

**UNIVERSITY FOR DEVELOPMENT STUDIES**

**VALUE CHAIN INTERVENTIONS AND THEIR IMPACTS ON  
EMPOWERMENT OF SHEA ACTORS IN THE SAGNARIGU AND  
KUMBUNGU DISTRICTS OF NORTHERN REGION**

**BY**

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## DECLARATION

I Anita Afra Arthur, declare that the preparation and presentation is the result of own original work I have undertaken under the supervision of Dr. Francis K. Obeng and Mr. Paul Kwami Adraki, Faculty of Agribusiness and Communication Sciences, Department of Agricultural Extension, Rural Development and Gender Studies of the University of Development Studies, Nyankpala. Except for references to other people's work, which have been duly acknowledged, this thesis is the result of my own research work.

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## DEDICATION

I hereby dedicate this dissertation to the Almighty God, to my parents Mr. Arthur Charles and, Mrs. Nyame Mercy and my brother Owusu Agyemang Breshnev for their love, care, support and prayers throughout my education.



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## ABSTRACT

The purpose of this study is to investigate the impact of value chain interventions on empowerment of shea actors in the Sagnarigu and Kumbungu Districts of Northern region. The study was conducted in the Sagnarigu and Kumbungu Districts of the Northern Region of Ghana. Close and open-ended questionnaires and personal interviews were all used in collecting data from 200 shea actors (shea nut pickers, shea butter processors and shea butter marketers) sampled for this study. The research reveals that,

- i. 43% of shea actors interviewed were illiterate this implies that they had no formal education. However, majority (40%) of the respondents recorded high level of empowerment while few of the shea actors recorded low level of empowerment. The shea actors had assets from their business due to the massive support received from both SNV and Sekaf Ghana Limited.
- ii. Additionally the study also revealed that, seventy shea butter processors had changed from manual processing to semi-mechanised technology thus, reducing the number of days used in processing shea butter. Generally there had been a significant change on empowerment levels now as compared with the state of empowerment before the interventions (credit, equipment, training and market linkages) started in the study area.
- iii. Further results indicate that more women are now able to participate in decision making process at both community and value chain level.

The study recommends that, Government, Developmental Organisations and other actors should put much emphasis on skills development among actors in the shea value chain and Government, Developmental Organisations and other actors should take a clue from the SNV and Sekaf Ghana Limited by instituting similar interventions to help improve empowerment level of shea actors.



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## ABBREVIATIONS AND ACRONYMS

<b>AC</b>	Area Councils
<b>CEAS</b>	Centre Ecologique Albert Schweitzer
<b>CECI</b>	Centre Canadien d'Etudes et de Coopération Internationale
<b>CEI</b>	Composite Empowerment Index
<b>DCI</b>	Domestic Consultation Index
<b>EAs</b>	Electoral Areas
<b>EWV</b>	Enterprise Works Worldwide
<b>FAO</b>	Food and Agriculture Organisation
<b>FM</b>	Freedom of Movement Index
<b>GDCP</b>	Ghanaian Danish Community Project
<b>GEM</b>	Global Entrepreneurship Monitor
<b>GHS</b>	Ghana Cedi
<b>GSA</b>	Global Shea Alliance
<b>GSS</b>	Ghana Statistical Service
<b>HDI</b>	Human Development Index
<b>HDMI</b>	Household Decision Making Index
<b>IFAD</b>	International Fund for Agricultural Development
<b>Km</b>	Kilometer
<b>LI</b>	Legislative Instrument
<b>LBAs</b>	Local Buying Agents
<b>NGO</b>	Non - Governmental Organisations
<b>OXFAM</b>	Oxford Committee for Famine Relief
<b>PAI</b>	Personal Autonomy Index





<b>SCWG</b>	Sekaf Cooperative Women's Group
<b>SNV</b>	Stichting Nederlandse Vrijwilligers
<b>SPSS</b>	Statistical Package for Social Science
<b>Sq</b>	Square
<b>TC</b>	Town Council
<b>TNS</b>	Techno-Serve
<b>UN</b>	United Nations
<b>UNDP</b>	United Nations Development Programme
<b>USA</b>	United State of America
<b>USAID</b>	United States Agency for International Development
<b>USD</b>	United State Dollar
<b>WATH</b>	West African Trade Hub
<b>WEAI</b>	Women Empowerment in Agriculture Index



## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background of the Study

The concept of value chains has become key in discussions on development, especially in relation to the effects of globalization on employment and poverty reduction in most developing countries (Riisgaard, Fibla and Ponte, 2010). To ensure that gender issues are taken into consideration in value chain, related interventions are vital for facilitating the development of inclusive value chains that will benefit all.

Ahmed (2007), explains value chain as a structure of physical, social and economic transactions between organisations and individuals engaged in raw material transformation into end products to satisfy a market demand Schmitz (2005), and add value to a product (Stonehouse and Snowdon, 2007). These activities include design, production, marketing, distribution and support to the final consumer. Kaplinsky and Morris (2001), on the other hand define value chain as the full range of activities that are required to bring a product from conception through the different phases of production to delivery to final consumers and disposal after use. These definitions by these authors are similar since they all emphasize transformation of product through activities by chain actors. These activities can produce goods or services and can be contained within a single geographical location or spread over wider areas.

Value chain interventions have become a common phenomenon as a development tool. In recent times, several organisations employ value chain approach in empowering their beneficiaries. These value chain development approaches are used in addressing the gender issues, by improving the access of the poor to markets, facilitating the more



effective operation of markets and by promoting the flow of knowledge and resources along value chains to small enterprises and poor producers. Value chain interventions should enable the poor to benefit more from market development and take advantage of some of the opportunities offered by domestic and global market development (Humphrey and Navas-Alemán, 2010).

The lack of access to affordable credit and training in most developing countries is well known and few options to improve shea production are possible without links to and support from international non-governmental organisations (NGOs) operating in the shea processing area. The interventions aim is to improve the shea industry which includes funding from United States Agency for International Development (USAID). Techno-Serve (TNS) Ghana aims at offering business advice to shea production businesses in Northern Ghana; Enterprise Works Worldwide (EWW) hopes to address some of the technological constraints in the sector. Other interventions with different sources of funding include those managed by CECI, GDCP, OXFAM, CEAS, etc, that all aim to provide a similar range of support for the shea producer, e.g. business skills, improved resource management, trade facilitation and increased shea production (Lovett, 2004).

Many interventions have attempted to address issues on quality and marketing in shea processing. Interventions geared towards improvement of shea processing, however, have only addressed the issue by aiming to reduce the productive role of women and attempting to improve consistency of quality through incentives like machines such as crackers, roasters, grinders, pressers and kneaders. The linking of processors to market are measures in addressing the value chain upgrading strategies (Lovett, 2004).



In recognition of the important role the shea industry plays in improving the lives of shea actors, various interventions such as credit, training and market linkages are strategies to help boost shea processing and ultimately improve livelihood. In the northern region of Ghana, SNV and Sekaf Ghana Limited represent major actors in the provision of value chain interventions.

SNV is dedicated to societies in which all people enjoy the freedom to pursue their own sustainable development. They support local actors to strengthen their business performance to effectively realise their dreams. Over the years, SNV have trained shea producers on quality processing, as well as providing shea actors with credit, equipment and access to market for their shea products. Additionally, Sekaf Ghana Limited is a shea producer and exporter of shea products. It has contracted train programme staffs to train shea actors on how to produce quality nuts and butter. Sekaf Ghana Limited also, provides modern technologies such as improved roasters, electric milling, electric crushing, processing equipment, water and firewood. Gender policies are increasingly geared toward achieving participation of women in social and economic activities, so that the visibility of their involvement in decision making processes can be achieved. This has brought the debate on the gender roles and participation in economic activities, since many of the world's poorest people are women who are into reproductive role and in some in micro enterprise (Miller and Razari, 1995). The majority of women are excluded from access to resources, denied the opportunity to participate in decision making and are only limited to reproductive roles (Alesina, Giuliano and Nunn, 2013). Improvements in rural women's access to and control over resources and markets lead to increased household productivity and sustained benefits for the wider economy. The productivity and



economic empowerment of women is therefore a logical priority of agriculture programmes and policies that seek to promote agricultural development (Ashby, Hartl, Lambrou, Larson, Lubbock, Pehu and Ragasa, 2009).

Addressing gender issues are measures to reduce poverty in most developing countries which have increasingly gained recognition as an effective means for improving the livelihood of women among Donor Organisations, Governments, Non-Governmental Organisations and development practitioners. Efforts by development partners to achieve their goals for economic growth and food security will be strengthened and accelerated if they focus on addressing women issues (FAO, 2011). Women often manage complex households and pursue multiple livelihood strategies. Their activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other micro enterprises, collecting fuel and water, engaging in trade and marketing and caring for family members and maintaining their homes (Guez and Allen, 2000).

The plans adopted in mainstreaming and eliminating gender inequities as well as empowerment are major strategies in supporting women. Gender concerns have been integrated in different sectors such as agriculture, education, health and added decision making positions in government service (Niemanis, 2007). According to Norem, Yoder and Martin (1989), gender roles of women and men are seen as difference in labour responsibilities, decision-making processes and knowledge. In certain cultures women actively participate in employment outside of their homes, whiles in others there is a clear specialisation of tasks along gender lines, women tend to remain within their homes and do not participate in activities outside of their domestic setting (Alesina et al. 2013). The



triple role for women consists of reproductive, productive, and community-managing activities. In contrast, men primarily undertake productive and community political activities (Moser, 1993).

## **1.2 Problem statement**

According to Ghana Statistical Service (2010), women are more in number than men in terms of the total population though women turn to be vulnerable to many socioeconomic aspect of life, most essentially they have limited access to productive resources (Bawa, 2007). In terms of income inequalities and poverty, more women are chronically poor than men and most household assets are mostly controlled by men in traditional households (Devereux, 2001; Moghadam, 2005; Gender, 2008; Steinberger, Roberts, Peters, and Baiocchi, 2012).

It is believed that in the northern regions of Ghana, women do not own land for productive work, thus living them on their own to engage in small scale, low income activities such as picking shea nut, processing shea nuts into butter and marketing of shea butter. They do not have the necessary equipment to help them expand their businesses and improve their efficiency. They should be empowered to take part of the decision making process in the household through economic programmes and training. This can help the health conditions and education of their wards because if you educate a woman it has a broader impact on the society. Gender wise, food purchases and preparation and ensuring the food and nutrition security of the family is dominated by women. Aside reproductive roles women also have proactive responsibilities to take care of their businesses and the society (March, Smyth and Mukhopadhyay, 1999; Moser, 2012).



In recognition of these roles that women play, government and non-governmental organisations have over the years, provided interventions (training, equipment and credit) to women and women groups to improve upon their economic and social needs. Credit, training and market linkages are some of the interventions that have been in existence and are used as strategies to reduce abject poverty and insecurity among women, so what differences have these interventions made in empowering beneficiaries in the Sagnarigu and Kumbungu Districts of Northern Region.

This study sought to investigate the impact of gender specific and generic value chain interventions on empowerment and how these value chain interventions improve gender-related outcomes on livelihood of shea actors in the Sagnarigu and Kumbungu Districts of Northern Region.

### **1.3 Research Questions**

#### **1.3.1 Main Research Question**

What is the impact of value chain interventions on empowerment of shea actors in the Sagnarigu and Kumbungu Districts of Northern Region?

#### **1.3.2 Specific Research Questions**

1. How do value chain interventions affect gender roles and participation of shea actors?
  - i. How do value chain interventions affect gender roles of shea actors before and after beneficiaries joined the project?
  - ii. How do value chain interventions affect participation of shea actors before and after beneficiaries joined the project?



2. How do value chain interventions influence processing capacity of shea actors?
  - i. What is the influence of value chain interventions on processing capacity of shea actors?
  - ii. What is the influence of value chain interventions on quality and mode of shea butter processing?
3. What is the influence of value chain interventions on choice of enterprise and business performance of shea actors?

## **1.4 Objectives of the Study**

### **1.4.1 Main research objective**

To examine the impact of value chain interventions on empowerment of shea actors in the Sagnarigu and Kumbungu Districts of Northern Region.

### **1.4.2 Specific research objectives**

1. To examine how value chain interventions affects gender roles and participation of shea actors.
2. To analyse how value chain interventions influence processing capacity of shea actors.
3. To examine the influence of value chain interventions on choice of enterprise and business performance of shea actors.

## **1.5 Justification**

The shea industry is traditionally reserved for women as means of earning income to support their household (SNV, 2006). In attempt to improve production of shea, several





value chain interventions are given by government and non-governmental organisations to the various actors along the chain of shea production (Asante, Banidiyia and Tom-Dery, 2012).

However, participation of beneficiaries in value chains and the benefits derived therein are dependent on gender roles, participation and assets base; these interventions are determined by gender roles of each actor to effectively address the challenges in the shea industry. It is assumed that effective gender roles will have a positive impact on livelihood, and enable household members to perform well in their various economic enterprises.

The results of this study will serve as a guide for development practitioners and NGO's who are involved in the design and implementation of poverty reduction and local development interventions.

Results from this research will be useful to policy makers, rural development organisations, the district assemblies, Non-governmental Organisations (NGOs) and other gender related organisations in their intervention on women empowerment and poverty reduction among poor rural women. As it will provide information on interactions between shea actors, socio characteristics and shea activities and their influence on participation shea actors which is very useful in policy formulation and implementation with regard to empowerment of shea actors.

The recommendations on the study would be useful to policy makers and NGOs in their efforts to empower of people in the shea sub sector by revealing areas requiring special attention. The study would also add to literature on shea value chain in Ghana.



This study will contribute to the achievement of Sustainable Development Goals (SDG's), which is to promote gender equality and empower women. This research will also add to knowledge on the debate of privatization and promotion of the private sector to lead economic growth and development of the shea industry in the Sagnarigu and Kumbungu Districts of Northern region.

## **1.6 Operational Definition of Terms**

The key concepts that are explained under this section include value chain interventions, value chain and empowerment.

### **1.6.1 Value Chain Interventions**

Value chain interventions are forms of support given by organisations to each actor along the shea chain to improve upon the efficiency and quality of shea. The value chain interventions are categorized into two forms which are specific interventions and generic interventions.

Specific interventions are interventions given to beneficiaries based on their gender needs. These include linking women to market, provision of equipment to women (machines; crackers, roasters, grinders, pressers and kneaders), linking women to other value chain actors (Riisgaard et al. 2010).

Generic interventions are interventions given to beneficiaries irrespective of their sex. These include improving market linkages, credit, improving skills (training), improving product quality and prices.



### **1.6.2 Value Chain**

Value chain is adding value to a product at each or every stage of the process before getting to the final consumer. These activities include design, production, marketing, distribution and support to the final consumer.

### **1.6.3 Empowerment**

Empowerment is enhancing the capacity of each actor along the shea value chain in terms of access to and control of resources. It enables people to increase control over their businesses, decisions that shape their lives, to increase their resources and to build capacities. A study by Berger and Neuhaus (1977), proposed that, empowerment is a way of improving the welfare services by means of mediating social institutions. Kabeer (1999), defined empowerment as the process by which those who have been denied ability/power to make strategic life choices acquire the ability to do so; but in relation to women and value chains, Laven, Van Eerdewijk, Senders, van Wees and Snelder (2009), sees empowerment as a process of changing gender relations in order to enhance women's ability to shape their lives.

Economic empowerment is the capacity of women and men to participate in, contribute to and benefit from growth processes in ways which recognise the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth (Eyben, Kabeer and Cornwall, 2008). With regards to the value chain, actors make returns from their participation in value chains by exploiting and constructing economic return which can arise through scarcity of resources (Kaplinsky and Morris, 2001).



#### **1.6.4 Shea actors**

Shea actors in the shea value chain consist of three actors thus, shea nut pickers, shea butter processors and shea butter marketers. The shea nut pickers are the people (mostly women) involved in picking the shea nuts from the field. Shea butter processors are the actors who extract the butter from the kernel while the shea butter marketers comprises of men and women who package, promote, price and sell the shea butter.

#### **1.6.5 Business performance**

In 2010, Njanja and Ogutu's study of performance is defined in terms of output terms such as quantified objectives or profitability. Performance has been the subject of broad and increasing experimental and conceptual investigation in business (John, 2009). According to Global Entrepreneurship Monitor (GEM, 2005), performance is defined in relation to positive outcomes as a result of equitable use of resources and it entails the act of doing something successfully using knowledge as distinguished from only owning it.

In the study by Abdelrahim and MBA (2007), business performance is when set targets are achieved in terms of output and profit. Thus in this study, shea actors are assessed on how the various value chain interventions (credit, training, access to market and equipment) have impacted in the shea business. Meshack (2014) and Kessy (2009), defined business performance as success of the business and it is achieved when the business is financially growing and profit is adequate, where success is seen as job satisfaction derived from achieving the business desired goals.

Business performance in the content of this study is perceived as improvement in shea production, in terms of quality and quantity of shea butter produced, increased income among shea actors and acquisition of assets by the shea actors.



## **1.7 Organisation of the study**

The thesis is organised into five chapters. Chapter one is deal with the introduction of the study. It focuses on the background of the study, problem statement of the research, objectives and questions of the study, the relevance of the study, and definitions of key terms and conceptual framework use for the study.

The chapter two reviews and discusses literature relevant for the research. The areas of literature considered very relevant to the study and provides enough evidence for analytical discussion to support the study.

Chapter three focuses on, instruments used to collect needed information for this study, it also presents research design, sampling procedure, data collection and analysis.

Chapter four presents results and discussions of findings of the research within the context of the study objectives. It discussed findings on shea actors socio-demographic characteristics, how value chain interventions affect gender roles and participation of shea actors, how value chain interventions influence processing capacity of shea actors, and the influence of value chain interventions on choice of enterprise and business performance of shea actors.

Chapter five, the last chapter focuses on summary of findings, conclusion and recommendations

base on the findings of the research.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 INTRODUCTION

##### 2.1 Background of SNV and their Interventions

SNV was founded in the Netherlands in 1965, they have built a long-term local presence in many of the poorest countries in Africa, Asia and Latin America. Their global team of local and international advisors work with local partners to equip communities, businesses and organisations with the tools, knowledge and connections they need to increase their incomes and gain access to basic services, empowering them to break the cycle of poverty and guide their own development.

SNV is dedicated to societies in which all people enjoy the freedom to pursue their own sustainable development. They support local actors to strengthen their business performance to effectively reduced poverty and enhanced good governance. SNV trained the women producers on quality processing procedures, provide processors with credit, equipment and access to market.

##### 2.2 Background of Sekaf Ghana Limited and their Interventions

Sekaf Ghana Limited is an African producer and exporter of shea nuts and specialised in traditionally made unrefined shea butter. Sekaf Ghana Limited is thereby stressing that industrial processing tends to alter the very true nature of shea, as also stated by (Addaquay, 2004). They use this as selling argument for their semi-mechanically processed shea butter. Sekaf Ghana Limited is an unrefined shea butter processing center, which has been contracted to train programme staffs and women on how to train people



to produce quality nuts and butter. Programme staffs then rolled out a scale-up training in communities using a video developed by Sekaf Ghana Limited.

They have over 2,500 women, who have received quality training on kernel processing and storage for the processing center. These women receive a fair trade price for the kernels they process and a premium for their organic kernels. Sekaf Cooperative Women's Group (SCWG) extract butter from the kernels and work together in a clean environment to produce quality butter that can be sold for a higher price on the fair trade market. The SCWG are provided not only with access to improved roasters, electric milling, electric crushing, processing equipment, water, and firewood, but also training in packaging, access to credit and market, drying platforms and 25 warehousing. Using these facilities and improved processing methods that shea butter groups in villages find difficult to access, the women are able to process quality shea butter to sell back to Sekaf Ghana Limited. Sekaf Ghana Limited is active in the Global Shea Alliance (GSA) quality working group and provides consultancies for quality improvement as they strive to implement sustainable solutions for shea processing.

### **2.3 Ghana's Shea Industry and Employment Generation**

The main participants in the shea industry in Ghana fall into four main categories (Kletter, 2002). These are shea pickers or collectors, first line traders who buy directly from the pickers, shea butter processors and exporters or marketers. Lovett (2004), indicated that the role played by NGOs and other developmental organisations in their search to develop the industry has gained considerable level of importance and described an extended value chain of shea industry as village pickers and post-harvest processors of dry kernel, local buying agents (LBAs), rural or urban traditional butter processors and large scale



exporters of shea kernel. Other players in the value chain include large scale processors of shea butter based ‘In-country’ and small scale entrepreneurs formulating cosmetics based on shea butter in Africa. The nuts as well as the butter are then exported to the United States, European Union, India and Japan.

There are about 3,000 households in northern Ghana who engaged in the shea industry (TechnoServe, 2004). It is estimated that the average household size is 13 persons and that these households produce and market 4 million USD worth of shea butter annually. On the other hand it is stated that, about 39,000 rural poor processed and sold 34.2 billion cedis (GHS 3,420,000.00) worth of shea butter in year 1999 (GSS, 2011). In addition to this there are an estimated 200,000 fragmented sellers of shea products (TechnoServe, 2004). In 2010, USAID Trade Hub study showed that for every \$1,000 sales of shea in villages about \$1,580 additional income enters the local communities and created many jobs and empowered them as well (Ghanaian Times, 2011).

#### **2.4 Socio-economic Characteristics of Shea Actors**

According to Rogers (1995), Al-Shadiadeh, AL-Mohammady and Abu-Zahrah (2012) and Altarawneh, Altahat and Ali (2012), several studies that have been conducted shows that a relative contribution of each socio-economic characteristic depends on the type of the enterprises and their associated innovations. The socio-economic characteristics of processors include gender, age, income, level of education, labour availability, marital status, level of experience and household size. It is perceived that institutional factors do influence productivity in a variety of ways in conjunction with socio-economic factors (Hichaambwa, Haggblade, Steven, Tschirley, Chapoto, Sitko and Kabwe, 2012; Parajuli, 2011).





Household size is among the important socio-economic characteristics which influence productivity because a fairly large family size implies more family labour available for the household farm activities (Ogundari, 2008; Ozor, 2010). This was also stated in a study by Igben (1988), that household size is an obvious possible advantage in terms of farm labour supply when it is relatively large.

Education level is a socio economic characteristic of great importance as it determines one's ability to comprehend and analyse issues before taking any action. Education level is very useful in technology adoption for improved productivity. As Ozor (2010), assert that, an increase in educational status positively influences the adoption of improved technologies and practices. Moreover as Opara (2010), argues that, processors with basic education are better equipped for making more informed decision for lives and for their communities as well as becoming active participants in economic, social, and cultural dimensions of development.

