overlooked and should have asked?
52. What comments or questions do you have?
53. Can a brief follow-up interview be scheduled at a later date if necessary?

Thank you for your time and cooperation. It is much appreciated and I assure you once again that your responses are completely anonymous and confidential.

Questionnaire for Women Shea Actors

Investigating Sustainability of the Shea Industry among Rural Women in Northern Ghana.

Interviewer: Date/Time:

Location: Region:

Interviewee: Questionnaire No.:

Time Started: Time Ended:

A. Demographics

1. What is your age?
2. What is the highest degree or level of school/education you have completed?
3. What is your marital status? ☐ single/never married ☐ Married ☐ Domestic Partnership ☐ widowed ☐ Divorced ☐ Separated ☐ Other
4. Are you the head of your household? ☐ Yes ☐ No
5. Including yourself, what is the size of your household?

B. Social

6. Is shea business your major occupation? ☐ Yes ☐ No
7. If No please specify

Shea Value Chain Actor

8. Who are the actors in the value chain?
9. In the shea value chain, which of the following actors are you? ☐ Shea Nut Picker ☐ Shea Butter Producer ☐ Shea Middleman/Intermediary ☐ Other
10. How long have you been involved in the shea business?

C. Economic

11. How much do you invest annually into shea activities?

12. What is your annual income from shea activities?

13. What do you spend your shea income on?

☐ Food ☐ Education ☐ Health ☐ Electricity ☐ Water ☐ Shea investment ☐ Other

- **Shea Nut Picking**

If you pick shea nuts please answer this section

14. Where do you collect shea nuts?

15. Do you own the land on which the shea trees grow? ☐ Yes ☐ No

16. If No, who owns the land and trees on which the shea trees grow?

17. Which months and at what time of the day do you collect shea nuts?

i. Month(s):

ii. Time(s):

18. What are the dangers or risks you face in collecting shea nuts?

19. What type of labour do you use in picking shea nut? ☐ labour labour ☐ Hired Labour

20. What is the approximate quantity of shea nuts left unpicked each year in the fields?

Operating Costs (Fixed Costs and Variable Costs)

21. What are your fixed costs for shea nut picking?

Activity: Shea Nut Picking			
Items/Equipment	**Quantity**	**Cost/Unit (GH ¢)**	**Depreciation Rate**

22. How are you financed for your shea picking activities? ☐ Pre-financed ☐ Self-financed ☐ Loans

23. If you are pre-financed, who pre-finances you shea activities?

24. What are the terms and conditions of this pre-finance?

25. If you take loans from the bank, what are the interest rates?

26. What other fixed costs do you invest in?

27. What are your variable cost for shea nut picking?

Year	Number of Pickers	Distance Covered (Km)	Quantity picked (Kg)	Cost of Labour /Kg (GH ¢)	Number of hours/day	Cost of Transportation/km (GH ¢)

28. Do you pay for collecting shea nuts on fields that do not belong to you? ☐ Yes ☐ No

29. If yes, how much do you pay per area?

30. How many areas do you collect from per year?

31. What are your other variable costs?

- **Shea Butter Production**

32. Which shea raw material do you process? ☐ shea fruit ☐ shea nuts ☐ shea kernels

33. How do you obtain shea for processing? ☐ Purchasing ☐ Picking

34. If you purchase shea nuts or kernels, who are your suppliers? (Please list from your major to the minor suppliers).

35. What is the end result of the shea butter produced? ☐ Consumption ☐ Sales ☐ Other

36. Who do you sell shea butter to and at what quantities?

37. How did you locate this intermediary or buyer for the shea you produce?

38. If this intermediary or buyer located you, how did he/she find you?

39. Why do you deal with this intermediary or buyer?

40. Shea nut to butter production

Raw material	Quantity of shea processed (Kg)	Quantity of butter produced (Kg)	Quantity of butter sold (Kg)	Quantity of butter consumed at household level (Kg)

41. What are the waste or residue from shea butter production?

42. What do you use the waste or residue from shea butter production for?

43. What are your fixed costs for shea butter production per year?

Activity: Shea butter production			
Equipment	Quantity	Cost/Unit (GH ¢)	Depreciation Rate

44. What are your other fixed costs?

45. What are your variable cost for shea butter production?

Shea nut acquisition cost

Year	Quantity (Kg)	Cost/Kg (GH ¢)	Labour Cost (GH ¢)	Cost of Transportation (GH ¢)	Distance (Km)

46. What are your other variable costs?

Shea Kernel Extraction Cost

Shea Kernel Extraction					
Activities	**Items**	**Quantity**	**Cost/Unit (GH ¢)**	**Labour (Quantity)**	**Labour cost (GH ¢)**
Removal of Pulp					
Parboiling					
Drying					
Shell removal					
Drying of kernels					
	Electricity				
	Water				
	Firewood				
Others					

Butter Production Cost

Shea Butter Production					
Activities	**Items**	**Quantity**	**Cost/Unit (GH ¢)**	**Labour (Quantity)**	**Labour cost (GH ¢)**

Sorting or cleaning of kernels					
Crushing					
Roasting					
Pounding					
Milling/ Grinding					
Kneading/Beating					
Boiling					
Filtration and Solidification					
Packaging					
	Electricity				
	Water				
	Firewood				
Other					

Shea Nut Marketing

Please skip section (i) if you do not sell shea nut.

47. Why do you not process the shea nuts you sell?

48. How and in what quantities are shea nuts packaged for sale?

49. What is the shelf life of shea nuts?

50. cost of shea nuts

Year	Cost/Unit (GH ¢)	Buyer	Location of sale
2016			

i. Shea Butter Marketing

51. Where do you store shea butter before sales?

52. What is the shelf life of shea butter?

53. Do you pay taxes on shea butter sales? ☐ Yes ☐ No

54. What kind of taxes and how much do you pay?

55. What has been the unit cost of shea butter?

Year	Quantity Sold (Kg)	Cost/Unit (GH ¢)	Buyer

D. Governance

56. Do you set the prices of the shea butter you produce? ☐ Yes ☐ No

57. If no, please indicate who sets these prices and what criteria is used?

58. If yes, what criteria do you use in setting shea prices?

59. Where do you get information, regarding the shea market price?

☐ Research Institutions ☐ Markets ☐ Internet ☐ Government ☐Producer Groups

☐ Friends ☐ Land and/or shea tree owners ☐ others

60. If others please specify

61. Through which means do you receive information for your shea activities?

☐ Research Institutions ☐ Markets ☐ Internet ☐ Government ☐Producer Groups

☐ Friends ☐ Land and/or shea tree owners ☐ others

62. If others please specify

63. Which factors do you think prohibits your market accessibility?

64. When do you sell your shea butter? ☐ Off-season ☐ Shea season

65. Do you export shea butter? ☐ Yes ☐ No

66. If yes to which countries do you export to?

67. Who do you think is getting the highest income or profit in the shea value chain?

☐ Shea nut pickers ☐ Shea butter Producers ☐ Middlemen ☐ Consumers ☐ Others

68. Who has the most impact on your ability to grow your shea business and why?

Policies in the Shea Industry

69. Where and to whom do you go in terms of complaints?

70. Do you feel empowered to make decisions about sustainability and enforce them?

☐ Yes ☐ No

71. Do you feel treated fairly in the shea industry? ☐ Yes ☐ No
72. If Yes, please specify below in what ways
73. If no, please specify below in what ways
74. Have you received any support from the Government of Ghana? ☐ Yes ☐ No
75. If yes can you specify the type of support
76. If No, what rules do you think if formulated could benefit the shea industry
77. Have you received any support from any Non-Governmental organizations?

    ☐ Yes ☐ No
78. If yes can you specify the type of support

Organisation	**Type of Support**

79. In what ways do you think your income from shea activities can be increased?
80. What do you think can be done to improve your market accessibility?
81. At the current rate of shea production and sales, can your business support you and your children in the years ahead? ☐ Yes ☐ No
82. If yes, in what ways
83. If no, in what ways is it not sustainable?
84. How many rural women processors in your association have

    i. Migrated to other parts of the country
    ii. Switched to other activities
85. What do you think can be done to improve the yield of shea nuts picked from the fields each season to minimize waste?
86. In your opinion what must policymakers or stakeholders do to ensure better opportunities to grow your shea business?

E. Technology

87. Who owns the processing equipment you use?

Processing Equipment	Owner

88. Does the current shea processing technology and equipment used affect the quality of shea butter produced? ☐ Yes ☐ No
89. If yes, which aspect of quality is affected?
90. How can this aspect be improved?
91. What do you think can be done to improve the yield of shea butter produced each season to minimize waste?
92. Which aspects of your shea activities do you most need training?

Thank you for your time and feedback. I assure you once again that your responses are completely anonymous and confidential.