Likewise, the study by Adenuga, Muhammad-Lawal and Rotimi (2013), found that education, unlike other socio-economic characteristics like age, labour, gender and business size, significantly influenced production and productivity. Evidence on the efficiency of small-scale business production from a study by Abu, Alumunku and Tsue (2011), shows that socio economic variables of business size and labour size significantly influenced output. Moreover, education, and level of experience have significant impact on output. Main source of income is also among the socio-economic characteristics that is said to influence the decisions of an individual because the practices depend on capital investment especially when the capital is dependent on the existing sources of income (Mathenge and Tschirley, 2009). Under such circumstances, it is plausible that earnings



from the business may often be used to compensate for the missing and imperfect credit markets by providing ready cash for equipment purchases as well as other household needs. In addition, earnings could be used to spread the risk of using these modern equipment to the extent that processors choose traditional over modern equipment in order to lower their risk. Thus, any mechanism that allows processors to smoothen consumption will raise the use of modern equipment and increase productivity.

### **2.5 Concept of Value Chain**

According to Ahmed (2007), value chain refers to a structure of physical, social and economic transactions between individuals and organisations engaged in raw material transformation into end products, satisfy a market demand, Schmitz (2005), adding value to a product (Stonehouse and Snowdon, 2007). These activities include design, production, marketing, distribution and support to the final consumer. Kaplinsky and Morris (2001), on the other hand define value chain as the full range of activities that are required to bring a product from conception through the different phases of production to delivery to final consumers and disposal after use. These definitions by these authors are similar since they both emphasize transformation of product through activities by chain actors. These activities can produce goods or services and can be contained within a single geographical location or spread over wider areas.

### **2.6 The Shea Value Chain**

A value chain describes the full range of activities that are required to bring a product or service from conception through the intermediary phases of production, delivery to final consumers, and final disposal after use. Several activities are being performed by actors ranging from those who pick shea nuts from the bush to the final consumer. In the study



by Rammohan (2010), the range of activities and services required to bring a product from its formation to sale in its final markets is the value chain. This is similar to what Austin (1992), referred to as Production Chain Linkages. Consistent with the observation Masters, Yidana and Lovett (2004), posit that, shea butter has higher value than shea nut because processing of raw material into higher value end product is the most strain forward way of value addition. Trienekens (2011), therefore, argues that value chains are seen as a vehicle by which new forms of production, technologies, logistics, labour and networks are introduced. The purpose of these activities in the chain is to add value to the raw materials. Principally, the actors in the shea value chain are shea nut pickers, shea butter processors and the shea butter marketers.

## **2.7 Value Chain Interventions**

Value chain upgrading is the process that equips a company or any other actor of the chain to take on more value intensive functions in the chain, make itself harder to restore and thus appropriate a larger share of the generated profits (Stamm, 2004). It includes the acquisition of technological capabilities and market linkages that enable companies to improve their competitiveness and move into higher-value activities (Kaplinsky and Morris, 2001).

According to Mitchell, Coles and Keane (2009), upgrading strategies are interventions to improve the efficiency and equity of the value chain, and thereby maximise the benefits received by its participants. They are applied to chain actors and may be characterized as follows.



- a) Process upgrading involves improving value chain efficiency by increasing output volume or reducing cost of a unit of output. It includes improving agronomy to enhance yields that result in higher sales or own consumption or both. This may be the result of improved planting techniques, planting materials or investments, such as irrigation infrastructure (Von Braun and Webb, 1989).
- b) Product upgrading has become increasingly important as the richer economies have become more quality conscious and as standards have risen. Some standards are driven by lead buyer's example supermarkets requiring traceability of food products, others by statutory hygiene standards in importing countries and others, increasingly, in response to fair trade and organic demands by the final consumers. The challenge of standards lies in achieving them to allow market access without excluding the poor from the value chain. Process and product upgrading are closely related because improving product quality often involves improvements to the production process (Eyhorn, Mäder and Ramakrishnan, 2005; Bassett, 2010).
- c) Horizontal coordination is the process of greater intra-nodal organisation, often in the production and processing nodes, in some form of collective structure (typically a producer group). This form of upgrading is very important for poor people in rural areas because coordination with others allows producers to achieve economies of scale in supplies and to reduce transaction costs.
- Often, horizontal coordination is the first step in a sequence of interventions that ultimately result in access to the market, and is a prerequisite for other forms of upgrading. Critical to the success of horizontal coordination strategies are the entry



rules to join the group and the quality of management of the group structure (Naved, 2000; Walker, 2001).

- d) Vertical coordination is the move away from one-off spot transactions towards longer-term internodal relations, for instance contract shea business, whereby a processor or exporter will contract shea nut picker and the provision of training and credit in kind (Raynolds, 2002; Simmons, Patrick and Winters, 2003). This form of upgrading is important because it can result in greater certainty about future revenue flows for poor participants. In practice, vertical coordination is often a slow and difficult process because it involves the building of trust relations between the buyer and the seller to avoid the common scenario whereby producers break their contractual commitments and sell their produce on the spot market when prices are higher than specified in the contract (USAID, 2007).

The value chain interventions are categorized into two forms which are specific interventions and generic interventions. The specific interventions are interventions given to beneficiaries based on their gender needs. These interventions includes linking women to market, provision of equipment to women (machines; crackers, roasters, grinders, pressers and kneaders, and credit), linking women to other value chain actors (Feder, Lau, Lin and Xiaopeng, 1989; Lovett, 2004; Petrick, 2004; Bawa, 2007; Cai, Chen, Fang and Zhou, 2009; Karlan, Osei-Akoto, Osei and Udry, 2011; SEND-GHANA, 2014). The generic interventions are interventions given to beneficiaries irrespective of their sex. These interventions include improving market linkages, improving skills (training), improving product quality and prices (Lovett, 2004; Mitchell and Ashley, 2009; Riisgaard et al. 2010; SEND-GHANA, 2014).



According to Humphrey and Navas-Alemán (2010), value chain interventions aims at providing extension services, generic skills development, improving organisational capacities, creating new value chains, forging or strengthening new links within a value chain and increasing the capabilities of target groups to improve the terms of value chain participation.

## **2.8 Impact of Value Chain Interventions on Poverty and Gender Roles**

Traditionally the value chain approach rotates around the structure, actors and dynamics of value chains, including examining the typologies and locations of chain actors, the linkages between them, and the dynamics of inclusion and exclusion.

It also involves understanding the structure of rewards, the functional division of labour along a chain and its changing shape and the distribution of value added. Previous applications of the value chain research however, have not in a consistent way considered the broader issue of the terms on which poor people participate in value chains or the impact of value chain activities on poverty and gender (Riisgaard, Bolwig, Matose, Ponte, Du Toit and Halberg, 2008).

Approaches that look in detail at the local dynamics of livelihoods and changes in the depth or nature of poverty and gender issues often downplay the ways in which these issues are shaped by value chain dynamics and restructuring (Riisgaard et al. 2008).

Most development practitioners, non-governmental organisations and donors support value chain development projects, with the motive of reducing poverty. It is widely assumed that there is underutilised potential in value chains for improving the incomes of pro-poor producers (Kula, Downing and Field, 2006). Thus by making value chains



function more effectively, for example by improving flows of knowledge and establishing linkages, it is expected that interventions will benefit the poor. Though, apart from this general assumption about the connection between value chain development and poverty reduction, the approach to poverty reduction differs tremendously between interventions. Some approaches focus exclusively on making value chains work more efficiently and have little or no poverty focus apart from the overall assumption that benefits will automatically reach the poor.

Kula et al. (2006) argued that, in general USAID's development is centred on economic growth rather than poverty reduction. Though, different approaches focus more specifically on achieving poverty reduction outcomes, for example by targeting specific groups of pro-poor people or by analysing and addressing the challenges that prevent poor people from participating in or benefiting from value chain participation.

A study by Humphrey and Navas-Alemán (2010), on value chain interventions linked to poverty alleviation strategies revealed that, in general there is not enough evidence on poverty alleviation impacts from interventions to claim that they are effective or efficient in helping the poor. Moreover, they conclude that, the poverty focus of value chain interventions is not clear (which of the poor are being targeted, what kind of poverty is being targeted and how).

The linking of pro-poor actors to large agribusiness companies (upgrading strategy) thus, the development of these links between actors and agribusiness companies were quite often viewed as reducing poverty (Humphrey and Navas-Alemán, 2010).



Targeting value chain interventions towards the poor was found to be much clearer in so called ‘linkage interventions’ (Humphrey and Navas-Alemán, 2010). In this group of interventions, several projects identified and targeted particular disadvantaged groups and projects often worked with the poorest directly, enhancing their assets and supporting improvements in value chain knowledge and negotiating power.

## **2.9 Value Chain Interventions and Gender**

Women in most cases are more disadvantaged than men in the context of value chain operations. For instance limited access to information, training, credit, equipment, market linkages and many development organisations have begun to recognize and address the need for a more active gender strategy in relation to value chain interventions (Riisgaard et al. 2010). Gender is approached in markedly different ways in value chain analyses and interventions, depending on how gender equality is conceived (Riisgaard et al. 2010).

Other interventions focus more directly on increasing quantities and gains for female chain participants, or in some cases it is simply to ensure that no harm is caused. Whiles some interventions address gender inequality at the level of the household, community level, in institutions and in value chain governance or to help women achieve a better functional position (Riisgaard et al. 2010).

Several studies have confirmed the impact of value chain interventions on both generic and gender-focused issues (Cruz and Lindo, 2006; Mayoux and Mackie, 2007; Riisgaard et al. 2008; Rubin and Manfre, 2014). Although generic value chain interventions can in specific circumstances have positive effects for participating women, evidence also shows that more gender-sensitive value chain analysis, intervention designs and implementation





plans are required in order to secure such impacts and to avoid negative outcomes (Riisgaard et al. 2010). Lack of mobility, lack of access to equipment and markets, credit and lack of linkages to other value chain actors are often major gender based challenge in relation to value chains (Riisgaard et al. 2010). A study by Riisgaard et al. (2010), states that such challenges can be addressed by value chain interventions that include specific gender strategies such as forging women-focused vertical and horizontal linkages.

Specific measures are required to ensure that women's participation leads to gains, not just to increased number of women participants. Facilitating better bargaining power both in relation to other value chain actors (buyers, input suppliers) but also in relation to household gender dynamics making decision over income can also help improve gains.

### **2.10 Value Chain Interventions and Decision Making on Choice of Enterprise**

The process of decision making at the household level is one of the most complex mechanisms of human thinking, as several factors and courses of action intervene in it, with different results. Lipshitz, Klein, Orasanu, and Salas (2001), define decision making as a series of cognitive operations performed consciously, which include the elements from the environment in a specific time and place. Narayan and Corcoran-Perry (1997), also consider decision making as the interaction between a problem that needs to be solved and a person who wishes to solve it within a specific environment.

According to Halpern (1998), before one arrives at a decision several steps need to be followed. It is necessary for an individual to make decision, determine the goals to be achieved, generate alternatives options that leads to attaining the proposed goals, evaluate whether these alternatives meet an individual's expectations before finally selecting the



best alternatives. Decision making process is affected by socio-economic variables. In effect, individuals may make different decisions depending on their socio-economic status.

### **2.11 Gender of Shea Actors**

Sex is used to refer biological and reproductive characteristics. Sexual differences are the same throughout the human race whereas Gender is a pattern of behaviours recognised as feminine or masculine (March et al. 1999). It is socially constructed and learned behaviour (Kabeer, 1999). Gender varies between societies and across the social, ethnic and cultural groups within societies. Even for a single individual, gender behaviours change over time and within different social contexts. It is believed that gender equity exists when both females and males have equitable opportunities and outcomes which mean that everyone male or female can pursue a broad range of interests, subjects, careers and lifestyles.

Gender is a social construct. It is what culture and society make of the fact that you are a man or a woman. It refers to cultural, political, and economic arrangements, such as social norms, beliefs, laws, and institutional practices (England, 2002).

The concept of gender refers to the cultural interpretation of biological differences between men and women (Moore, 1988). Gender and gender identity are socially constructed through processes of socialization, where by human beings become social persons. What both men and women do, how they behave and interact, together with cultural ideas and interpretation of gender differences constitutes a gender system (Thapa, 2009).



Gender is institutionalised as a social institution by human society. A study by Lorber (2004), states that, it is done because it is one of the major ways human beings organise their lives. It is a way through which human society design division of labour, beside different talents, motivations, and competence, the other way to design the division is on the basis of gender, race, and ethnicity. Every society classifies people and assigns them to different roles and responsibilities. The process of gendering and its outcome are legitimated by religion, law, science, and the society's entire set of values (Lorber, 2004).

Social institutions are transformed by social practices therefore culture and social practices transform socially constructed statuses. Social statuses are carefully constructed through prescribed processes of teaching, learning, and enforcement (Lorber, 2004). Individuals are taught to be masculine or feminine. According to Lorber (2004), as a social institution, gender is a process of creating distinguishable social statuses for the assignment of rights and responsibilities, gender creates the social differences that define woman and man. The era of 1970's was seen as the dawn of the gender issues.

Gender was regarded as an explanation for persisting inequalities and different forms of social differentiation. The increased representation of women among social scientists has resulted in flowering of research on gender (England, 2002).

## **2.12 Value Chain Interventions and Gender Roles**

According to Norem et al. (1989), gender roles of women and men are seen as difference in labour responsibilities, decision-making processes, and knowledge. Thus, men and women often use and manage resources in different ways. The gendering of local knowledge, including knowledge for managing biological systems has four key



characteristics (women and men have knowledge about different things, men and women have different knowledge about the same things, women and men may organise their knowledge in different ways and men and women may receive and transmit their knowledge by different means).

In certain cultures women actively participate in employment outside of their homes, while in others there is a clear specialisation of tasks along gender lines, women tend to remain within their homes and do not participate in activities outside of their domestic setting (Alesina et al. 2013). The triple role for women consists of reproductive, productive, and community-managing activities. In contrast, men primarily undertake productive and community politics activities (Moser, 1993).

Reproductive work involves the care and maintenance of the household and its members, including bearing and caring for children, preparing food, collecting water and fuel, shopping, housekeeping, and family health care (Moser, 1993; Adu-Okoree, 1996; Olson and Defrain, 2000). In poor communities, reproductive work is for the most part, labour intensive and time consuming. It is almost always the responsibility of women and girls.

Productive work involves the production of goods and services for consumption and trade in employment and self-employment. Both women and men can be involved in productive activities, but their functions and responsibilities often differ. Women's productive work is often less visible and less valued than men's (Moser, 1993).

Community work these activities include the collective organisation of social events and services ceremonies and celebrations, activities to improve the community, participation in groups and organisations, local political activities and so on. This type of work is



seldom considered in economic analyses, yet it involves considerable volunteer time and is important for the spiritual and cultural development of communities. It is also a vehicle for community organisation and self-determination. Both women and men engage in community activities, although a gender division of labour also prevails here (Wallace and March, 1991). Moser (1993), divides community work into two different types of work. Community-managing activities are undertaken primarily by women as an extension of their reproductive role. Such activities ensure the provision and maintenance of scarce resources which everyone uses, such as water, health-care and education. This is voluntary unpaid work, carried out during women's free time. Community politics are undertaken primarily by men who take part in organised, formal politics, often within the framework of national politics. They are usually paid in cash for this work or benefit indirectly through improved status or power (Wallace and March, 1991).

### **2.13 Value Chain Interventions and Choice of Activity**

In culture, gender is a human production that is maintained by individuals by constantly doing gender. Throughout their lives, human beings learn what is expected, they do what is expected, they see what is expected and they react in expected ways and thus, all together they construct and maintain 'gender' order (Butler, 1990 cited in Lorber, 2004). Thus, Gender is something which is constantly created and re-created out of human interaction (Lorber, 2004).

Gender is ascribed. The social order constructs and holds individuals to strongly gendered norms and expectations. Even though individuals change their sex, accordingly they have to fulfil the expectations (Lorber, 2004). To be born a man or a woman in any society is a biological fact with social implications. Women constitute a distinct social group. The



biological sexes are redefined, represented, valued, and channelled into different roles in various culturally dependent ways. Feminist believe that woman is a creation of the masculine gaze therefore, before seeing how women thought of themselves and of their relations with men, it is important to find out how they were seen by men. The masculine conception of woman gave rise to idealisations and norms that strongly influenced the behaviour of women, who lacked the power to challenge the male view of their sex.

Gender is the most important component of structured inequality. Gender, constructed in a social form is deeply rooted in our lives. Gender divides work in home and in production. It determines the authority of one sex over the other and organises sexuality and emotional life (Connell, 1987 cited in Lorber, 2004). This is all what has been socially constructed and socially accepted and thus, is regulating our lives. Gender discrimination is discouraged in many countries now but despite the fact many major roles are still gendered, women still do most of the domestic labour and child rising. Even while doing paid work, women and men are differentiated according to job types appropriate for each sex and still in many places women's work is usually paid less than men's work (Lorber, 2004). Gender is negotiable. In almost every step of life, human beings produce gender. They behave in accordance to their gender, what they have learned and what is appropriate for their gender status.

While resisting or rebelling also they keep themselves within their gender and act accordingly. Knowledge is created so is constantly changing. In a similar way gender is socially constructed. Scott (1994), argues and Lorber (2004), agree that 'gender' as a process has room for not only modification and variation by individuals and small groups but also for institutionalised change. However, to mention here, resistance and rebellion



have altered gender norms but so far they have rarely eroded the statuses. Again, upcoming research focus is also on the changing gender based division of work. The finding of such studies shows that gender ideologies regarding appropriate occupations for women and men are continuously adapted in response to a changing political economy. Gender ideologies or assumptions about gender-appropriate behaviour are time and place specific (McDowell, 1999 cited in Overå, 2007).

#### **2.14 Gender Ideologies and Choice of Activity**

Philips (2001), assert that the study of gender ideologies is concerned with describing and explaining cross cultural similarities and differences in human views on women, men, and alternative gender identities. It describes the proper roles and fundamental natures of women and men in human societies. The distinction between sex and gender is central to the concept of gender ideology (Philips, 2001).

The biological differences between male and female assign their gender when born. A child is treated differently according to their assign gender. With growing age, they start to refer themselves as members of different groups of gender. Our actions have been shaped by gendered norms and expectations. Humans behave as per gendered expectations. Everything has been gendered from our roles and responsibilities to our actions.

Our roles, the work we do and our life experiences produce different feelings, consciousness, relationships, skills and the ways of being that we call feminine or masculine.



All of these processes constitute the social construction of gender (Lorber, 2004). The gendered practices of everyday life reproduce a society's view of how both women and men should act. Gendered social arrangements and associated invisible gender ideology are justified by religion and cultural productions and backed by law (Gramsci, 1971 cited in Lorber, 2004; Foucault, 1972). For feminist, the use of the term ideology reflects its roots in the feminist position that women are conceptualised as inferior to men, to justify and sustain social and cultural systems dominated by men and the culturally constructed nature of gender. Gender systems and the gender ideologies that are thought to help sustain them are culturally variable (Philips, 2001).

### **2.15 Gender Roles and Decision Making**

Development planners have discovered that the increase of household income through the employment of men in cash crop production does not necessarily increase household income available for the purchase of food (Karl, 1996). However, when women have access and control over income they tend to spend it on the welfare of the family.

### **2.16 Gender Dynamics and Choice of Activity**

In every society, women and men are assigned responsibilities, tasks and activities according to their sex. The gender division of labour varies from one society and culture to another, and within each culture, it also changes with external circumstances over time. In most societies gender power relations are skewed in favour of men, different values are ascribed to men's tasks and women's tasks (March, Smyth and Mukhopadhyay, 1999). In all types of work done by women and men, a distinction can be made between productive work and reproductive work.





Production includes the production of goods and services for income for instance picking of shea nuts, processing of shea butter and selling of shea butter. Both women and men perform productive work but not all of this is valued or rewarded in the same way (Boserup, 2007; March et al. 1999).

Reproduction encompasses the care work and maintenance of the household and its members, such as cooking, washing, cleaning, bearing children and looking after them, building and maintaining shelter. It is mostly done by women (March et al. 1999). The introduction of wage labour for men as observed by and the trade of basic commodities speeded up processes whereby tribal collectives were breaking up into individual family units in which women and children were becoming economically dependent on men (Sacks, 1975; Leacock, 1983).

Food and Agriculture Organisation (2011), estimate that women produce between 60 to 80 percent in terms of economic production in most developing countries, yet their key role in economic production and their critical contribution to the household livelihood is only now becoming recognised. FAO states that, while women are the backbone of small-scale agriculture, they face more difficulties than men in gaining access to resources such as land, training, access to market, credit and productivity enhancing inputs and services (FAO, 2011).

Division of labour reflects differences in choice of enterprise by men and women. There are certain enterprises that are solely for men and others for women. Mostly, women are expected to grow subsistence activities, gather fuel and rear children in return men provide money and other things (cash crops) for the family.



When considering the way in which resources are allocated between men and women (thus gendered allocation of resources), it is important to look at the difference between access to resources and control over them. Access is defined as the opportunity to make use of a resource and control is the power to decide how a resource is used, and who has access to it. Women often have access but no control over the resources (March et al. 1999).

### **2.17 Value Chain Interventions and Gender Gap in Micro Enterprise**

There is a gender gap in economic activities and the gender gap is usually defined as the difference between men and women in terms of numbers engaged in micro economic activity, motives to start or run a business, industry choice and business performance and growth (Vossenber, 2013). However, (Singh and Sharma, 2011) argued that rural women can play an important role by their effectual and competent involvement in economic activities. They have basic indigenous knowledge skills, potentials and resources to establish and manage enterprise (Singh and Sharma, 2011).

Vossenber (2013), argue that in worldwide, women are much more likely to be driven by necessity than men when starting a business. In most developing countries, such as Ghana the vast majority of women are engaged in economic activity driven by pure survival out of necessity rather than opportunity because there are no jobs or any other options for income generation (GEM, 2011 cited in Vossenber, 2013).

This may be true for most developing countries yet it is argued that, it is beyond need driven but it is due to lack of access to financial resources, inadequate training and access to information, lack of society support, legal barriers and procedures. Thus is it



emphasized that, if women are given equal opportunities in economic activities, they can become better economic driven by opportunities (Vossenber, 2013).

## **2.18 Value Chain Interventions and Empowerment**

According to Sethuraman (1981), poverty is one of the most important development issues of the world and more than three fourths of the world's population lives in developing countries, but they enjoy only 16% of the world's income, while the richest 20% have 85% of the global income. Livelihood improvement means the transition of power from a state of unjust to one that is just.

It is the provision of opportunity to the deprived poor of the society for making their decisions with reference to their household matters that include production related activities and investment in different gender specific intervention. It is also all about the state of affairs where these rural poor feel free from any sense of subordination. This means for poor women the term gender and livelihood improvement reflects increasing women's self-reliance that enables them to recognise and improve their socio-economic well-being in the society.

Individuals empower themselves by increasing their ability to control their own lives in order to create a more fulfilling existence through mutual efforts to resolve shared problems (Maser, 1997). Regardless of that, it is clear that women's work is critical to the survival and security of agrarian peri-urban households and thus, their economic contributions should be given importance attention in designing policy (Kabeer, 2003).

Women continue to have systematically poorer command over a range of productive resources, including land, information and financial resources. International experience



demonstrate that when women and men are relatively equal, economies tend to grow faster, the poor move more quickly out of the poverty and the well-being of men, women, and children is enhanced. Gender plays an important role in determining economic growth, poverty reduction and development effectiveness.

Empowerment is based on gender and empowerment theories which propose that gender relations are constructed and deconstructed as a result of behaviour of men and women which are influenced by changes in economic, cultural and historic events in the society (Miller and Razari, 1995; Kabeer, 2002; Studies, 2001). These changes might be a result of a development intervention such as value chain development activities therefore, women's empowerment is a process of change in which women are significant actors in the process of change that is being described or measured (Malhotra, Schuler and Boender, 2002). The change is about women regaining the ability to make decisions and affect outcome that is important to themselves and their families (Kabeer, 1999). Women empowerment considers women as agents of that change rather than merely as its recipients. Kabeer (2002), defines empowerment as 'the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them. Rowlands (1995), Rowlands (1997), Kabeer (1999), Kabeer (2002), Narayan-Parker (2002) and McEwan and Bek (2006), define empowerment as: "the expansion of freedom of choice and action to shape one's life".

Mosedale (2005), argues that in defining empowerment there are four central concepts: to be empowered one must have been disempowered, secondly empowerment cannot be bestowed by a third party, thirdly there should be a sense of people making decisions on matters which are important in their lives and being able to carry them out and finally



empowerment is an ongoing process rather than a product. Mosedale (2005), argues that people are empowered, or disempowered, relative to others or relative to themselves at a previous time.

### **2.19 Value Chain Interventions for Shea Actors**

It is often emphasized that, incentives matter and influence an individual decision in choosing an enterprise to engage in. The basic “law of behaviour” is that higher incentives will lead to more effort and higher performance (Gneezy, Meier and Rey-Biel, 2011). Several development practitioners have seen the need to empower women in a form of incentives to enable them have access to resources (material, human as well as social) these aids in addressing the needs of women (Mac Kune-Karrer, 1997). The value of high earnings motivates an individual and influence ones decision or choice to go into a particular enterprise (Chow and Ngo, 2011).

A number of NGOs contribute to or influence economic development and livelihood improvement in Ghana in the context of training by facilitating knowledge and technology transfer to shea actors, credit and market. Training activities include storage of shea nuts and butter and provision of technical advice. Providing credit and organisational support to the poor who do not have collateral securities to facilitate loan agreements from formal financial institutions, have been the key elements of the NGOs approach to improve livelihoods in many developing countries.

### **2.20 Value Chain Interventions and Access to Credit or Finance**

Agriculture is the main source of income among the rural poor worldwide, to other sectors agricultural growth can reduce rural poverty rate faster and more effectively



(Christiaensen, Demery and Kuhl, 2011). Shea actors' decisions to produce are closely influenced by access to credit and finance, if appropriate risk mitigation production are lacking or if available finance does not match actor's needs, actors may be discouraged them in their business which will affect production, to make other decisions that can improve the efficiency of their businesses. Improving access to finance can increase shea actors investment choices, can help increase productivity in their business and can therefore significantly increase the ability of poor households with little or no savings to acquire shea inputs (Cai et al. 2009; Karlan et al. 2011).

Access to loans at low interest rates (friendly interest rates), women are able to invest in different productive ventures or to take a risk and diversify into producing new business ventures. Thus, credit to women can finance important investments in businesses and equipment including processing equipment that can make huge differences to production, marketing and income (SEND-GHANA, 2014).

Access to credit furthermore, reduces the opportunity costs of capital-intensive assets relative to family labour, thus encouraging the adoption of labour-saving, higher-yielding technologies and therefore increasing labour productivity and profit of individual, a crucial factor in encouraging development, in particular in many African countries (Delgado 1998; Zeller, Schrieder, Von Braun, and Heidhues, 1997; Hazarika and Alwang, 2003; Foltz, 2004). Access to credit may not have a direct impact on productivity, but it could have a positive and significant indirect impact through its positive influence on hired labour, technologies adoption, increased capital for shea investment and improved household welfare through improved health care and better nutrition.



In addition, Feder, Lau, Lin and Luo (1990), posit that credit allows people to satisfy the cash needs induced by the production cycle. Access to credit may affect shea productivity because it is assumed that actors facing binding capital constraints would tend to use lower levels of inputs in their production activities compared to those not constrained (Feder et al. 1989; Petrick, 2004; Freeman, Ehui, and Jabbar, 1998). The implication of this is that access to credit could increase rural poor households' willingness to adopt new technologies that raise both mean levels and riskiness of income (Blaylock and Blisard, 1993).

According to Freeman et al. (1998), shea actor's access to credit is also very crucial in the sense that it can facilitate the levels of input use closer to their potential levels when capital is not a constraint, consequently leading to higher levels of output and productivity. This implies that the contribution of credit brings input levels closer to the optimal levels, thereby increasing output and productivity (Feder et al. 1990). According to Zeller et al. (1997), Robinson (2001), Akudugu (2011), Conning and Udry (2007), Swain, Van Sanh and Van Tuan (2008), access to credit is also considered to be an important tool for smoothing consumption and promoting production especially for the poor households.

It can significantly increase the ability of households with no or few savings to meet their financial needs for business inputs when it is easily available (Kibaara, 2006), while lack of adequate access to credit have had significant negative consequences for various aggregate and household-level outcomes, including technology adoption, productivity, and overall household welfare (Diagne and Zeller, 2001).



### **2.21 Value Chain Interventions and Access to Market**

Market access and availability is an important factor which enable women to avoid the use of intermediaries to market their products and have high access to market information resulting in bargaining power in relation to other actors in the value chain.

However, when women do not get access to market they remain concentrated at the production end of the shea value chain, finding it difficult than men to carve out new roles in value chain to increase their income (SEND-GHANA, 2014).

### **2.22 Value Chain Interventions and Access to Training**

In Ghana, it is estimated that female peasant farmers and agro processors account for over 70 percent of total food production (Duncan, 1997). Supporting the success of women is a key to economic development, food security and the sustainable improvement of rural livelihoods. Currently, women agro processors receive a fraction of the inputs and support that their male counterparts receive (World Bank, 2008). One of these inputs is training. Training includes the support and information required to know about and adopt good shea practices. Access to training play an important role in shea business and can contribute to improving the welfare of actors and other people living in rural areas. Anderson (2007), defines the terms training as the entire set of organisations that support and facilitate people engaged in agro production to solve problems and to obtain information, skills and technologies to improve their livelihoods.

Training delivery is crucial in promoting innovation to keep pace with the changing context and to improve livelihoods of the shea actors. Over the years, the demand placed





on training delivery has increased manifold. Shea actors improve their productivity by having access to training or information (SEND-GHANA, 2014).

Training services increase actor's productivity and income. According to Anderson and Feder (2003), productivity improvements are only possible when there is a gap between actual and potential productivity, these types of gaps (technology gap and the management gap) contribute to the productivity differential. Training can contribute to the reduction of the productivity differential by increasing the speed of technology transfer and by increasing actors knowledge and assisting them in improving management practices (Birkhaeuser, Evenson and Feder, 1991; Feder, Murgai and Quizon, 2004). Furthermore, extension services also play an important role in improving the information flow like the bottom-up training (Anderson, 2007; Birkhaeuser et al. 1991).

### **2.23 Value Chain Interventions and Access to Land**

Access to land is of fundamental importance in rural areas and also crucial asset for production. The incidence of poverty is highly interrelated with lack of access to land. Households that depend on agricultural wage labour account for less than a third of all rural households but make up almost half of those living below the poverty line (Agarwal, 1994). Though some households own some land, but in holdings that are so small or unproductive that their owners derive a greater share of their livelihoods from their own labour than from their own land. Access to land has a direct impact on the livelihood.

In the study by Fortes and Fortes (1936), states that men are the head and organised the use of land under their guidance and care. Women can access land through borrowing or renting, women access shea nuts through the household compounds and in the bush field



of their compounds. They can also gather shea nuts from areas where there is not clear ownership of land. To strengthen women's off-farm activity (shea nut picking) mechanisms should be provided to ensure land rights for women.

#### **2.24 Value Chain Interventions and Participation in Shea Value Chain**

According to Illfelder (1980), the most important clue to a woman's status in the world is their degree of participation in economic or social life and their control over property and the product they produces. Participation is the act of taking part in an activity thus, taken part in decision-making process and involvement community activities (Livingstone, 2013). Participation provides people with skills and relationships that can help them to govern themselves and their businesses.

Women's roles and participation in economic activity in the traditional sense has to a large extent been defined and restricted along biological and cultural lines, women's role in the Ghanaian economy have not been limited to the home alone but has expanded all sectors of the economy with its impact felt more in the agricultural sector and services (wholesale and retail sub-sector) sectors (Amu, 2005). Women's participation in the labour force (market) has contributed to an increase in value of their products, household incomes, education and health of their children (Amu, 2005).

In addressing problems facing women and to improve women's participation in economic and social activities in the past few decades, a number of programmes and policies have been designed and implemented by government, international agencies and non-governmental organisations. In some developing countries, there has been a proliferation of policies, programmes and projects designed to assist women, especially low-income

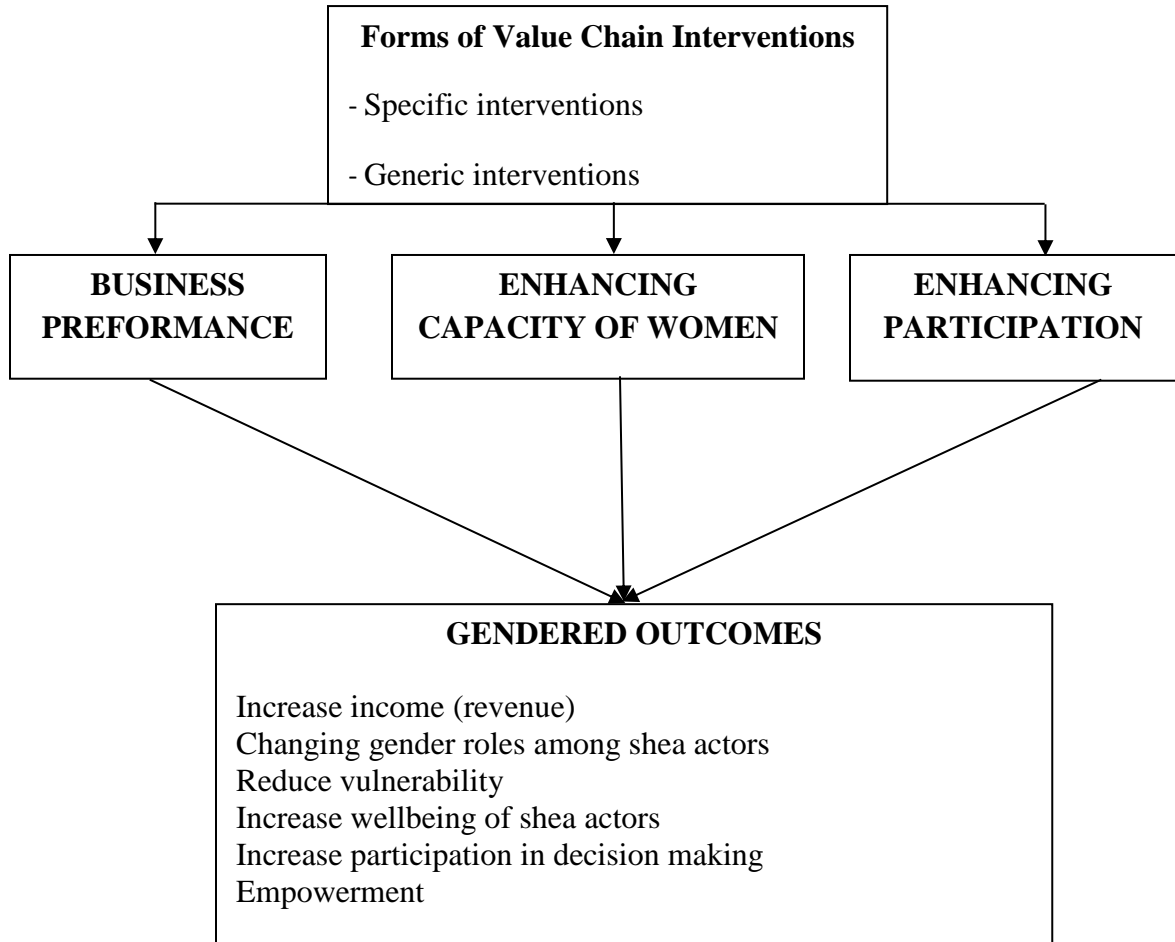


women in their bid to achieve economic independence in all spheres of their lives and to improve their participation in public life and the decision making process.

### **2.25 Conceptual Framework**

The conceptual framework of the study tries to explain how the interventions given, influence the gender roles in relation to difference in labour responsibilities, decision-making processes and knowledge, participation in employment outside of their homes and also specialisation of tasks along gender lines (Moser, 1993; Norem et al. 1989; Alesina et al. 2013). It is expected that when these gender roles are affected, it builds the assets base of the beneficiaries and when these assets base are built it will enhance participation by enlightening the shea actors to take part in decision making both at household level and community level. This will empower them by reducing vulnerability, increasing income, changing gender roles among actors, increasing well-being of shea actors and also increasing decision making power in markets.





**Figure 2.1 Conceptual Framework for the Study**

**Source: Author's Own Construct, (2017).**



## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

This chapter focuses on brief description of the study area, instrument used to collect needed information for this study. It also presents research design, sampling procedure, data collection and analysis.

#### 3.1 Brief Description of the Study Areas

##### 3.1.1 Sagnarigu District

The Sagnarigu District is one of the six newly created Assemblies in the Northern Region of Ghana. It was created out of the Tamale Metropolis by Legislative Instrument 2066 in the first half of 2012. The District was inaugurated as a functional entity on the 24<sup>th</sup> of June, 2012 and it has seventy nine communities (Sagnarigu District Assembly, 2014).

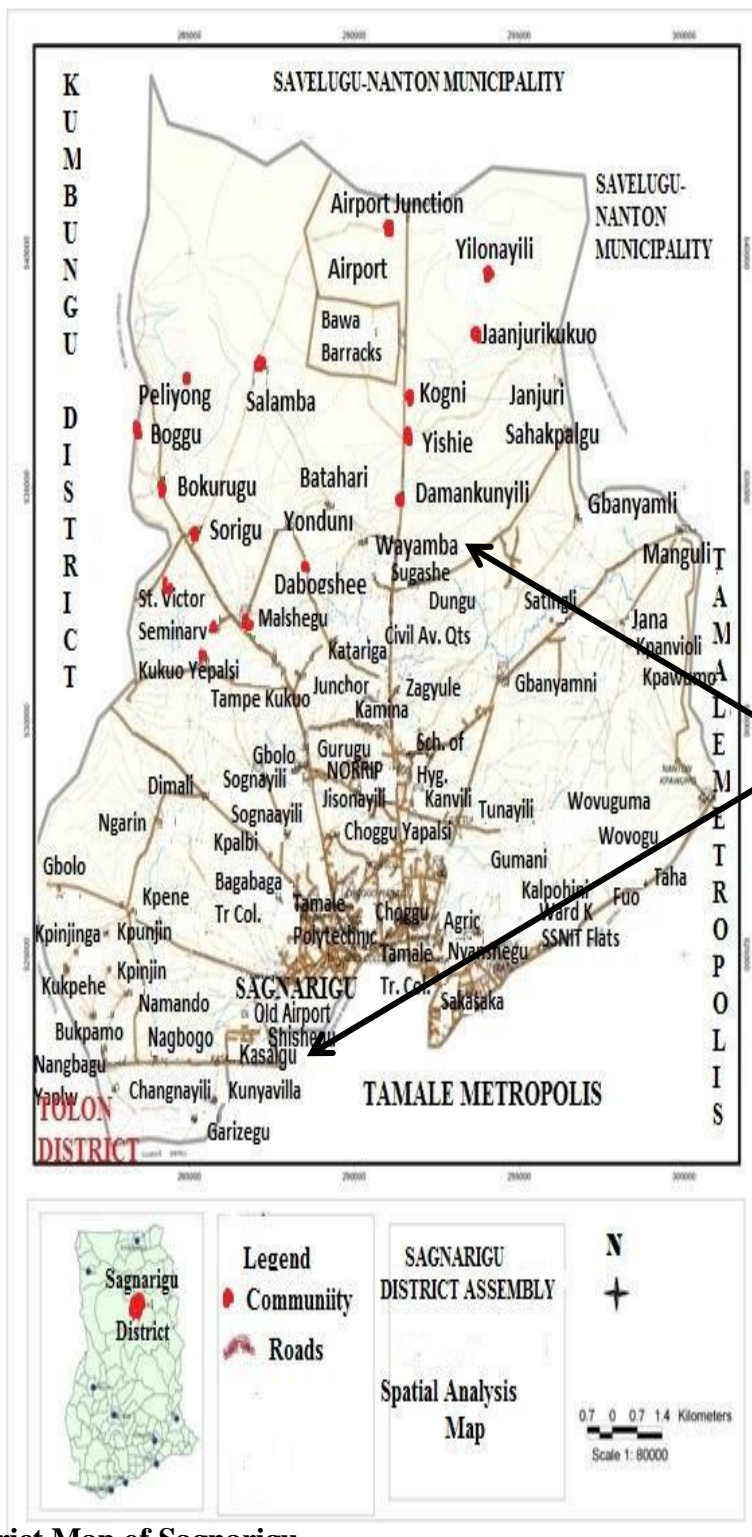
The District is located in the central part of the Northern Region of Ghana. It falls between Longitudes  $0^{\circ}57''N$  and  $0^{\circ}57''W$  and Latitudes  $9^{\circ}16''N$  and  $9^{\circ}34''N$ . The district has an estimated total land size of 114.29 km. sq. – representing 26% of the total landmass of the region. It shares boundaries to the North with Savelugu-Nanton Municipality, to the South and East with Tamale Metropolis, to the West with Tolon District, and to North-West with Kumbungu District.

The district is spatially attached to the Tamale Metropolis (the administrative and commercial hub of the northern part of Ghana) to the South and East. This strategic location presents the district with tremendous economic potentials, especially in the areas of commerce, industry, education, transportation and hospitality. The district has vast



agricultural lands, with shea trees scatter throughout the district, enabling natives to depend on the shea products for their livelihood. The Sagnarigu district, by its location, is well positioned for enhanced socio-economic, cultural and political interaction with the rest of the districts in the region and beyond (Sagnarigu District Assembly, 2014).





Study Communities

Figure 3.1 District Map of Sagnarigu

Source: Sagnarigu District Assembly, (2014).

### **3.1.2 Kumbungu District**

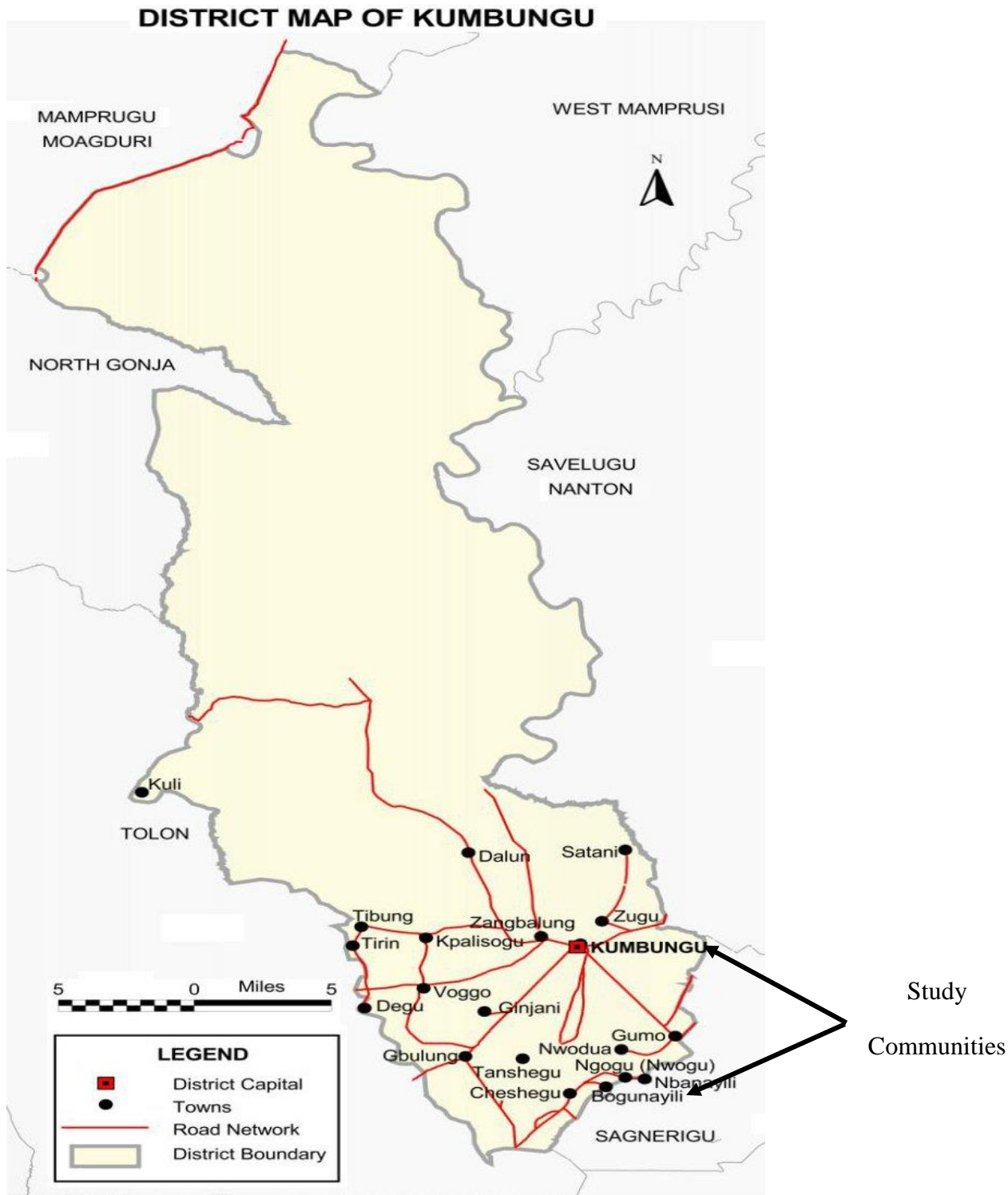
Kumbungu District is one of the newly created districts that were carved out of the then Tolon/Kumbungu District with Legislative Instrument (L.I) 2062 of 2011. It was inaugurated on the 28th June, 2012 with Kumbungu as its district capital (Kumbungu District Assembly, 2014).

The District is located in the northern flank of the Northern region and covers a land mass of approximately 1,599 km sq. The District shares boundaries to the North with Mamprugu/Moagduri district, Tolon and North Gonja districts to the West, Sagnerigu District to the South and Savelugu/Nanton Municipal to the East. The district is made up of 115 communities with 24 electoral areas (EAs), One (1) Town council (TC) and Five (5) Area councils (AC). They include; Gupanerigu, Gbullung, Zangbalung, Dalun and Voggu Area councils and the Kumbungu town council being the administrative capital (Kumbungu District Assembly, 2014).

The district is made up of 115 communities, most of which are farming communities with a population below 500. Using a population of 5000 as the threshold for Urban-Rural dichotomy, the district has about two (2) urban centres. These are Kumbungu (District Capital) and Dalun. It therefore implies that a greater percentage of the population lives in the rural areas (Kumbungu District Assembly, 2014).







**Figure 3.2 District Map of Kumbungu**

**Source: Kumbungu District Assembly, (2014).**

### **3.2 Design of the Study**

Research design serves as a blue print for conducting research work, by considering which questions to answer, which data is relevant, what data to collect and how to analyse the results (Babbie, 2015). The research design shows the procedure for conducting the study, such as when, from whom and under what conditions data were obtained. Its objective is to provide valid and accurate answers as possible to research questions (McMillan and Schumacher, 2014).

For the purpose of this study, a cross sectional study or survey was used. The design of the survey was descriptive and cross-sectional in nature. The study employed a cross-sectional study design drawing on quantitative approaches. Cross-sectional design is a type of observational study that analysed data collected from a population or representative subset at a specific point in time.

### **3.3 Population of the Study**

Population is any precisely defined set of people or collection of items which are being studied (Babbie and Mouton, 2005). In the context of this study, population consists of shea nut pickers or collectors, shea butter processors and marketers engaged in shea business in the Sagnarigu and Kumbungu Districts of Northern Region. There are 5000 shea pickers/collectors, 180 butter processors and 70 marketers working with Sekaf Ghana Limited in Sagnarigu district, and with SNV there are 400 shea pickers/collectors and 448 shea processors and 52 marketers in the Kumbungu District.

### **3.4 Sample Size and Sampling Procedure**

Choosing the appropriate sample depends on the kind of data analysis the researcher plans on. Again, the accuracy of the sample depends largely on the researcher's purposes and the populations' characteristics (Neuman, 2003). Statistical equations are



used to arrive at an appropriate sample size. One principle in sampling size is that the smaller the population, the bigger the sampling ratio as an appropriate sample. Large population permit smaller sampling ratio for equally good samples. This is because as the population size grows the returns in accuracy for sample size shrinks. Practical limitations like cost also plays a role in choosing a sample size. Generally, the larger the sample size, the smaller the sampling error.

There are several sampling procedures but having considered them purposive sampling and random sampling were suitable for this study. In purposive sampling as the name implies, the researcher, adhering to the objectives of the study, selects respondents who can answer the research questions. Purposive sampling, also known as judgmental sampling is a technique that requires the investigator to use his or her judgement and prior knowledge to select the area and people for the sample who and where would be best to serve the purpose of the study. In this study two districts were purposively selected because of their involvement in the shea business. Gender was also considered in selecting the sample since it became clear that the shea industry especially shea butter processing and shea nut picking are generally female dominated with only few men doing the marketing. The districts are Sagnarigu and Kumbungu all in the Northern Region. The selection was influenced by the operations of Sekaf Ghana Limited in Sagnarigu and SNV in Kumbungu. After studying the two districts, two communities were chosen from Sagnarigu district and three communities from Kumbungu district. These were done purposively due to the operations of Sekaf Ghana Limited and SNV. The selected communities for Sagnarigu district were Kasalgu and Wayamba. While, for Kumbungu district three (3) communities were selected namely Kumbun Kuku, Gupanarigu and Bogrianili.



The shea actors were stratified into three strata namely: shea nut pickers, shea butter processors and shea butter marketers. From each stratum ninety shea nut pickers were randomly selected, seventy shea butter processors and forty shea butter marketers were randomly selected, to form a total sample size of 200 shea actors.

The sample size was determined using Fisher's method formula for 95% confidence level (Fisher, Laing, Stoeckel and Townsend, 1983).

$$n = \frac{pqZ^2}{d^2}$$

Where;

n = sample size for infinite population

Z = 1.96 (at 95% Confidence level)

p = estimated proportion of shea actors (0.1)

q = 1-p d = precision of the estimate at 5% (0.05)

The sample size was;

$$n = \frac{(1.96)^2 \cdot 0.1 \times 0.9}{(0.05)^2}$$

$$n = 138$$

The adjusted sample sizes for the finite population of 6150 shea actors are:

$$n^1 = 1 / (1/n + 1/N)$$

Where;

$n^1$  = adjusted sample size



$n$  = estimated sample size for infinite population

$N$  = Finite population size

$$n^1 = 1 / (1/138 + 1/6150)$$

$$n^1 = 135$$

**Table 3.1 Districts, Communities and Number of Shea Actors Sampled**

Districts	Communities	Shea nut pickers	Shea butter processors	Shea butter marketers		Total
		Female	Female	Female	Male	
Sagnarigu	Kasalgu	18	14	2	8	42
	Wayamba	18	14	1	5	38
	Sub-total	36	28	3	13	80
Kumbungu	Kumbun	18	14	2	7	41
	Kukuo					
	Gupanarigu	18	14	1	6	39
	Bogrianili	18	14	1	7	40
	Sub-total	54	42	4	20	120
Total	5	90	70	7	33	200

Source: Author's Own Construct, (2017).

### 3.5 Method of Data Collection

Both primary and secondary data were collected for this study. Personal interview with the aid of structured and semi-structured questionnaires.

#### 3.5.1 Questionnaire

Questionnaire is a formal set of questions that are framed and written down for the respondents to provide answers to it. As a tool for collecting data, the questionnaire is an efficient tool for collecting statistically quantifiable information (Twumasi, 2001).

It also consists of well formulated questions to probe and obtain responses from



respondents (Twumasi, 2001; Panneerselvam, 2007). It can be divided into semi-structured questionnaires. While the structured questionnaires provide predetermined closed-ended questions with option for respondents to choose from, semi-structured questionnaires, both open-ended and closed-ended questions are used and respondents are at liberty to give unrestricted answers (Twumasi, 2001). Interview is a conversation carried out with the definite aim of obtaining certain information. It is designed to gather valid and reliable information through the responses of the interviewee to planned sequence of questions (Osuala, 2005).

Both structured and semi-structured questions were used in the questionnaires for this research to ascertain respondents' views on the impact of value chain interventions on empowerment of shea actors in the study area. The structured questions were used to solicit information from shea actors in the study area.

Questionnaires were administered to individual shea nut pickers, shea butter processors and shea butter marketers in the two districts. Questionnaires were set to cover four sections labelled A to D. Section A was designed to gather socio-demographic data and general information, B for effect of value chain interventions on gender roles and participation in shea processing, C for value chain interventions and influence on processing capacity of shea actors and the last section D was designed to find out how value chain interventions influence choice of enterprise and business performance of shea actors.

### **3.5.2 Pre-testing of Questionnaire**

Pre-testing is generally defined as testing a set of questions or the questionnaire on members of the target population. These activities can take place both in the field and in an office or laboratory.



Several scholars have pointed out the purpose for pretesting. Dillman (1978), points out seven reasons for a Total Design Method pre-test, Frey (1989), gave ten purposes, and Converse and Presser (1986), also gave eleven considerations when testing questions and questionnaires.

Following these authors, there are lists of variety of pre-testing goals. These include five broad categories: respondent comprehension, burden and interest, interviewer tasks, other questionnaire issues, sampling and coding and analysis.

The first two categories are primarily concerned with whether respondents and interviewers can perform their selected tasks. For respondents, that is to know if they understand the words, terms and concepts being used. Do they understand the question being asked of them and the answer choices from which they are to select?

For the second category of Interviewer Tasks, the researcher is to know if interviewers have difficulties in reading particular sentences. Do interviewers leave out words or modify the question wording in other ways?

For the third category, thus Other Questionnaire Issues, the researcher is to know if the sections of the questionnaire and the questions within sections have a logical flow.

For the fourth category, thus sampling the researcher is to know the response rate. Does the response rate indicate any potential problems?

The last category is about Coding and Analysis, the researcher is to know if it is difficult to construct code categories for the question or to code responses to open-ended questions? Is the level of variation in responses to each question acceptable?

### **3.5.3 Reliability Analysis of Shea Actors**

The questionnaires were pre-tested in Jisonayili in the Sagnarigu district on nine (9) shea butter processors, seven (7) shea pickers and five (5) shea butter marketers.



The internal consistency of the research instrument was tested using Cronbach's coefficient as in Table 3.2. According to Hair, Black, Babin, Anderson and Tatham (1998), for construct measures to be accepted as reliable, its Cronbach's Alpha must exceed 0.6. The construct measures will therefore be retained since it is above 0.6.

**Table 3.2 Reliability Analysis of Shea Actors**

Cronbach's Alpa	N of items
.627	157

**Source: Field Survey Data, 2017.**

### **3.5.4 Data Validity**

The instrument used for data collection was carefully developed to make each item relate to the objectives and the research questions. Content validity was also checked by my supervisor and other research experts to ensure that research instrument is properly design for my project work.

### **3.6 Data Analysis**

Data was analysed by the aid of Statistical Package for Social Sciences (SPSS) computer software, using the appropriate statistical measures (Bourque and Clark, 1992). Especially the Composite empowerment index design by Jeckoniah, Nombo and Mdoe (2012), descriptive statistics such as frequency counts, percentages, and cross tabulations, McNemar's test, T-test (Paired Sample T-test) and Eta squared.

#### **3.6.1 Composite Empowerment Index**

The Composite Empowerment Index (CEI) was constructed from the four women empowerment indices and they are Personal Autonomy Index (PAI), Household Decision Making Index (HDMI), Domestic Consultation Index (DCI) and the Freedom of Movement Index (FM).





Personal Autonomy Index (PAI) is an index sought to understand whether a woman was able to do family planning, children's health and education without seeking permission from her husband.

Household Decision Making Index (HDMI) is an index sought to know who makes decisions over issues like: children's education, daily expenditure, purchasing of household items and spending personal income.

The Domestic Consultation Index (DCI) is an index sought to assess whether women were able to consult their husbands when they want to spend family income to acquire land, purchasing clothing and food.

The Freedom of Movement Index (FM) includes items regarding women's freedom to visit friends and relatives, social gathering and banks (financial institutions).

For PAI, DCI and FM indices the response weights were: generally (1.0), occasionally (0.5) and never (0). For the household decision index the scores were: wife alone (1.0), joint decision (wife and husband) (0.5) and husband alone (0). Since all these indices relate to different aspects of empowerment they were combined into single index for use in multivariate analysis.

In accordance with the construction methods of Human Development Index (UNDP, 2005) the CEI was computed by averaging these four indices (Jeckoniah et al. 2012).

Where Y is CEI.

$$Y = \frac{1}{4} (PA + HDM + DCI + FM) \text{ ----- (1)}$$

Human development can be measured on an index ranging between the value of 0 which indicates that one is deprived of development and value one (1) shows the full development (UNDP, HDI, 2005; cited by Varghese, 2011). Alkire, Meinzen-Dick,



Peterman, Quisumbing, Seymour and Vaz (2013), have also used Women Empowerment index in Agriculture Index (WEAI) where women empowerment is also measured on an index ranging from a value of 0 to 1. According to UNDP, HDI scale the human development is further categorized into three levels. Since empowerment and women empowerment is considered to be an important aspect of human development this study adopted the UNDP classification of human development which has four levels.

Respondents scoring (0) on the composite empowerment index were categorized as “No empowerment”, scores of (0.1 - 0.5) “low empowerment” (0.6 - 0.7) “medium empowerment” and a score higher than (0.8) was classified as “high empowerment”. Other scholars (Handy and Kassam, 2006; Tayde and Chole, 2016; Varghese, 2011) also used similar methods to estimate women empowerment using index scales.

### **3.6.2 Socio-demographic Characteristics of Shea Actors**

Descriptive statistics is a generic term for statistics that can be used to describe the variables (Saunders, 2011). The socio-demographic characteristics of shea actors such as their age, educational level, experience level, marital status and sex were described by using frequency counts, percentages and cross tabulation.

### **3.6.3 Influence of Value Chain Interventions on Gender Roles and Participation of Shea Actors**

Composite Empowerment Index was used to analyse the effects of value chain interventions on gender roles and participation of shea actors to know their level of empowerment before and after the interventions were given. Descriptive statistics such as frequencies, percentages and cross tabulations were also used.



### **3.6.4 Value Chain Interventions and influence on Processing Capacity of Shea Actors**

The various activities in shea value chain are shea nut picking, shea butter processing and shea marketing were addressed by using descriptive statistics (frequencies, percentages and cross tabulations) and McNemar's test. McNemar's test was used in finding out a change in proportion for paired data.

### **3.6.5 Impact of Value Chain Interventions on Choice of Enterprise and Business Performance of Shea Actors**

The impact of value chain interventions on choice of enterprise and business performance of shea actors was analysed using descriptive statistics such as frequencies and percentages. T-test (Paired Sample T-test) was used to show the significant difference between two variables and Eta squared was also used. According to Cohen (1988), eta squared represents the proportion of variance of the dependent variable that is explained by the independent variable. Where 0.1-0.3 is small effect size, 0.4 is medium effect size and 0.5 above is large effect size.



## CHAPTER FOUR

### RESULTS AND DISCUSSIONS

#### 4.0 Introduction

This chapter presents results of analysis and discussions of data collected from two hundred shea actors in the Sagnarigu and Kumbungu Districts of Northern Region. The chapter is divided into five sections as follows: section one presents analysis and discussions of the socio-demographic characteristics of shea actors; section two deals with discussion on analysis of shea value chain activities and influence of value chain interventions on gender roles and participation; section three presents analysis on value chain interventions and influence on processing capacity of shea actors and finally, section four deals with assessing impact of value chain interventions on choice of enterprise and business performance of shea actors.

#### 4.1 Demographic Characteristics of Respondents

This section describes the demographic characteristics of 200 respondents who were shea actors (shea nut pickers, shea butter processors and shea butter marketers) sampled for the study. Socio-economic characteristics relevant to this study included Age, Sex, Marital status, Educational level of respondents and Experience level as discussed below.

##### 4.1.1 Age Distribution of Respondents

The age distribution of respondents ranged between 18 years and 66 years and is presented in Table 4.1. The majority of the respondents interviewed were in the age range between 25-31, 32-38, 46-52 and 39-45 years. Age is an important social factor in determining the working ability of any person (Atengdem, 1997). This result shows that, most shea actors were within the active labour force, younger individual



participated more than older individuals. This falls within the productive age which is normally considered to be in the age range between 15 to 49 years (Johnson and Neumark, 1996). This is in accordance with Ogunbile, Tabo and Rahman (2002), who asserted that, younger respondents are more likely to adopt an innovation than older respondents because they are more exposure to new ideas.

**Table 4.1 Frequency Distribution of Ages of Shea Actors**

Age of Respondents (years)	Pickers		Processors		Marketers	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
18-24 years	5	5.6	2	2.9	0	0
25-31 years	8	8.9	8	11.4	9	22.5
32-38 years	11	12.2	10	14.3	13	32.5
39-45 years	22	24.4	11	15.7	9	22.5
46-52 years	21	23.3	15	21.4	7	17.5
53-59 years	15	16.7	15	21.4	2	5.0
60-66 years	8	8.9	9	12.9	0	0.0
Total	90	100	70	100	40	100

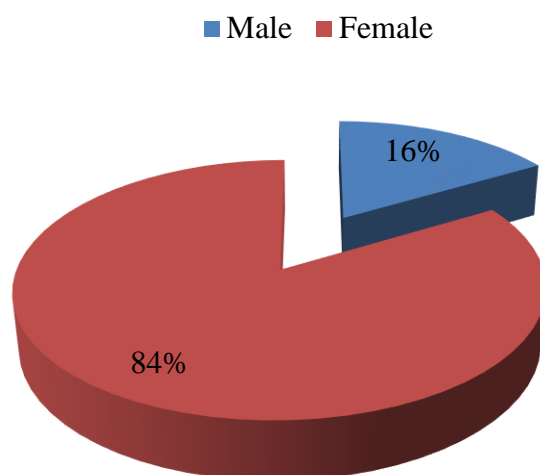
**Source: Field Survey Data, 2017.**

#### 4.1.2 Sex Distribution of Shea Actors

Out of the two hundred (200) respondents interviewed, one hundred and sixty-seven (167) were females, representing 84% of the respondents. This result in Figure 4.1 shows that, the shea actors were dominated by women from the study areas. This situation of gender imbalances is attributed to the fact that shea business has for ages, been a female dominated activity since very few males are involved in the marketing aspect. This is in accordance with SNV (2006), Ademola, Oyesola and Osewa (2012) and Garba, Sanni and Adebayo (2015), who reported that, the shea industry is



traditionally reserved for women as means of earning income to support their households.



**Figure 4.1 Sex Distribution of Shea Actors**

**Source: Field Survey Data, 2017.**

#### **4.1.3 Marital Status of Shea Actors**

Table 4.2 below indicates that, majority of the shea nut pickers, shea butter processors and shea butter marketers are married which represent 75.6%, 55.7% and 52.5% respectively. This is results is in consonance with Gyekye (1996), who states that marriage is an important institution in most Ghanaian communities and observed that women in African societies want and hope to be married and concluded that an unmarried man is almost an anomaly. The minority of the shea nut pickers and shea butter marketers were single representing 4.4% and 47.5% respectively but for the shea butter processors 8.6% are divorced. This means that, married individuals are more committed to their responsibilities and work very hard to support the wellbeing of their households. This agree with Olarinde, Ajao and Okunola (2008), who reported that, one of the most important factors that determine efficiency of a business is the marital



status of an individual. This is because married people worked hard in order to meet up with the demand of their households.

**Table 4.2 Frequency Distribution of Marital Status of Shea Actors**

Marital Status Respondents	Pickers		Processors		Marketers	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Single	4	4.4	9	12.9	19	47.5
Married	68	75.6	39	55.7	21	52.5
Divorced	9	10.0	6	8.6	0	0
Widowed	9	10.0	16	22.9	0	0
Total	90	100	70	100	40	100

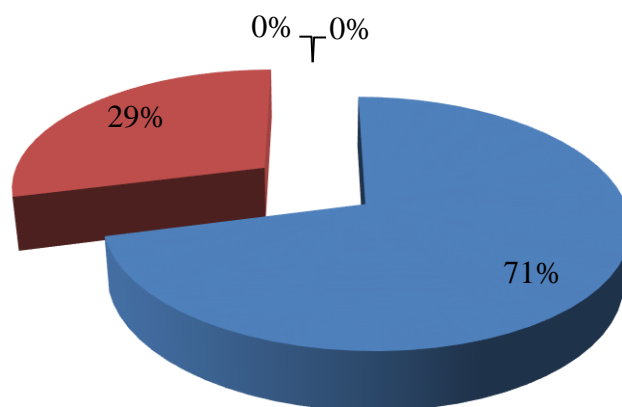
**Source: Field Survey Data, 2017.**

#### **4.1.4.1 Educational Levels of Shea Nut Pickers**

The result in Figure 4.2 indicates that, 29% respondents had non-formal education while 71% had no formal education. The results imply that the majority (71%) of the shea nut pickers had no formal education.



■ No formal education                      ■ Non-formal education  
■ Basic education                            ■ Higher education



**Figure 4.2 Educational Levels of Shea Nut Pickers**

**Source: Field Survey Data, 2017.**

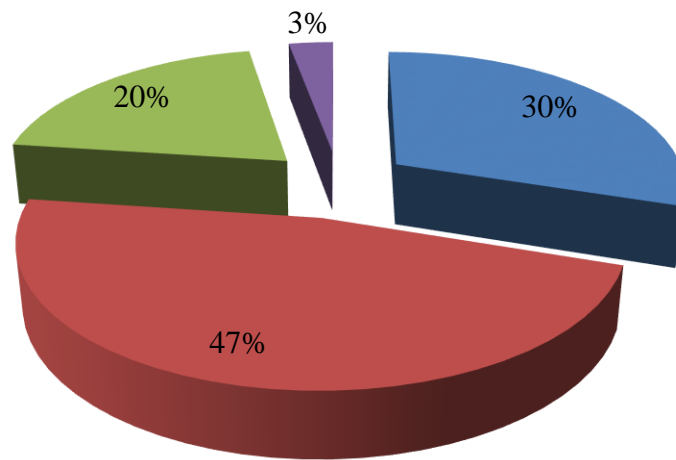
#### **4.1.4.2 Educational Levels of Shea Butter Processors**

The result in Figure 4.3 indicates that, 20% of the respondents had basic education with only 3% having higher education and 30% had no formal education while 47% had non-formal education. The results implies that, the majority (47%) of the shea butter processors in the study area at least had some level of education which could help them in their processing activities if any training or education programme is provided.





■ No formal education ■ Non-formal education  
■ Basic education ■ Higher education



**Figure 4.3 Educational Levels of Shea Processors**

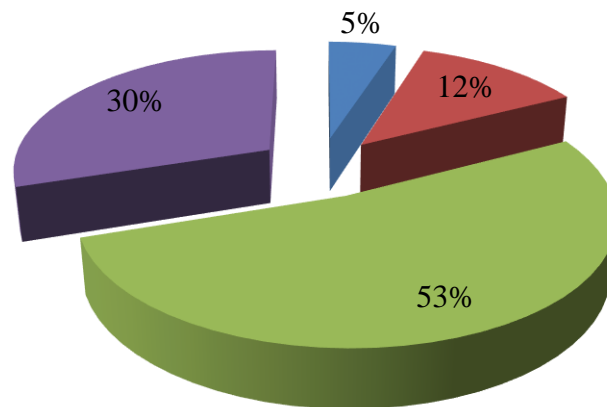
**Source: Field Survey Data 2017.**

#### **4.1.4.3 Educational Levels of Shea Butter Marketers**

The result in Figure 4.4 indicates that, 53% of the respondents had basic education with 30% having higher education and only 5% had no formal education while 12% had non-formal education. The result implies that, the majority (53%) of the shea butter marketers in the study area at least had some level of education.



■ No formal education ■ Non-formal education  
■ Basic education ■ Higher education



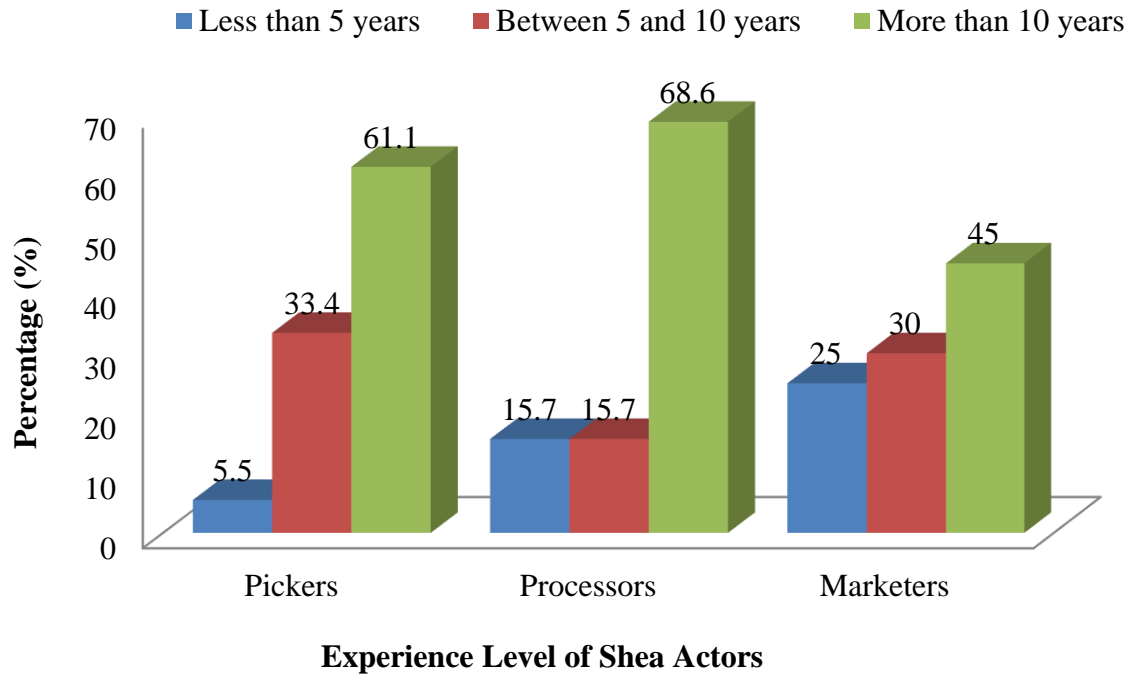
**Figure 4.4 Educational Levels of Shea Butter Marketers**

**Source: Field Survey Data, 2017.**

#### **4.1.5 Experience Level of Shea Actors**

The study reveals as shown in Figure 4.5 that, the majority of the shea nut pickers, shea butter processors and shea butter marketers had more than ten years' experience in the shea business (61.1%, 68.6% and 45%) respectively. The minority of shea actors had less than five years' experience in the shea business for shea nut pickers (5.5%), shea butter processors (15.7%) and shea butter marketers (25%). This indicates that, majority (68.6%) of the shea actors have had some level of knowledge which can be tapped to bring about an improvement in the way and manner shea production (shea nut picking, shea butter processing and shea butter marketing) is undertaken in the area of study.





**Figure 4.5 Experience Level of Shea Actors**

**Source: Field Survey Data, 2017.**

#### **4.2 Influence of Value Chain Interventions on Participation in Shea Business**

In assessing the Influence of value chain interventions on participation in shea business, various questions were used to identify some interventions (linking women to market, provision of equipment, linking women to other value chain actors, improving market linkages, credit, training, improving product quality and prices) that influence participation in the shea business.

##### **4.2.1 Shea Value Chain Activities by Sex**

It was realised that, no male was involved in the shea nut picking and shea butter processing. Male involvement was at the marketing of shea butter. Out of forty (40) marketers, thirty-three (33) were male while seven females were involved in shea butter marketing.



**Table 4.3 Frequency Distribution of Shea Value Chain Activities by Sex**

Value chain activities	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Nut picking only	0	0	90	45	90	45
Processing only	0	0	70	35	70	35
Marketing only	33	16.5	7	3.5	40	20
Total	33	16.5	167	83.5	200	100

**Source: Field Survey Data, 2017.**

#### 4.2.2 Engagement in Shea Business

From Table 4.4 the results reveals that, 98.5% of the shea actors engage full time in the shea business while only 1.5% engage part-time in the shea business. The study provides confirmatory evidence that majority (98.5%) of the shea actors are into the shea business as full time workers.

**Table 4.4 Engagement in Shea Business**

Engagement	Frequency	Percentage (%)
Full time business	197	98.5
Part-time business	3	1.5
Total	200	100

**Source: Field Survey Data, 2017.**



### 4.2.3 Impact of Value Chain Interventions on Empowerment Level of Shea Actors

The composite empowerment index (CEI) was used to measure the level of empowerment before and after the interventions were given to the shea actors. The Composite Empowerment Index (CEI) was constructed from the four empowerment indices and they are Personal Autonomy Index (PAI), Household Decision Making Index (HDMI), Domestic Consultation Index (DCI) and the Freedom of Movement Index (FM). Empowerment is considered to be an important aspect of human development this study adopted the UNDP classification of human development. Respondents scoring (0) on the composite empowerment index were categorized as “No empowerment”, scores of (0.1 - 0.5) “low empowerment” (0.6 - 0.7) “medium empowerment” and a score higher than (0.8) was classified as “high empowerment” (Jeckoniah et al. 2012).

**Table 4.5 Activity Specific Indexes and the General Empowerment Index Scores before the Interventions**

Chain Activities	Average Index			
	DCI	PAI	FM	HDMI
Shea nut pickers	0.672	0.586	0.577	0.694
Shea butter processors	0.628	0.428	0.645	0.608
Shea butter marketers	0.636	0.759	0.675	0.574
General Index	0.645	0.591	0.632	0.625

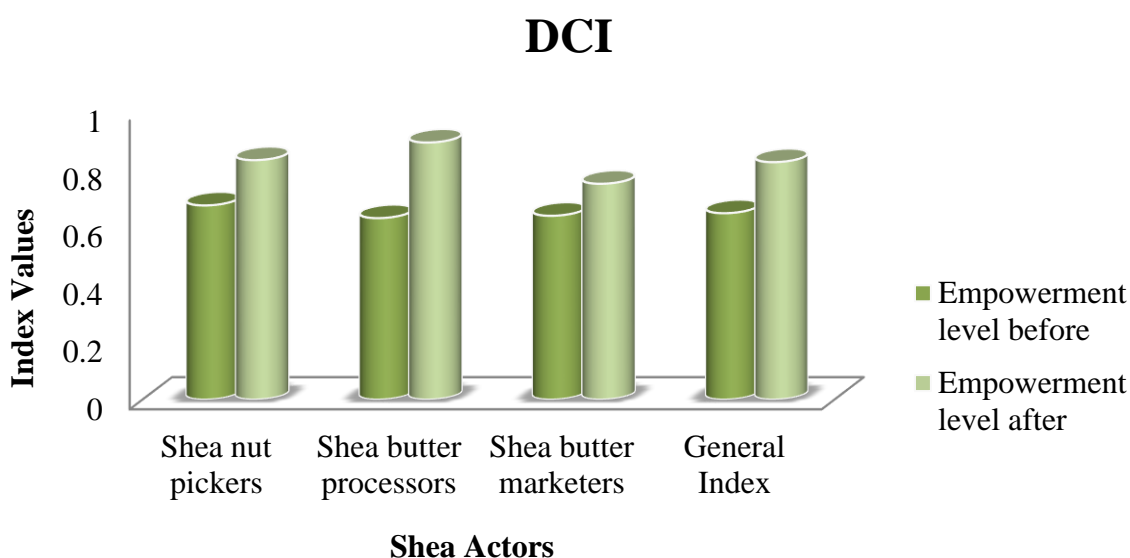
**Source: Field Survey Data, 2017.**

#### 4.2.3.1 Domestic Consultation Index

Shea nut pickers recorded the highest Domestic Consultation Index value before the interventions (generic and specific interventions), followed by shea butter processors and shea butter processors with the values of 0.672, 0.628 and 0.636 respectively. However, after the generic and specific interventions Shea butter processors recorded



the highest Domestic Consultation Index value, followed by shea nut pickers and shea butter marketers with the values of 0.890, 0.829 and 0.747 respectively in Figure 4.6. This indicates that, the majority of the shea actors have been highly empowered in domestic consultation with shea butter processors, shea nut pickers and shea butter marketers an increased index value of 0.262, 0.157 and 0.111 respectively. This result is in agreement with Jeckoniah et al. (2012), who asserted that, interventions such as to equipment, credit, training and access to market given to shea actors increase self-confidence and empower beneficiaries.



**Figure 4.6 Domestic Consultation Index of Shea Actors**

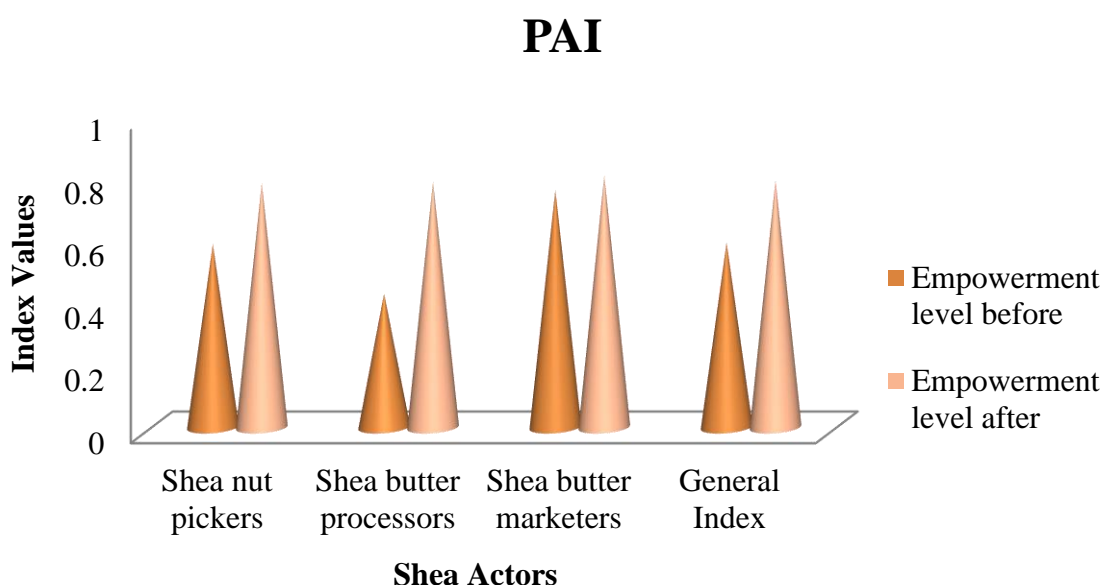
**Source: Field Survey Data, 2017.**

#### **4.3.2.2 Personal Autonomy Index**

It revealed that before the interventions, shea butter marketers had the highest Personal Autonomy Index with the index value of 0.759, followed by shea nut pickers with the value of 0.586 and with shea butter processors having the lowest recording value of 0.428. After the interventions, shea butter marketers again had the highest Personal Autonomy Index with the index value of 0.805, followed by shea butter processors with



the value of 0.785 and with shea nut pickers having the lowest recording value of 0.781. The results after the interventions given to shea actors revealed that, the majority had moderate empowerment level in terms of personal autonomy with shea butter marketers, shea butter processors and shea nut pickers having an increased index value of 0.046, 0.357 and 0.195 respectively. This result is in accordance with Jeckoniah et al. (2012), who asserted that, interventions such as to credit, equipment, training and access to market given to shea actors increase self-confidence and empower beneficiaries.



**Figure 4.7 Personal Autonomy Index of Shea Actors**

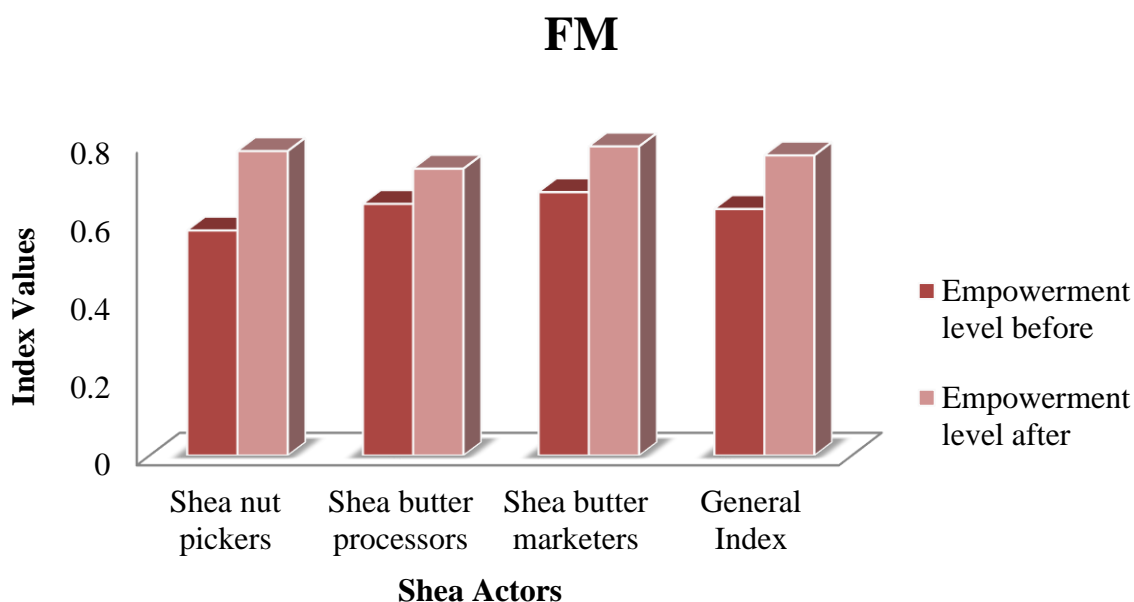
**Source: Field Survey Data, 2017.**

#### **4.2.3.3 Freedom of Movement Index**

Shea butter marketers recorded the highest Freedom of Movement Index with the value of 0.675, followed by shea butter processors with the value of 0.645 and the lowest was shea nut pickers with the 0.577 before the interventions whiles shea butter marketers recorded the highest Freedom of Movement Index after the interventions with the value



of 0.792, followed by shea nut pickers with the value of 0.780 and the lowest was shea butter processors with the 0.735. This implies that, the shea actors had moderate level of empowerment in terms of freedom of movement due to the interventions given with shea butter marketers, shea nut pickers and shea butter processors having an increased index value of 0.117, 0.203 and 0.09 respectively. This result is in agreement with Jeckoniah et al. (2012), who asserted that, interventions such as to equipment, credit, training and access to market given to shea actors increase self-confidence and empower beneficiaries.



**Figure 4.8 Freedom of Movement Index of Shea Actors**

**Source: Field Survey Data, 2017.**

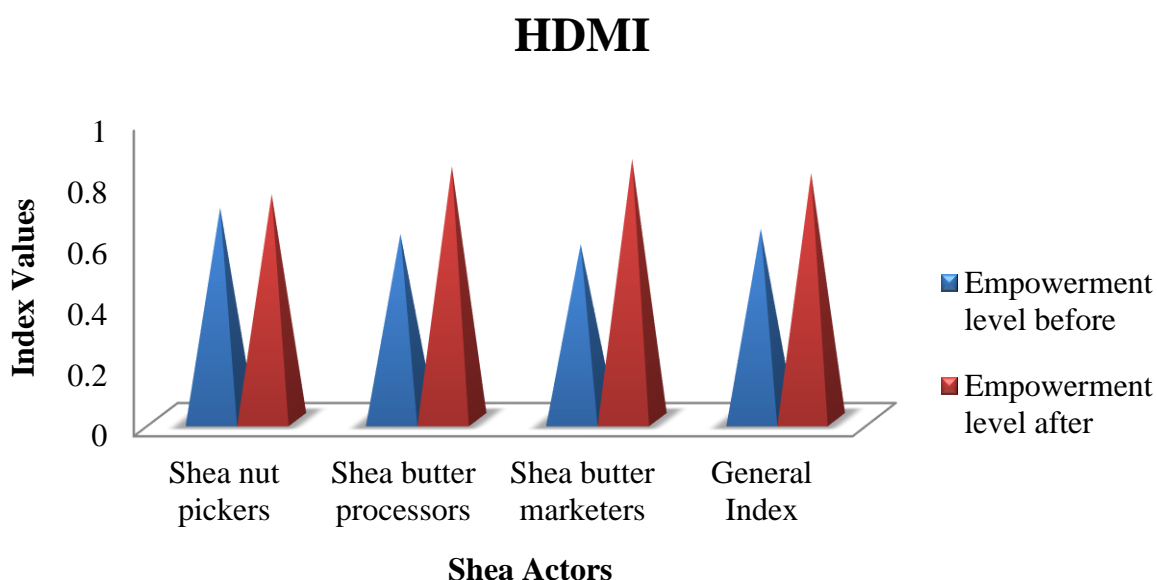
#### **4.2.3.4 Household Decision Making Index**

It was revealed that before the interventions, shea nut pickers had the highest Household Decision Making Index with the index value of 0.694, followed by shea butter processors with the value of 0.608 and with shea butter marketers having the lowest recording value of 0.574. However after the interventions, shea butter marketers again





had the highest Household Decision Making Index with an index value of 0.853, followed by shea butter processors with the value of 0.829 and with shea nut pickers having the lowest recording value 0.738. The results revealed that, the majority of the shea actors have been highly empowered due to the interventions given in household decision making with shea butter marketers, shea butter processors and shea nut pickers having an increased index value of 0.279, 0.221 and 0.044 respectively. This result is in consonance with Jeckoniah et al. (2012), who asserted that, interventions such as to equipment, credit, training and access to market given to shea actors increase their bargaining powers and, self-confidence and empower the beneficiaries.



**Figure 4.9 Household Decision Making Index of Shea Actors**

**Source: Field Survey Data, 2017.**

Generally among all the four indexes, the shea actors recorded higher values in the Domestic Consultation Index than all the others and it shows that, generally the Shea actors had the mean score of 0.623 which shows that the shea actors had moderate empowerment level before given the interventions as shown in Table 4.5. It was



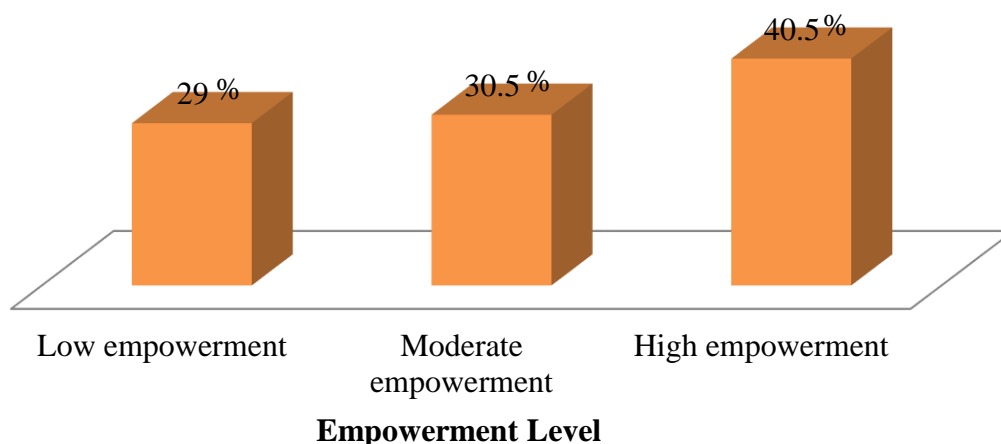
revealed below in Table 4.6 that, after given the interventions Shea actors recorded higher values in the Domestic Consultation Index and Household Decision Making Index with general mean scores of 0.822 and 0.807 respectively than the other indexes.

**Table 4.6 Activity Specific Indexes and the General Empowerment Index Scores after the Interventions**

Chain Activities	Average Index			
	DCI	PAI	FM	HDMI
Shea nut pickers	0.829	0.781	0.780	0.738
Shea butter processors	0.890	0.785	0.735	0.829
Shea butter marketers	0.747	0.805	0.792	0.853
General Index	0.822	0.790	0.769	0.807

**Source: Field Survey Data, 2017.**

From Table 4.6, the mean score on the composite empowerment index was found to be 0.797 or 0.8 which indicates that there is a high level of empowerment of the shea actors. These imply that, generally actors in the shea value chain had high level of empowerment after the interventions. Figure 4.10 below indicates that, majority (40.5%) of the respondents had high of empowerment, (30.5%) had moderate level of empowerment whiles (29%) had low level of empowerment.



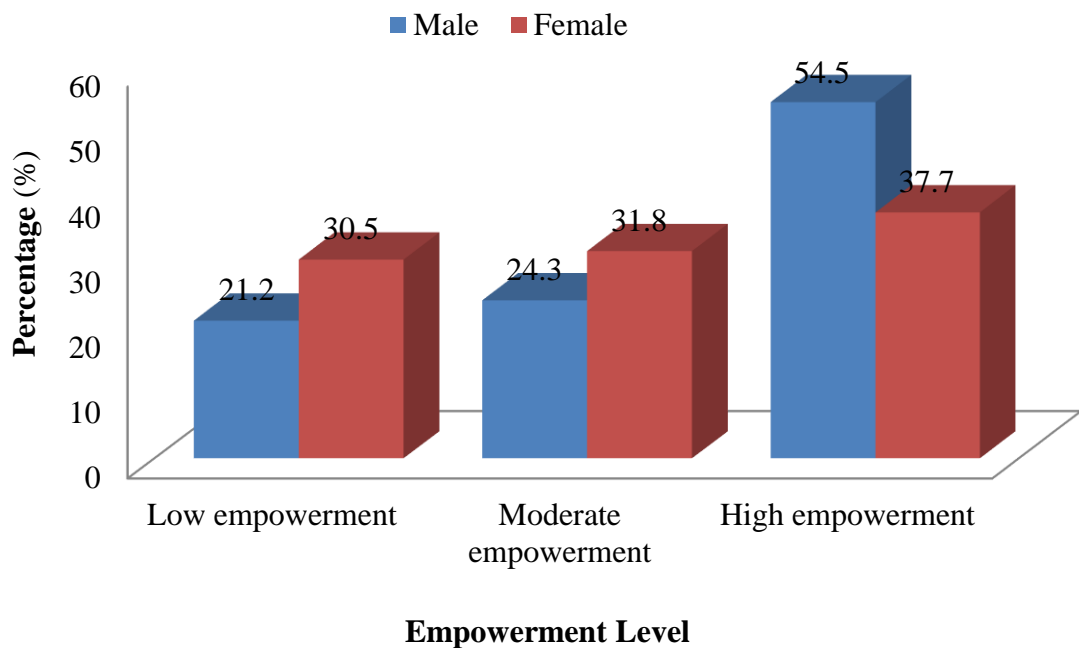
**Figure 4.10 Empowerment Levels Shea Actors**

Source: Field Survey Data, 2017.

#### 4.2.3.5 Empowerment Level by Sex

The study compared the level of empowerment between males and females participating in the value chain activities.

Generally, there are more women in the shea value chain as compared to their male counterpart. The result in Figure 4.11 shows that, the majority 37.7% of the respondents who were female and 54.5% male recorded high level of empowerment. This finding is in line with Jeckoniah et al. (2012), who asserted that, interventions such as to equipment, credit, training and access to market given to shea actors increase their bargaining powers and, self-confidence and empower beneficiaries.



**Figure 4.11 Level of Empowerment by Sex of Shea Actors**

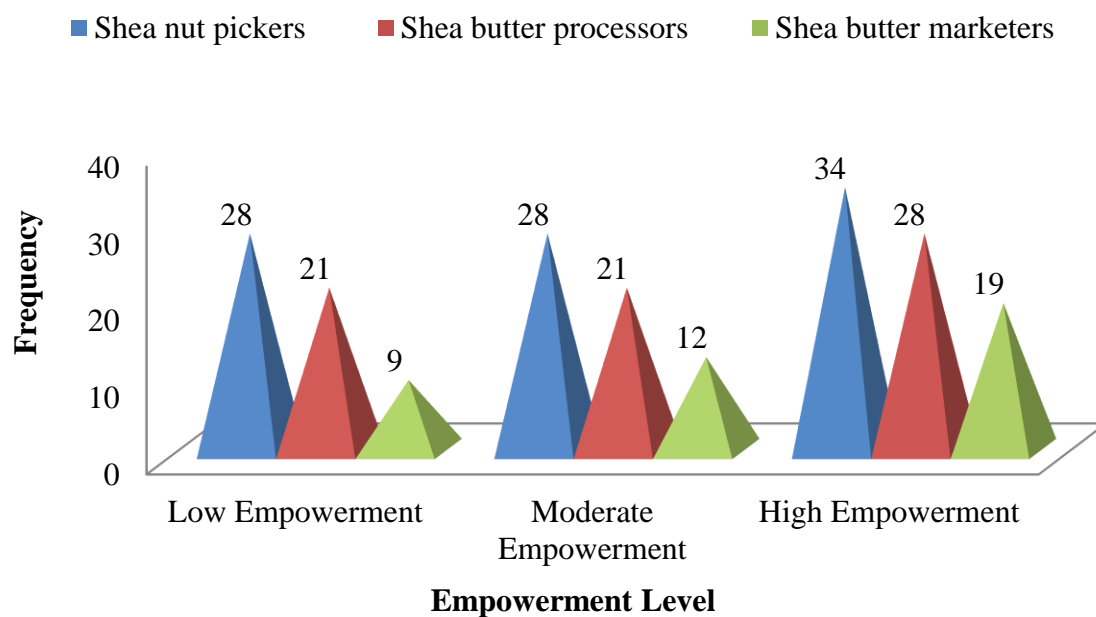
Source: Field Survey Data, 2017.



#### 4.2.3.6 Empowerment Level Compared to Shea Value Chain Activities

Comparing the level of empowerment with the shea value chain activities to know which activity in the value chain is highly empowered. The result reveals that, shea nut pickers who were thirty four recorded high level of empowerment, with twenty-eight shea nut pickers recording both low and moderate empowerment level respectively.

On the other hand, twenty-eight shea butter processors recorded high empowerment level, with twenty-one shea butter processors recording both low and moderate empowerment level respectively, while nineteen of the shea marketers recorded high empowerment level, but there was marginal difference between low and moderate empowerment level with frequencies of nine and twelve respectively.



**Figure 4.12 Empowerment Level of respondents and Shea Value Chain Activities**

**Source: Field Survey Data, 2017.**



### **4.3 Value Chain Interventions and Influence on Processing Capacity of Shea**

#### **Actors**

This section of the study assessed the value chain interventions that are likely to influence shea actor's decision to engage in a particular shea business. Thus, various questions were used to identify some value chain interventions that influence shea actors to make decision in going into the shea business.

#### **4.3.1 Access to Credit for Shea Actors**

All the shea actors (100%) had access to credit to run their activities. Respondents identified that the credit was given to them in kind (inputs) in groups and was given by the organisations they are working for (SNV and Sekaf Ghana Limited). This result is in agreement with Riisgaard et al. (2010) and Carr and Hartl (2008), who asserted that credit is one of the interventions that helps and reduce labour of the shea actors and that when women are in groups not only are they better able to access credit but they also increase their bargaining powers within the value chain.

#### **4.3.2 Access to Training for Shea Actors**

Apart from the fact that, majority of the shea actors had no formal education, their access to training, both technical, practical and enterprise management skills, was very encouraging. The result reveals that, all the shea actors interviewed (100%), had received training relating to their shea value chain activities.

The types of training received by shea actors includes, training on the use of shea butter processing equipment, grading and sorting shea nuts, handling the nuts before processing, storage of shea butter, customer relations and book keeping skills. However, the respondents' access to training and skills acquisition helps them acquire relevant knowledge; skills and good practices to overcome problems and improve on



their shea business. The training given to shea actors differ across the shea value chain activities. As stated by Riisgaard et al. (2010) and Carr and Hartl (2008), that training is one of the interventions that help increase self-confidence, bargaining powers within the value chain and also empowers them.

#### 4.3.3 Access to Equipment for Shea Actors

As shown in Table 4.7 below, only 27.5% do not have access to equipment which affects their business. Majority of the respondents (72.5%) had access to equipment such as hand pickers, crackers, roasters, grinders, pressers, kneaders and hand gloves. This is in accordance with Riisgaard et al. (2010) and Carr and Hartl (2008), who asserted that equipment reduce labour, this is because equipment (hand pickers, crackers, roasters, grinders, pressers, kneaders and packaging materials) help increase shea production in terms of quality and quantity.

**Table 4.7 Access to Equipment**

Equipment	Frequency	Percentage (%)
Yes	145	72.5
No	55	27.5
Total	200	100

**Source: Survey Data, 2017.**

##### 4.3.3.1 Relationship between Access to Equipment and Empowerment Level

Table 4.8 shows the relationship between access to equipment and level of empowerment. From the results, the majority of shea actors (41%) who had access to equipment had high empowerment level as compare to (30%) who had access to equipment with low empowerment level. Additionally, shea actors (29%) who had access to credit had moderate empowerment level. For shea actors who did not have



access to equipment, the majority 38% had high empowerment level, 35% had moderate empowerment level and 27% had low empowerment level. This is based on the Composite Empowerment Index where respondents scoring (0) were categorized as “No empowerment”, scores of (0.1 - 0.5) “low empowerment” (0.6 - 0.7) “medium empowerment” and a score higher than (0.8) was classified as “high empowerment” (Jeckoniah et al. 2012).

**Table 4.8 Relationship between Access to Equipment and Empowerment Level**

Access to Equipment	Level of Empowerment			Total
	Low empowerment	Moderate empowerment	High empowerment	
Yes				
Frequency	43	42	60	145
% within Column	30%	29%	41%	100%
No				
Frequency	15	19	21	55
% within Column	27%	35%	38%	100%
Count	58	61	81	200
Total	29%	30.5%	40.5%	100%

**Source: Survey Data, 2017.**

#### **4.3.4 Access to Market for Shea Actors**

From the results it shows that, all the shea actors (100%) had access to market. This eases the shea actors in producing more of their product. This is because they have ready market. Irrespective of the quantity produced because there is a ready market. This also increases their bargaining powers.



#### 4.3.5 Comparison of Sex of respondents and access to Equipment

The result in Table 4.9 below, indicates that before the interventions, twenty-one males were having access to equipment, twelve had no access to equipment but after the interventions, thirty-three of the males had access to equipment. For the females seventy had access to equipment before the interventions but after the interventions one hundred and thirty female which is the majority had access to equipment. This equipment (hand pickers, hand gloves, crackers, roasters, grinders, pressers, kneaders and packaging materials) help them in their business activities by reducing the workload.

**Table 4.9 Sex of Respondents by Access to Equipment**

Sex of Respondents	Access to Equipment Before		Access to Equipment After	
	Yes	No	Yes	No
Male	21	12	33	0
Female	70	130	112	55
Total	109	142	145	55

Source: Field Survey Data, 2017.

#### 4.3.6 The Contribution of the Interventions to Shea Nut Pickers

Interventions given to shea nut pickers have resulted in increased output, productivity of shea nuts per week as compared to before the interventions.

The results in Table 4.10a below, indicates that, formally all the ninety respondents were using their bare hands in picking shea nut. Currently fifty-five respondents had not changed their picking modes over the past 5 years. They use their bare hands in picking the shea nuts from the farmlands and bush which is also associated with some risks (snakes and scorpions bite and also hand injuries). Fifty-five respondents use their





bare hands in picking the shea nuts, which is associated with risks like snakes and scorpions bites and even hand injuries as a result of using their bare hands in picking the shea nuts. Thirty-five respondents had strategies in picking their shea nuts after the interventions, where twenty-four of the respondents uses hand gloves and eleven uses hand pickers in picking their shea nuts. They use hand pickers and hand gloves in picking the shea nuts, these picking modes given help the pickers to prevent some risks associated with shea nut picking especially in terms of hand injuries.

From Table 4.10b below, it indicates that, p value is .000, which is less than  $p < .05$ . This means that there is significant changes in the strategies currently used in picking shea nuts due to the hand pickers and hand gloves given to shea nut pickers.

This result is in agreement with Carette, Malotaux, van Leeuwen and Tolkamp (2009), who asserted that, picking of the nuts is a challenge because in the early hours of the day there is little light and visibility is low presenting the risk of getting bitten by snakes or scorpions and hand injuries when they are not given protective tools.

**Table 4.10a Strategies used before and after the introduction in Picking Shea Nuts**

Total Count	Old Strategy	Current Strategies		Total
	Bare Hands	Hand Gloves	Hand Pickers	
Count formally	90	0	0	90
% of strategies formally used	100	0	0	100
Count currently	55	24	11	90
% of strategies currently used	61.1	26.7	12.2	100

**Source: Field Survey Data, 2017.**



**Table 4.10b Test on Picking Strategies**

	Value	Asymp. Sig. (2-sided)
McNemar-Bowker Test		.000
N of Valid Cases	90	

**Source: Field Survey Data, 2017.**

#### **4.3.7 The Contribution of the Interventions to Shea Butter Processors**

Technological changes adopted by shea butter processors, coupled with expert guide from SNV and Sekaf Ghana Limited in the shea business had led to improvement from manual processing to semi-mechanised processing. This has resulted in increased output, productivity and quality of shea butter, reduced labour and increased the processors bargaining power within the value chain.

The analysis reveals in Table 4.11a that, formally all the seventy shea butter processors were using manual processing to process the shea butter this delayed the processing of shea butter and increased the number of days they used in processing the shea butter and the quantity of the shea butter processed was not much. After the interventions there was a complete shift from the manual processing to the semi-mechanised way of processing over the past five years. They use roasters, grinders, pressers and kneaders to produce in quantity and quality product. Aprons and caps are also given to prevent contamination and also avoid burns. Semi-mechanised technologies partially reduce the difficulties associated with manual processing (reduces labour), fast to process in large quantity and minimised the days they used to process shea butter. Other protective clothing like aprons and caps given to some of the shea butter processors protect them from contaminating the shea butter. This equipment helps them to process quality and in essence quantity.



The result in Table 4.11b below indicates that, p value is .000, which is less than  $p < .05$ . This means that there is a significant change in the mode of processing shea butter currently due to the interventions given to the shea butter processors as compared with the manual processing. This is in agreement with Riisgaard et al. (2010) and Carr and Hartl (2008), who asserted that, equipment (crackers, roasters, grinders, pressers and kneaders) given to the shea butter processors reduce labour and increase the processors bargaining power within the value chain

**Table 4.11a Technologies used before and after the introduction of Semi-mechanised Technologies in Processing Shea Butter**

Count	Manual technologies	Semi-mechanised Technologies	Total
Count of technologies formally used	70	0	70
% of technologies formally used	100	0	100
Count of technologies currently used	0	70	70
% of technologies currently used	0	100	100

Source: Field Survey Data, 2017.

**Table 4.11b Test on Technologies used in Processing Shea Butter**

	Value	Asymp. Sig. (2-sided)
McNemar-Bowker Test		.000
N of Valid Cases	70	

Source: Field Survey Data, 2017.



#### **4.4 Impact of Value Chain Interventions on Choice of Enterprise and Business**

##### **Performance of Shea Actors**

In the context of this study, Business performance; is perceived as improvement in quantity and quality of shea processed; amount of time spent in processing shea butter, revenue generated from the shea products. This section adopts these categories and reports subsequently on these areas of impacts in the sections below.

##### **4.4.1 Impact of Interventions on Duration of Shea Butter Processing**

A paired sample T-test was conducted to examine whether a statistically significant relationship could be established in the mean scores before and after interventions in the shea value chain and how this could reflect on the duration involved in processing Shea butter before and after the interventions.

The Paired Sample T-test table is presented below and shows the following:

- i. There is a significant difference between the scores before and after the interventions. Thus, this shows an overall significant difference in the duration involved in processing Shea butter before and after the interventions. The probability value in Table (12b) is .000, which is less than .0005. This value is substantially lower than the specified alpha value of .05 and indicates a significant decrease in the number of days in processing shea butter before and after the interventions.
- ii. The next statistic reveals, in terms of the scores, which score is lower than the other before and after the intervention. The mean scores, before the intervention was 3.70; and that after the intervention was 2.01. Therefore it can be conclude that there was a significant decrease in the number of days in processing shea butter after benefiting from the interventions.



- iii. The results presented show that the difference obtained in the two sets of scores was unlikely to occur by chance; and does reveal the magnitude of the interventions effect. Using the eta squared statistic, an effect size of 0.92 was obtained. Based on the guidelines provided by Cohen (1988), where an effect size of 0.5 and above is interpreted as a large effect; this impact represents a large effect of the interventions on the number of days in processing shea butter after the interventions.

A paired sample T-test was conducted to evaluate the impact of the interventions on number of days in processing shea butter. There was a statistically significant decrease in the number of days in processing shea butter after benefiting from the interventions scores from before (M=3.70, SD=.840) to after [M=2.01, SD=1.000, t (69)=28.343, p<.0005]. The eta squared statistic (0.92) indicated a large effect size. The interventions given have been able to help in reducing the number of days or the duration used in processing shea butter. This has reduce the work-load on the shea butter processors. The non-formal training given to shea processors has impact on the efficiency of shea butter processing and this result is consistent with the findings of Kabeer (2003) and Caldwell (1966), who agree that, education serves as a means of enhancing women for effective and efficient production and productivity.

**Table 4.12a Duration to Process Shea Butter**

Duration of Processing Shea Butter	Mean	N	Std. Deviation	Std. Error Mean
Number of days in processing shea butter before	3.70	70	.840	.100
Number of days in processing shea butter after	2.01	70	1.000	.120

**Source: Field Survey Data, 2017.**



**Table 4.12b Differences in Duration to Process Shea**

Duration of Processing Shea Butter	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Number of days in processing shea butter before* Number of days in processing shea butter after	1.686	.498	.059	1.567	1.804	28.343	69	.000

Source: Field Survey Data, 2017.

#### 4.4.2 Impact of Interventions on Processing Capacity of Shea Processors

A paired sample T-test was conducted to determine whether a statistically significant relationship could be established in the mean scores before and after interventions in the shea value chain and whether this reflected on quantity of shea nuts processed in bags per week into to process shea butter after the interventions.

The Paired Sample T-test table is presented below and shows the following:

- i. There is a significant difference between the scores before and after the interventions. This shows an overall significant difference on quantity of



shea nuts processed into process shea butter after the interventions. The probability value in Table (13b) is .000, which is less than .0005. This value is substantially lower than the specified alpha value of .05 and points to a significant difference on quantity of shea nuts processed to process shea butter after the interventions.

- ii. The next statistic reveals, in terms of the scores, which score is higher than the other before and after the intervention. The mean scores, before the intervention was 19.66; and that after the intervention was 26.11. Therefore it be can conclude that there was a significant increase in quantity of shea nuts processed to process shea butter after benefiting from the interventions
- iii. The results presented show that the difference obtained in the two sets of scores was unlikely to occur by chance; and reveal the magnitude of the interventions effect. Using the eta squared statistic, an effect size of 0.60 was obtained. Based on the guidelines provided by Cohen (1988), where an effect size of .05 is interpreted as a large effect; this impact represents a large effect of the interventions on quantity of shea nuts processed to process shea butter after the interventions.

A paired sample T-test was conducted to evaluate the impact of the interventions on processing capacity of shea processors after the interventions. There was a statistically significant increase on quantity of shea nuts processed to process shea butter after benefiting from the interventions scores from before (M=19.66, SD=18.001) to after [M=26.11, SD=21.500,  $t(69)=10.254$ ,  $p<.0005$ ]. The eta squared statistic (0.60) indicated a large effect size. The interventions given have been able to help in increasing the quantity of shea nuts processed into shea butter in kilograms per week. Thus, interventions had contributed to an increase in output of shea nuts processed in



bags per week into shea butter. Educational level of shea butter processors has impact on the efficiency of the quantity of shea nuts processed in bags per week into shea butter and this result is in agreement with the findings of Kabeer (2003) and Caldwell (1966), who states that, education level influence production efficiency.

**Table 4.13a Quantity of Shea Nuts Processed into Shea Butter**

Quantity of Shea Nuts Processed	Mean	N	Std. Deviation	Std. Error Mean
Bags of shea nuts processed into shea butter per week before	19.66	70	18.001	2.151
Bags of shea nuts processed into shea butter per week after	26.11	70	21.500	2.570

**Source: Field Survey Data, 2017.**





**Table 4.13b Differences in Quantity of Shea Nuts Processed into Shea Butter**

Quantity of Shea Nuts Processed	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Bags of shea nuts processed into shea butter per week before*								
Bags of shea nuts processed into shea butter per week after	6.457	5.269	.630	5.201	7.713	10.254	69	.000

Source: Field Survey Data, 2017.

#### 4.4.3 Impact of Interventions on Quantity of Shea Butter Processed

A paired sample T-test was conducted to determine whether a statistically significant relationship could be established in the mean scores before and after interventions in the shea value chain and whether this reflected in the quantities of shea butter processed in kilograms per week before and after the interventions.

The Paired Sample T-test table is presented below and shows the following:

- i. There is a significant difference between the scores before and after the interventions. This shows an overall significant difference in the quantities of shea butter processed before and after the interventions. The probability value in Table (14b) is .000, which is less than .0005. This value is substantially lower than the specified alpha value of .05 and points to a



significant difference in the amounts of shea butter processed before and after the interventions.

- ii. The next statistic reveals, in terms of the scores, which score is higher than the other before and after the intervention. The mean scores, before the intervention was 490.36; and that after the intervention was 653.93. Therefore it can be conclude that there was a significant increase in the quantities of shea butter processed after benefiting from the interventions
- iii. The results presented show that the difference obtained in the two sets of scores was unlikely to occur by chance; and reveal the magnitude of the interventions effect. Using the eta squared statistic, an effect size of 0.61 was obtained. Based on the guidelines provided by Cohen (1988), where an effect size of .05 is interpreted as a large effect; this impact represents a large effect of the interventions on the quantity of shea butter processed.

A paired sample T-test was conducted to evaluate the impact of the interventions the quantities of shea butter processed. There was a statistically significant increase in the quantities of shea butter processed after benefiting from the interventions scores from before (M=490.36, SD=451.127) to after [M=653.93, SD=538.578,  $t(69) = 10.460$ ,  $p < .0005$ ]. The eta squared statistic (0.61) indicated a large effect size. Non-formal education of shea butter processors has impact on the efficiency of the quantity of shea butter processed in kilograms per week. The interventions given have been able to help in increasing the quantity of shea butter processed in kilograms per week. Thus, interventions had contributed to an increase in output of shea butter processed per week. This is supported by Farinde, Soyebó and Oyedekun (2005), who assert that, training influences the adoption of new technologies, ideas or techniques in business activities which increases productivity.



**Table 4.14a Quantity of Shea Butter Processed before and after the Interventions**

Quantity of Shea Butter Processed	Mean	N	Std. Deviation	Std. Error Mean
Kilograms of shea butter processed per week after	653.93	70	538.578	64.372
Kilograms of shea butter processed per week before	490.36	70	451.127	53.920

Source: Field Survey Data, 2017.

**Table 4.14b Differences in Quantity of Shea Butter Processed**

Quantity of Shea Butter Processed	Paired Differences				T	Df	Sig. (2-tailed)	
	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
				Lower				Upper
Kilograms of shea butter processed per week after *before	163.571	130.837	15.638	132.347	194.768	10.460	69	.000

Source: Field Survey Data, 2017.

#### 4.4.4 Impact of Interventions on Revenue of Shea Nut Pickers

Shea nut pickers' revenue was calculated as the product of a unit price of the nuts by quantity (number of bags picked per week). It is the income received by the shea nut pickers after selling their goods in a certain time period (bag per week).

A paired sample T-test was conducted to determine whether a statistically significant relationship could be established in the mean scores before and after interventions in



the shea value chain and whether this reflected on revenue of shea nut pickers before and after the interventions.

The Paired Sample T-test table is presented below and shows the following:

- i. There is a significant difference between the scores before and after the interventions. This shows an overall significant difference on revenue of shea nut pickers before and after the interventions. The probability value in Table (15b) is .000, which is less than .0005. This value is substantially lower than the specified alpha value of .05 and points to a significant difference on revenue of shea nut pickers before and after the interventions.
- ii. The next statistic reveals, in terms of the scores, which score is higher than the other before and after the intervention. The mean scores, before the intervention was 240.65; and that after the intervention was 555.78. Therefore it can be conclude that there was a significant increase in revenue of shea nut pickers after benefiting from the interventions.
- iii. The results presented show that the difference obtained in the two sets of scores was unlikely to occur by chance; and reveal the magnitude of the interventions effect. Using the eta squared statistic, an effect size of 0.91 was obtained. Based on the guidelines provided by Cohen (1988), where an effect size of .05 is interpreted as a large effect; this impact represents a large effect of the interventions on revenue of shea nut pickers.

A paired sample T-test was conducted to evaluate the impact of the interventions the on revenue of shea nut pickers. There was a statistically significant increase on revenue of shea nut pickers after benefiting from the interventions scores from before (M=240.65, SD=97.439) to after [M=555.78, SD=148.377,  $t(89) = -31.399$ ,  $p < .0005$ ].

The eta squared statistic (0.91) indicated a large effect size.



Moreover, interventions such as credit, training, equipment, market linkages, improving product quality and prices improve the efficiency of the shea nut pickers, leading to increased level of revenue. Thus, these interventions have been able to help increase the revenue of shea pickers. This result is in consonance with Riisgaard et al. (2010) and Carr and Hartl (2008), who states that, interventions provided to rural peasants and agro-processors not only empower them socially but also improve their economic wellbeing.

**Table 4.15a Revenue that Shea Nut pickers generate**

Weekly sales of shea nuts	Mean	N	Std. Deviation	Std. Error Mean
Number of bags sold per week before	240.65	90	97.439	10.271
Number of bags sold per week after	555.78	90	148.377	15.640

**Source: Field Survey Data, 2017.**

**Table 4.15b Differences in Revenue that Shea Nut Pickers generate**

Weekly sales of shea nuts	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Number of bags sold per week before*after	-315.128	95.211	10.036	-335.069	-295.186	-31.399	89	.000

**Source: Field Survey Data, 2017.**



#### 4.4.5 Impact of Interventions on Revenue of Shea Butter Processors

Shea butter processors revenue was calculated as the product of a unit price of the shea butter by quantity (in number of kilograms). It is the income received by the shea butter processors after selling their goods in a certain time period (kilogram per week).

A paired sample T-test was conducted to determine whether a statistically significant relationship could be established in the mean scores before and after interventions in the shea value chain and whether this reflected on revenue of shea butter processors before and after the interventions.

The Paired Sample T-test table is presented below and shows the following:

- i. There is a significant difference between the scores before and after the interventions. This shows an overall significant difference on revenue of shea butter processors before and after the interventions. The probability value in Table (16b) is .000, which is less than .0005. This value is substantially lower than the specified alpha value of .05 and points to a significant difference on revenue of shea butter processors before and after the interventions.
- ii. The next statistic reveals, in terms of the scores, which score is higher than the other before and after the intervention. The mean scores, before the intervention was 4754.64; and that after the intervention was 7460.89. Therefore it can be conclude that there was a significant increase in revenue of shea butter processors after benefiting from the interventions
- iii. The results presented show that the difference obtained in the two sets of scores was unlikely to occur by chance; and reveal the magnitude of the interventions effect. Using the eta squared statistic, an effect size of 0.55



was obtained. Based on the guidelines provided by Cohen (1988), where an effect size of .05 is interpreted as a large effect; this impact represents a large effect of the interventions on revenue of shea butter processors.

A paired sample T-test was conducted to evaluate the impact of the interventions the on revenue of shea butter processors. There was a statistically significant increase on revenue of shea butter processors after benefiting from the interventions scores from before (M=4754.64, SD=4653.831) to after [M=7460.89, SD=6840.208,  $t(69) = -9.256$ ,  $p < .0005$ ]. The eta squared statistic (0.55) indicated a large effect size. The interventions given such as provision of credit, training, equipment and access to market have been able to help increase the revenue of shea butter processors. This result is in consonance with Riisgaard et al. (2010) and Carr and Hartl (2008), who asserted that, interventions given to shea butter processors helps increase revenue level.

**Table 4.16a Revenue that Shea Butter Processors generate**

Revenue Generated	Mean	N	Std. Deviation	Std. Error Mean
Income generated per week before	4754.64	70	4653.831	556.239
Income generated per week after	7460.89	70	6840.208	817.561

**Source: Field Survey Data, 2017.**



**Table 4.16b Differences in Revenue that Shea Butter Processors generate**

Revenue Generated	Paired Differences					T	df	Sig. (2-tailed)
	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Income generated per week before* after	- 2706.2 50	2446.108	292.366	- 3289.504	- 2122.996	- 9.256	69	.000

**Source: Field Survey Data, 2017.**

#### 4.4.6 Impact of Interventions on Revenue of Shea Butter Marketers

Shea butter marketers' revenue was calculated as the product of a unit price of the shea butter by quantity. It is the income received by the shea butter marketers' after selling their goods in a certain time period (kilogram per week).

A paired sample T-test was conducted to determine whether a statistically significant relationship could be established in the mean scores before and after interventions in the shea value chain and whether this reflected on revenue of shea butter marketers before and after the interventions.

The Paired Sample T-test table is presented below and shows the following:

- i. There is a significant difference between the scores before and after the interventions. This shows an overall significant difference on revenue of shea butter marketers before and after the interventions. The probability value in Table (17b) is .000, which is less than .0005. This value is





substantially lower than the specified alpha value of .05 and points to a significant difference on revenue of shea butter marketers before and after the interventions.

- ii. The next statistic reveals, in terms of the scores, which score is higher than the other before and after the intervention. The mean scores, before the intervention was 33799.23; and that after the intervention was 64520.85. Therefore it can be conclude that there was a significant increase in revenue of shea butter marketers after benefiting from the interventions.
- iii. The results presented show that the difference obtained in the two sets of scores was unlikely to occur by chance; and does not reveal the magnitude of the interventions effect. Using the eta squared statistic, an effect size of 0.34 was obtained. Based on the guidelines provided by Cohen (1988), where an effect size of .05 is interpreted as a large effect; this impact represents a small effect of the interventions on revenue of shea butter marketers.

A paired sample T-test was conducted to evaluate the impact of the interventions on the revenue of shea butter marketers. There was a statistically significant increase on revenue of shea butter marketers after benefiting from the interventions scores from before (M=33799.23, SD=50861.004) to after [M=64520.85, SD=89392.973,  $t(39) = -4.520, p < .0005$ ]. The eta squared statistic (0.34) indicated a moderate effect size. The interventions given such as provision of credit, training, equipment and access to market have been able to help in increasing the revenue of shea butter marketers. This result is in consonance with Riisgaard et al. (2010) and Carr and Hartl (2008), who asserted that, interventions given helps increase level of revenue of shea butter marketers.



**Table 4.17a Revenue that Shea Butter Marketers generate**

Revenue Earned	Mean	N	Std. Deviation	Std. Error Mean
Income earned per week before	33799.23	40	50861.004	8041.831
Income earned per week after	64520.85	40	89392.973	14134.270

Source: Field Survey Data, 2017.

**Table 4.17b Differences in Revenue that Shea Butter Marketers Generate**

Revenue Earned	Paired Differences					t	Df	Sig. (2-tailed)
	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Income earned per week before*	-30721.	42982.95	6796.20	-44468.24	16975.01	-4.52	39	.000
after	625	4	2	0	0	0		

Source: Field Survey Data, 2017.

#### 4.4.7 Shea Business and Empowerment Outcomes

The results in Table 4.18a reveal that, before the interventions majority of the females and males (84.4% and 54.5%) had clothing respectively, 7.8% of females and 6.1% of males had cauldrons and 2.4% females and 30.3% males had television whiles, 5.4% and 9.1% males had switch stove.



**Table 4.18a Assets of Respondents before the Interventions**

Assets before the Interventions	Female		Male	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Clothing	141	84.4	18	54.5
Cauldrons	13	7.8	2	6.1
Television	4	2.4	10	30.3
Switch Stove	9	5.4	3	9.1
Total	167	100	33	100

**Source: Field Survey Data, 2017.**

Whereas in Table 4.18b also reveals that, majority of the respondents have acquired some assets/household assets/business implements (such as clothing, cauldrons, wardrobes, motor bicycles, bicycles, land, house, gas stoves and jewelleryes) from the shea business after benefiting from the interventions given to the shea actors (nut pickers, shea butter processors and shea butter marketers). After the interventions given the results shows that, shea actors have switched from acquiring less expensive assets to high or more expensive assets as a result of increase in revenue from their shea business. Aside assets acquisition, the respondents also use some of their income to support household activities, pay rent and also pay school fees of their wards. This is in agreement with Olaleye, Umar and Ndanitsa (2009), who asserted that paying expenses on education is one of the benefits that people gain from their business ventures.



**Table 4.18b Assets of Respondents after the Interventions**

Assets after the Interventions	Female		Male	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Clothing	55	32.9	12	36.3
Wardrobes	3	1.8	4	12.1
Land	2	1.2	3	9.0
House	1	0.6	2	6.1
Jewelleries	9	5.4	2	6.1
Gas Stoves	5	3.0	2	6.1
Cauldrons	89	53.3	4	12.1
Bicycle	2	1.2	2	6.1
Motor bicycle	1	0.6	2	6.1
Total	167	100	33	100

**Source: Field Survey Data, 2017.**

#### **4.4.8 Impact of Value Chain Interventions on Shea Business**

This section of the chapter identifies how interventions given to shea actors improved shea business among actors.

Various interventions (improving market linkages, improving skills, improving product quality and price, linking women to market, access to equipment and access to credit) were enumerated among which shea actors had assess how it has influence their shea business. The specific interventions are interventions given to beneficiaries' base on their gender needs whiles generic interventions these are interventions given to beneficiaries irrespective of their sex.

The result in Table 4.19 below shows that, the generic interventions given to shea actors in the shea value chain have improved their shea business activity. Majority (87.5%) of the shea actors had highly improved access to market. On improving skills, majority



(45.5%) of the shea actors had highly enhanced their skills. The majority 79% of the shea actors had highly improved their product quality and price.

The specific interventions given to shea actors in the shea value chain have improved their shea business activity. Linking women to market was only rated by women, majority (59.5%) of the shea actors had high improvement on their business while, 18.0% had moderate improvement on their business and the rest 6% had low improvement on their business. For access to assets, majority (60.5%) of the shea actors had high improvement on their business while 34.0% had moderate improvement on their business and the rest 5.5% had a low improvement on their business. Moreover, on access to credit, majority (66.5%) of the shea actors had high improvement on their business while, 33% had moderate improvement on their business and the rest 0.5% had a low improvement on their business.



**Table 4.19 Influence of Value Chain Interventions on Shea Business**

Interventions	Level of Improvement					
	High		Moderate		Low	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Generic Interventions						
Improving market linkages	175	87.5	25	12.5	0	0.0
Improving skills	91	45.5	68	34.0	41	20.5
Improving product quality and price	158	79.0	38	19.0	4	2.0
Specific Interventions						
Linking women to market	119	59.5	36	18.0	12	6.0
Access to equipment	121	60.5	68	34.0	11	5.5
Access to credit	133	66.5	66	33.0	1	0.5

**Source: Field Survey Data, 2017.**

#### **4.4.8.1 Influence of Value Chain Interventions on Shea Picking**

The result in Table 4.20 below shows that, the generic interventions given to shea nut pickers in the shea value chain have improved their shea picking activity. From the results, majority (77.8%) of the shea nut pickers had high access to market linkages while the rest 22.2% had moderate improvement on their business. On improving skills, majority (47.8%) of the shea nut pickers had high improvement on their business while as much as 31.1% had moderate improvement on their business and the rest 21.1% had a low improvement on their business. In the area of improving product quality and



price, majority (73.3%) of the shea nut pickers had high improvement on their business while 22.2% had moderate improvement on their business and the rest 4.4% had a low improvement on their business.

The specific interventions given to shea nut pickers in the shea value chain have improved their shea nut picking activity. It is evident that linking women to market, majority (60%) of the shea nut pickers had high improvement on their business while, 27.8% had moderate improvement on their business and the rest 12.2% had low improvement on their business. In terms of access to assets, majority (72%) of the shea nut pickers had high improvement on their business while; the rest 27.8% had moderate improvement on their business. Moreover, on access to credit, majority (66.7%) of the shea nut pickers had high improvement on their business while the rest 33.3% had moderate improvement on their business.



**Table 4.20 Influence of Value Chain Interventions on Shea Picking**

Interventions	Level of Improvement					
	High		Moderate		Low	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Generic Interventions						
Improving market linkages	70	77.8	20	22.2	0	0.0
Improving skills	43	47.8	28	31.1	19	0.0
Improving product quality and price	66	73.3	20	22.2	4	4.4
Specific Interventions						
Linking women to market	54	60.0	25	27.8	11	12.2
Access to equipment	65	72.0	25	27.8	0	0.0
Access to credit	60	66.7	30	33.3	0	0.0

**Source: Field Survey Data, 2017.**

#### 4.4.8.2 Influence of Value Chain Interventions on Shea Butter Processors

The result in Table 4.21 below shows that, the generic interventions given to shea butter processors in the shea value chain have improved their shea butter processing activity greatly. From the analysis, majority (92.9%) of the shea butter processors had high improvement on their business whiles; the rest 7.1% had moderate improvement on their business. On improving skills, majority (41.4%) of the shea butter processors had high improvement on their business whiles, 38.6 % had moderate improvement on their





business and the rest 20.0% had a low improvement on their business. On improving product quality and price, majority (77.1%) of the shea butter processors had high improvement on their business while the rest 22.9% had moderate improvement on their business.

The specific interventions given to shea butter processors in the shea value chain have improved their shea butter processing activity. The results revealed that, on linking women to market, majority (82.9%) of the shea butter processors had high improvement on their business while 15.7% had moderate improvement on their business and the rest 1.4% had low improvement on their business. In terms of access to assets, majority (54.3%) of the shea butter processors had high improvement on their business while 27.8% had moderate improvement on their business and the rest 10% had low improvement on their business. On access to credit majority (68.6%) of the shea butter processors had high improvement on their business while, the rest 31.4% had moderate improvement on their business.



**Table 4.21 Influence of Value Chain Interventions on Shea Butter Processors**

Interventions	Level of Improvement					
	High		Moderate		Low	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Generic Interventions						
Improving market linkages	65	92.9	5	7.1	0	0.0
Improving skills	29	41.4	27	38.6	14	20
Improving product quality and price	54	77.1	16	22.9	0	0.0
Specific interventions						
Linking women to market	58	82.9	11	15.7	1	1.4
Access to equipment	38	54.3	25	35.7	7	10.0
Access to credit	48	68.6	22	31.4	0	0.0

**Source: Field Survey Data, 2017.**

#### 4.4.8.3 Influence of Value Chain Interventions on Shea Butter Marketers

The result in Table 4.22 below shows that, the generic interventions given to shea butter marketers in the shea value chain have improved their shea butter marketing activity. From the results, all the shea butter marketers (100%) had high access to market linkages. On improving skills, majority (47.5%) of the shea butter marketers had high improvement on their business whiles, 32.5% had moderate improvement on their



business and the rest 20.0% had a low improvement on their business. On improving product quality and price, majority (62.5%) of the shea butter marketers had high improvement on their business while 35% had moderate improvement on their business and rest 2.5% had low improvement on their business.

The specific interventions given to shea butter marketers in the shea value chain have improved their shea butter marketing activity. The result reveals that, linking women to market was only rated by women and only 17.5% of the shea butter marketers had high improvement on their business. For Access to assets, (45%) of the shea butter marketers had high improvement on their business, 45% representing 18 respondents had moderate improvement on their business and the rest 10.0% had low improvement on their business. On access to credit majority (62.5%) of the shea butter marketers had high improvement on their business while, 35% had moderate improvement on their business and the rest 2.5% low improvement on their business.



**Table 4.22 Influence of Value Chain Interventions on Shea Butter Marketers**

Interventions	High		Moderate		Low	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Generic Interventions						
Improving market linkages	40	100.0	0	0.0	0	0.0
Improving skills	19	47.5	13	32.5	8	20.0
Improving product quality and price	25	62.5	14	35.0	1	2.5
Specific interventions						
Linking women to market	7	17.5	0	0.0	0	0.0
Access to equipment	18	45.0	18	45.0	4	10.0
Access to credit	25	62.5	14	35.0	1	2.5

**Source: Field Survey Data, 2017.**

#### **4.4.8.4 Involvement in Decision Making at the Community Level**

Women were not necessarily consulted on development issues nor involved in decision making before (Chambers and Conway, 1992). It has become clear that the involvement of women in development agendas is a prerequisite for successful development planning and implementation (Evans, 1992). Indeed, women play pivotal roles in development by contributing to household income, providing care to children, managing household resources and mobilising resources for community development and decision making.



As shown in Table 4.23a below, it indicates that, before the interventions given to shea actors majority of females, 91.6% of the women were not involved in decision making at the community level but majority (66.7%) of their male counterpart were involved in decision making at the community level. After the interventions given, the observation (Table 4.23b below) is that, majority of the shea actors (57.5% females and 84.8% males) are involved in decision making at the community level due to the interventions (market linkages, product quality and price, linking women to market, access to equipment and credit) given to the shea actors which have empowered them to be involved in decision making and have had an impact on them since they can take part in decision making at the community level. The increased involvement of majority (57.5%) of women in decision making as against their male counterpart is attributed to the interventions given. This is in line with Ardayfio-Schandorf (1995), that, a study of the Enhancing Opportunity for Women in Development (ENOWID) interventions in Ghana revealed increased independent decision making in domestic affairs and children's education by women participants.

**Table 4.23a Involvement in Decision Making at the Community Level before the interventions**

Involvement in Decision Making	Female		Male	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Yes	14	8.4	22	66.7
No	153	91.6	11	33.3
Total	167	100	33	100

**Source: Field Survey Data, 2017.**



**Table 4.23b Involvement in Decision Making at the Community Level after the interventions**

Involvement in Decision Making	Female		Male	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Yes	96	57.5	28	84.8
No	71	42.5	5	15.2
Total	167	100	33	100

**Source: Field Survey Data, 2017.**



## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter presents a summary of the study findings and a set of conclusions and recommendations, which when implemented could enhance the efficiency of shea production in the shea sector.

#### 5.1 Summary of Findings

The study had three specific objectives: first objective was to examine how value chain intervention affects gender roles and participation of shea actors, second objective was to analyse the value chain interventions and influence on processing capacity of shea actors and the third objective was to examine the influence of value chain interventions on choice of enterprise and business performance of shea actors in the Sagnarigu and Kumbungu Districts of Northern Region.

##### 5.1.1 Socio-demographic Characteristics of the Shea Actors

Generally, shea nut picking is a female related activity; the result shows that all the respondents interviewed were female. Majority 71% of the shea nut pickers had no formal education while the rest had non-formal education. On the experience level of the shea nut pickers, majority (61.1%) had more than ten years' experience in shea nut picking activity. However, for the marital status (75.6%) majority were married.

On the other hand, shea butter processing is a female dominated activity. On educational level of the shea butter processors, 47% had non-formal education and 30% had no formal education. 20% and 3% had basic education and higher education respectively. On the experience level of the shea butter processors, 68.6% had more



than ten years of experience in shea butter processing and for the marital status (55.7%) majority were married.

However, for the marketing aspect of the shea butter it was male dominated representing 82% and 18% for females. Moreover, 53% of the respondents had basic education with 30 % having higher education and only 5% respondents had no formal education while 12% respondents had non-formal education. For experience level of the shea butter marketers, 45% had more than ten years' experience representing the majority and for the marital status 52.5% majority were married.

### **5.1.2 Influence of Value chain Interventions on Gender roles and Participation in Shea Business**

The results of the study revealed that 98.5% of the shea actors are engaged in the shea activities as full time workers while only 1.5% of the actors are engaged as part-time workers.

Considering the empowerment level of shea actors before the interventions given, shea nut pickers recorded the highest Domestic Consultation Index value, followed by shea butter processors and shea butter processors with the values of 0.672, 0.628 and 0.636 respectively. On the Personal Autonomy Index of shea actors, shea butter marketers had the highest index value of 0.759, followed by shea nut pickers with the value of 0.586 and with shea butter processors had the lowest value of 0.428.

Moreover, for the Freedom of Movement Index, shea butter marketers recorded the highest value of 0.675, followed by shea butter processors with the value of 0.645 and the lowest was shea nut pickers with the value of 0.577.





Finally, for Household Decision Making Index, shea nut pickers had the highest index value of 0.694, followed by shea butter processors with the value of 0.608 and with shea butter marketers having the lowest value of 0.574.

After the interventions given to shea actors, their empowerment level had improved significantly. The results of the study revealed that shea butter processors recorded the highest Domestic Consultation Index value after the interventions, followed by shea nut pickers and shea butter marketers with the values of 0.890, 0.829 and 0.747 respectively with an increased index value of 0.262, 0.157 and 0.111 respectively. Additionally, on Personal Autonomy Index shea butter marketers again had the highest index value of 0.805 with an increase value of 0.046, followed by shea butter processors with the value of 0.785 with an increased index value of 0.357 and shea nut pickers having the lowest value of 0.781 with an increased index value of 0.195. However, Freedom of Movement Index shea butter marketers recorded the highest index value of 0.792 with an increase value of 0.117, followed by shea nut pickers with the value of 0.780 with an increased index value of 0.203 and the lowest were shea butter processors with the 0.735 with an increase value of 0.09. Finally, for Household Decision Making Index shea butter marketers again had the highest index value of 0.853, followed by shea butter processors with the value of 0.829 and with shea nut pickers having the lowest value 0.738 with an increased index value of 0.279, 0.221 and 0.044 respectively.

Shea actors in the shea value chain had high level of empowerment after the interventions. The majority 40.5% of the shea actors had high of empowerment, 30.5% had moderate level of empowerment and 29% had low level of empowerment.



Comparing the level of empowerment with the shea value chain activities, the result reveals that, 34 of the shea nut pickers which is the majority recorded high level of empowerment, 28 of shea nut pickers recording both low and moderate empowerment level respectively. On the other hand, 28 of the shea butter processors recorded high empowerment level while, 21 of the shea butter processors recorded both low and moderate empowerment level respectively.

Finally, 19 of the shea butter marketers recorded high empowerment level, but there was marginal difference between low and moderate empowerment level with frequencies of 9 and 12 respectively for the shea butter marketers.

### **5.1.3 Value Chain Interventions and Influence on Processing Capacity of Shea**

#### **Actors**

All the shea actors representing 100% had access to credit, market and training to run their activities. Additionally, with access to equipment majority of shea actors (72.5%) had access to equipment and only 27.5% do not have access to equipment which affects their business activities.

Comparing the relationship between value chain interventions and empowerment levels of shea actors, majority of shea actors 40.5% who had access to credit, market and training had high empowerment level while shea actors (30.5%) who had access to credit, market and training had moderate empowerment level as compare to (29%) who had access to credit, market and training with low empowerment level.

Shea actors (41%) who had access to equipment had high empowerment level as compare to (30%) who had access to equipment with low empowerment level as well as 29% who had access to equipment with moderate empowerment level.



Comparing the relationship between sex of respondents and access to equipment, twenty-one males were having access to equipment, twelve had no access to equipment before the interventions, but after the interventions, thirty-three of the males have access to equipment. For the females seventy had access to equipment before the interventions but after the interventions one hundred and thirty female which is the majority had access to equipment.

The contribution of the interventions to shea nut pickers, indicates that, ( $p = 0.000$ ), which is less than  $p < .05$ . This means that there are significant changes in the strategies currently use in picking shea nuts due to the hand pickers and hand gloves given to shea nut pickers. These Interventions had contributed to an increase in output of shea nuts per week.

The contribution of the interventions to shea butter processors, indicates that, ( $p = 0.000$ ), which is less than  $p < .05$ . This means that there is a significant change in the mode of processing shea butter currently due to the interventions given to the shea butter processors as compared with the manual processing.

#### **5.1.4 Impact of Value Chain Interventions on Choice of Enterprise and Business**

##### **Performance of Shea Actors**

A paired sample T-test was conducted to evaluate the impact of the interventions on business performance as follows;

- i. In terms of number of days in processing shea butter, There was a statistically significant decrease in the number of days in processing shea butter after benefiting from the interventions scores from before ( $M=3.70$ ,  $SD=.840$ ) to after [ $M=2.01$ ,  $SD=1.000$ ,  $t(69)=28.343$ ,  $p<.0005$ ]. The eta squared statistic (0.92) indicated a large effect size.



- ii. Considering the processing capacity of shea processors after the interventions. There was a statistically significant increase on quantity of shea nuts processed to process shea butter after benefiting from the interventions scores from before (M=19.66, SD=18.001) to after [M=26.11, SD=21.500,  $t(69)=10.254$ ,  $p<.0005$ ]. The eta squared statistic (0.60) indicated a large effect size.
- iii. The quantities of shea butter processed in kilograms per week. There was a statistically significant increase in the quantities of shea butter processed in kilograms per week after benefiting from the interventions scores from before (M=490.36, SD=451.127) to after [M=653.93, SD=538.578,  $t(69)=10.460$ ,  $p<.0005$ ]. The eta squared statistic (0.61) indicated a large effect size.
- iv. On the other hand, in terms of weekly sales of shea nuts in bags. There was a statistically significant increase on revenue of shea nut pickers after benefiting from the interventions scores from before (M=240.65, SD=97.439) to after [M=555.78, SD=148.377,  $t(89)=-31.399$ ,  $p<.0005$ ]. The eta squared statistic (0.91) indicated a large effect size.
- v. Weekly sales of shea butter in kilograms. There was a statistically significant increase on revenue of shea butter processors after benefiting from the interventions scores from before (M=4754.64, SD=4653.831) to after [M=7460.89, SD=6840.208,  $t(69)=-9.256$ ,  $p<.0005$ ]. The eta squared statistic (0.55) indicated a large effect size.
- vi. Sales of shea butter in kilograms per week. There was a statistically significant increase on revenue of shea butter marketers after benefiting from the interventions scores from before (M=33799.23, SD=50861.004) to after [M=64520.85, SD=89392.973,  $t(39)=-4.520$ ,  $p<.0005$ ]. The eta squared statistic (0.34) indicated a moderate effect size.



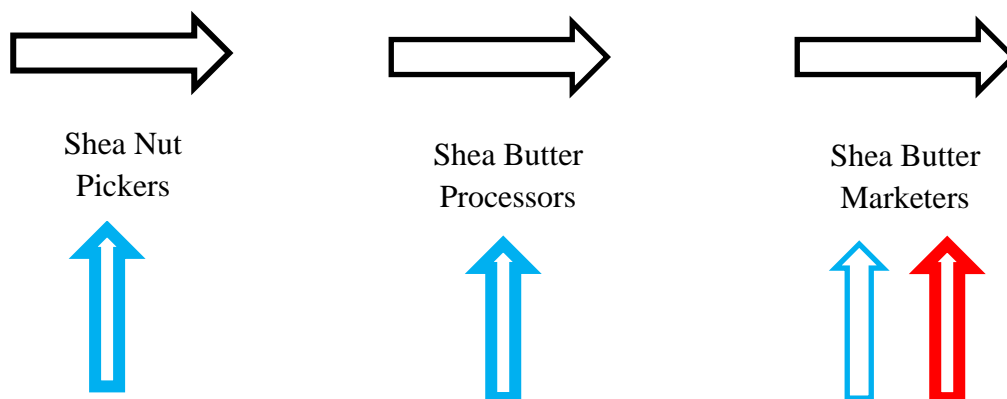
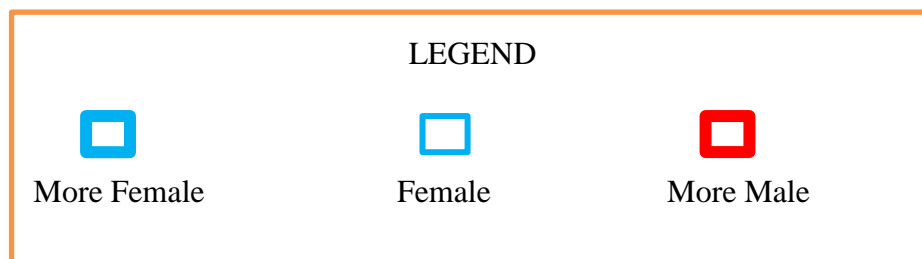
The generic interventions given to shea actors in the shea value chain have improved their shea business activities. It is evident that improving market linkages, majority (87.5%) of the shea actors had high improvement on market linkages. The specific interventions given to shea actors in the shea value chain have improved their shea business activity. Access to equipment, majority (60.5%) of the shea actors had high improvement on access to equipment.

Shea actors involvement in decision making at the community level, the results revealed that (91.6%) majority of females were not involved in decision making at the community level but majority (66.7%) of their male counterpart were involved in decision making at the community level before the interventions but after the interventions (market linkages, product quality and price, linking women to market, access to equipment and credit) majority of the shea actors (57.5% females and 84.8% males) are involved in decision making at the community level.

## **5.2 Conclusion**

Generally, the study revealed that shea nut picking and shea butter processing are female related activities which are dominated by females. However, for the shea butter marketing aspect it was male dominated activity.





Generally, the interventions given had impacted significantly on the well-being of the shea nut pickers. For instance, the training given had helped them increase the quantity of shea nut picked per week and as well as improve the quality of shea nut picked.

On the side of the shea butter processors the quantity of shea butter processed per week had increased significantly due to the equipment's given and the mode of quality had also improved due to the training given to them. This had led to increased output, productivity and quality of shea butter, reduced labour and increase in revenue among the shea actors, enabling them to support household activities, pay rent and also pay school fees of their wards.

Additionally, the results of the survey, further revealed that before the interventions majority of males and females had acquired some assets/household assets (such as clothing, cauldrons, switch stoves and television but after the interventions given shea actors (nut pickers, shea butter processors and shea butter marketers) both males and



females had acquired some assets/household assets (such as clothing, cauldrons, wardrobes, motor bicycles, bicycles, land, house, gas stoves, jewelleryes) from the shea business after being benefited from the interventions given to them leading to increase in shea production and subsequently improving their living standard. Shea actors have switched from acquiring more clothing to other assets like cauldrons, wardrobes, motor bicycles, bicycles, land, house, gas stoves and jewelleryes. These are indication of increased production and income levels of shea actors and improved their living standard.

Aside assets acquisition, the shea actors also use some of their income to support household activities, pay rent and also pay school fees of their wards. This is in agreement with Olaleye, Umar and Ndanitsa (2009), who asserted that paying expenses on education is one of the benefits that people gain from their business ventures.

It is evident in the study that, value chain interventions had enhanced participation of shea actors by empowering them through these indices (Personal Autonomy Index, Household Decision Making Index, Domestic Consultation Index and the Freedom of Movement Index).

Generally there had been a significant change on empowerment levels now as compared before the interventions started in the study area. Vertical coordination proved very effective in overcoming constraints to female participation in shea value chains related to restrictions on mobility, limited bargaining power and social norms. They have also enabled women to take on new roles in value chains as middlemen and leaders due to the interventions given to shea actors. Thus, more women are now able to participate in decision making process at both community and value chain level. Moreover, the



level of vulnerability among women had reduced significantly now as compared before the interventions started in the study area.

Vertical and horizontal linkages occurred at the shea picking, shea butter processing and shea butter marketing stage of the value chain, making it possible for transfer of information and knowledge, credit and equipment as well as learning among the group to enhance production.

The study revealed that, horizontal coordination has been beneficial by increasing women's empowerment and social power and helping in tackling some of the underlying gender inequities, such as low social status, that disempower women in shea value chains activities.

### **5.3 Recommendations**

Based on the study the following conclusions were drawn:

The findings recommend that, interventions to empower women in the households and community levels needs to consider household members and gender relations of power among these members so that it cannot fail so there is a need for gender responsive monitoring and evaluation to identify such unintended consequences and gender analysis to avoid them.

Government and Developmental Organisations should strengthened vertical linkages which can actually reinforce existing inequities along the shea value chain.

Government and Developmental Organisation should forged vertical linkages as strategies in overcoming constraints to women participation in value chains related to the restrictions of social norms.





Government and Developmental Organisations should address gendered constraints that apply to upgrading (product and process upgrading as well as strengthening horizontal and vertical linkages) so that value chain interventions can have positive effects on the beneficiaries.

The study recommends that, protective clothing's and equipment should be given to the women to safe-guard their activities especially shea nut pickers in order to avoid injuries since most of them did not have access to equipment.

Government and Developmental Organisations and other actors should put much emphasis on skills development among actors in the shea value chain.

Government and Developmental Organisations should be more support in the area of horizontal and vertical coordination to enhance the potential of building up shea business.

The study further recommends that, Government, Developmental Organisations and other actors should encourage and also motivate men to go into shea business so that it will increase their empowerment of level.

Government should set up shea board to come out with regulatory framework that will guide the conduct of all the actors in the shea value chain in terms of regulating price of shea nuts.

Government and Developmental Organisations and other actors should take a cue from the SNV and Sekaf Ghana Limited by instituting similar interventions to help improve the empowerment level of shea actors.



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## APPENDIX

### QUESTIONNAIRE ON VALUE CHAIN INTERVENTIONS AND THEIR IMPACTS ON EMPOWERMENT OF SHEA ACTORS IN THE SAGNARIGU AND KUMBUNGU DISTRICTS OF NORTHERN REGION

#### QUESTIONNAIRE FOR SHEA NUT PICKERS

##### A: Demographic Characteristics

1. Sex of respondent: 1 = Male [ ] 2 = Female [ ]
2. Marital status: 1= Single [ ] 2= Married [ ] 3= Divorced [ ] 4= Widow [ ]
3. Age of respondent (in years): .....
4. Level of respondent's education. 1 =No formal education [ ] 2= Non-formal education [ ] 3=Basic education [ ] 4= Higher education [ ]
5. Household size of respondent: .....
6. Number of children of respondent: .....

##### Value chain activities

1. What activities in value chain do you involve in? 1= Nut picking only [ ]  
2= Processing only [ ] 3= Marketing only [ ] 4= Nut picking and Processing  
[ ] 5= Nut picking and Marketing [ ] 6= Processing and Marketing [ ]

##### Pickers Only

2. Where do you pick your nuts? 1= In the bush [ ] 2= Farmland [ ] 3= In  
the bush and farmland [ ]
3. What quantity of nuts in bags do you collect daily before the intervention? 1=  
1-5 [ ] 2= 6-10 [ ] 3= 11-15 [ ] 4= 16-20 [ ] 5= 21 and above [ ]
4. What quantity of nuts in bags do you collect daily after the intervention? 1= 1-  
5 [ ] 2= 6-10 [ ] 3= 11-15 [ ] 4= 16-20 [ ] 5= 21 and above [ ]
5. How many times do you go to field to collect nuts within a week? 1= 1-3 times



- [ ] 2= 4-6 times [ ] 3= 7 times [ ]
6. Who do you sell the nuts to before the intervention? 1= Processing companies  
[ ] 2= Individual processors [ ] 3= Individual processors and processing  
companies [ ]
7. Who do you sell the nuts to after the intervention? 1= Processing companies [ ]  
2= Individual processors [ ] 3= Individual processors and processing  
companies [ ]
8. Are you a member of shea nut picker's association/group? 1= Yes [ ] → Q9 2=  
No [ ]
9. Who facilitated the formation of this association? 1= Self- help group (self-  
initiative) [ ] 2= An NGO/company [ ]
10. Have you benefited from any interventions in the last 5 years to improve on  
your picking? 1= Yes [ ] → Q11 , 12 & 13 2= No [ ]
11. Indicate the interventions which you have benefited from? .....
12. Who provided the intervention? .....
13. For how long have you been a beneficiary of these interventions? .....

**B: Effect of Value Chain Interventions on Gender Roles and Participation of Shea Actors.**

1. What motivated you to involve in shea business? .....
2. How would you describe your engagement in shea picking? 1 = Full time  
business [ ] 2= Part-time business [ ]
3. How long have you been in shea business? 1= Less than 5 years [ ] 2= Between  
5 and 10 years [ ] 3= More than 10 years [ ]
4. Do you consult your spouse on how income should be spend on the following  
before the intervention?



- i. Acquiring land: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - ii. Purchasing clothing: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - iii. Purchasing food: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
5. Do you consult your spouse on how income should be spend on the following after the intervention?
- i. Acquiring land: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - ii. Purchasing clothing: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - iii. Purchasing food: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
6. Do you seek permission from your spouse when doing the following before the intervention?
- i. Children's education: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - ii. Family planning: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - iii. Children's health : 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
7. Do you seek permission from your spouse when doing the following after the intervention?
- i. Children education: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - ii. Family planning: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - iii. Children's health: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
8. Do you have the freedom to participate in the following before the intervention?
- i. Visiting financial institutions: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - ii. Visiting friends or relatives: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
  - iii. Social gathering: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]



9. Do you have the freedom to participate in the following after the intervention?

- i. Visiting financial institutions: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Visiting friends or relatives: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- iii. Social gathering: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

10. Who makes decisions over the following in the household before the intervention?

- i. Children's education: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]
- ii. Daily expenditure: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]
- iii. Purchase of household items: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]
- iv. Spending personal income: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]

11. Who makes decisions over the following in the household after the intervention?

- i. Children's education: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]
- ii. Daily expenditure: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]



iii. Purchase of household items: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]

iv. Spending personal income: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]

12. How does gender roles affects your level of participation in the shea value chain before the intervention?

i. Productive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ] 4=  
Low [ ] 5= Very low [ ]

ii. Reproductive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]

iii. Community managing and polities: 1= Very high [ ] 2= High [ ] 3=  
Moderately high [ ] 4= Low [ ] 5= Very low [ ]

13. How does gender roles affects your level of participation in the shea value chain after the intervention?

i. Productive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ] 4=  
Low [ ] 5= Very low [ ]

ii. Reproductive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]

iii. Community managing and polities: 1= Very high [ ] 2= High [ ] 3=  
Moderately high [ ] 4= Low [ ] 5= Very low [ ]

**C: Value Chain Interventions and Influence on Processing Capacity of Shea Actors**

14. Do you have access to training? 1= Yes [ ]→ Q14 2= No [ ]→ Q13

15. Why did you not participate in the training? .....





16. Which of the following training have you received as a shea nut picker? (Tick all that applies)

Conservation of shea nut trees     Harvesting or picking shea nuts from the field

Grading and sorting shea nuts

17. How have these training impacted on your shea nut picking?

A: .....

B: .....

C: .....

18. Do you have access to equipment? 1= Yes  → Q18    2= No  → Q17

19. Why haven't you received any equipment? .....

20. Which equipment as shea nut picker: .....

21. What are some of the equipment received over the past 5 years? (Tick all that are applicable)

No.	Equipment Received for Pickers	Tick(√)
1	Hand pickers	
2	Hand gloves	
3	Others (specify)	

22. Have you changed your picking strategies over the last 5 years? 1= Yes  → Q21, 22 & 23    2= No

23. What type of strategy formally used in shea picking? .....

24. What type of strategy now used in shea picking? .....

25. What is the reason of change in strategy? .....

26. Do you have access to credit? 1= Yes  → Q26    2= No  → Q25



27. Why?

.....  
.....

28. In what form? 1= Cash [ ] 2= Inputs (in kind) [ ]

29. How do you access credit? 1= Individually [ ] 2= Group [ ]

30. Do you have access to market? 1= Yes [ ] 2= No [ ] → Q29

31. Why?

.....  
.....

**D: Value Chain Intervention/impact on Choice of Enterprise and Business Performance of Shea Actors.**

32. Formally how many bags of shea nuts did you used to pick per week? .....

33. Now how many bags of shea nuts you used to pick per week? .....

34. What was the price of a bag of shea nut? .....

35. Now what is the price of a bag of shea nut? .....

36. What are the benefits of the intervention to your shea business? (Tick all that applies)

- To sell at a better or higher price
- To get access to credit
- To encourage me to save money
- To get easy market for my shea nuts
- To get equipment support/ tools
- Others specify

37. What influence your decision to engage in shea business?

A: .....



B: .....

C: .....

38. What was your level of income before the intervention? .....

39. What is your level of income after the intervention? .....

40. How often were you able to access market? .....

41. How often are you now able to access market? .....

42. In what ways do these interventions improve the shea business?

Generic/Specific interventions	Level of improvement (1= very high, 2= high, 3= moderately high, 4= low and 5= very low)				
	1	2	3	4	5
Improving market linkages					
Improving skills					
Improving product quality and prices					
Linking women to market					
Access to equipment					
Access to credit					

43. What are the risks associated with the shea business?

A: .....

B: .....

C: .....

44. Do you have children attending school? 1= Yes [ ] → Q44 & 45 2= No [ ]

45. Before the intervention how many children were in school? .....

46. Now how many children are in school? .....

47. Do you usually take part in decision at the community level? 1= Yes [ ] → Q47

& 48 2= No [ ]



48. What was your level of involvement in decision making before the interventions? 1= Very high [ ] 2= High [ ] 3= Moderately high [ ] 4= Low [ ] 5= Very low [ ]
49. What was your level of involvement in decision making after the interventions? 1= Very high [ ] 2= High [ ] 3= Moderately high [ ] 4= Low [ ] 5= Very low [ ]
50. What is your empowerment level in the shea business? 1= No empowerment [ ] 2= low empowerment [ ] 3= moderate empowerment [ ] 4= High empowerment [ ]
51. Formally what assets were you having? .....
52. Now what assets are you having? .....



**QUESTIONNAIRE ON VALUE CHAIN INTERVENTIONS AND THEIR  
IMPACTS ON EMPOWERMENT OF SHEA ACTORS IN THE SAGNARIGU  
AND KUMBUNGU DISTRICTS OF NORTHERN REGION**

**QUESTIONNAIRE FOR SHEA BUTTER PROCESSORS**

**A: Demographic Characteristics**

1. Sex of respondent: 1 = Male [ ] 2 = Female [ ]
2. Marital status: 1= Single [ ] 2= Married [ ] 3= Divorced [ ] 4= Widow [ ]
3. Age of respondent (in years): .....,.....
4. Level of respondent's education. 1 =No formal education [ ] 2= Non-formal education [ ] 3=Basic education [ ] 4= Higher education [ ]
5. Household size of respondent: .....
6. Number of children of respondent: .....

**Value chain activities**

1. What activities in value chain do you involve in? 1= Nut picking only [ ]  
2= Processing only [ ] 3= Marketing only [ ] 4= Nut picking and Processing [ ]  
5= Nut picking and Marketing [ ] 6= Processing and Marketing [ ]

**Processors Only**

1. How do you get the shea nuts that you use for shea butter processing? 1= Pick the shea nuts from farm/field [ ] 2= Buy shea nuts [ ]
2. How do you sell your shea butter before the intervention? 1= The buyers come to me [ ] 2= I take the shea butter to the buyers [ ]
3. How do you sell your shea butter after the intervention? 1= The buyers come to me [ ] 2= I take the shea butter to the buyers [ ]
4. Who are the main buyers of your shea butter (tick all that apply)?  
1= Company agents [ ] 2= Shea butter traders/bulkers in the community [ ]



3= Local shea butter processing companies [ ] 4= Individual shea butter exporters/ traders [ ] 5= Shea butter consumers [ ]

5. How long does it take before the intervention to process shea butter? .....
6. How long does it take after the intervention to process shea butter? .....
7. How many quantity of shea nuts did you processed before the intervention? .....
8. How many quantities of shea nuts do you process after the intervention? .....
9. How many quantity of shea butter do you processed before the intervention? .....
10. How many quantity of shea butter do you process after the intervention? .....
11. Are you a member of shea nut processing association/group? 1= Yes [ ] 2= No [ ]
12. Who facilitated the formation of this association? 1= Self-help group (self-initiative) [ ] 2= An NGO/company [ ]
13. Have you benefited from any interventions in the last 5 years to improve on your processing? 1= Yes [ ] → Q 14, 15 & 16 2= No [ ]
14. Indicate the interventions which you have benefited from? .....
15. Who provided the intervention? .....
16. For how long have you been a beneficiary of these interventions? .....

**B: Effect of Value Chain Interventions on Gender Roles and Participation of Shea Actors.**

17. What motivated you to involve in shea business? .....
18. How would you describe your engagement in shea butter processing? 1 = Full time business [ ] 2= Part-time business [ ]
19. How long have you been in shea business? 1= Less than 5 years [ ] 2= Between 5 and 10 years [ ] 3= More than 10 years [ ]



20. Do you consult your spouse on how income should be spend on the following before the intervention?

- i. Acquiring land: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Purchasing clothing: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- iii. Purchasing food: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

21. Do you consult your spouse on how income should be spend on the following after the intervention?

- i. Acquiring land: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Purchasing clothing: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- iii. Purchasing food: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

22. Do you seek permission from your spouse when doing the following before the intervention?

- i. Children's education: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Family planning: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- iii. Children's health : 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

23. Do you seek permission from your spouse when doing the following after the intervention?

- i. Children education: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Family planning: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- iii. Children's health: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

24. Do you have the freedom to participate in the following before the intervention?

- i. Visiting financial institutions: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Visiting friends or relatives: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]



iii. Social gathering: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

25. Do you have the freedom to participate in the following after the intervention?

i. Visiting financial institutions: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

ii. Visiting friends or relatives: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

iii. Social gathering: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

26. Who makes decisions over the following in the household before the intervention?

i. Children's education: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]

ii. Daily expenditure: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]

iii. Purchase of household items: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]

iv. Spending personal income: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]

27. Who makes decisions over the following in the household after the intervention?

i. Children's education: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]

ii. Daily expenditure: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]

iii. Purchase of household items: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]





iv. Spending personal income: 1= Mother only [ ] 2= Father only [ ] 3= Father and mother [ ]

28. How does gender roles affects your level of participation in the shea value chain before the intervention?

i. Productive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]

ii. Reproductive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]

iii. Community managing and polities: 1= Very high [ ] 2= High [ ]  
3= Moderately high [ ] 4= Low [ ] 5= Very low [ ]

29. How does gender roles affects your level of participation in the shea value chain after the intervention?

i. Productive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]

ii. Reproductive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]

iii. Community managing and polities: 1= Very high [ ] 2= High [ ] 3=  
Moderately high [ ] 4= Low [ ] 5= Very low [ ]

**C: Value Chain Interventions and Influence on Processing Capacity of Shea Actors**

30. Do you have access to training? 1= Yes [ ]→ Q14 2= No [ ]→ Q13

31. Why did you not participate in the training?

.....  
.....



32. Which of the following training have you received as a shea butter processor?

(Tick all that applies)

- Shea extraction  Processing nuts into butter  
 Handling the nuts before processing  Storage of shea butter

33. How have these training impacted on your shea processing?

A: .....

B: .....

C: .....

34. Do you have access to equipment? 1= Yes  → Q18 & 19 2= No  → Q17

35. Why haven't you received any equipment? .....

36. Which equipment as shea butter processors? .....

37. What are some of the equipment received over the past 5 years? (Tick all that are applicable)

No.	Equipment Received for Processors	Tick(✓)
1	Crackers	
2	Roasters	
3	Grinders	
4	Pressers	
5	Kneaders	
6	Others (specify)	

38. Have you changed your processing technologies over the last 5 years? 1= Yes  → Q21, 22 & 23 2= No

39. What type of technology formally used in processing shea butter? .....

40. What type of technology now used in processing shea butter? .....

41. What is the reason of change in technology? .....

42. Do you have access to credit? 1= Yes  → Q26 2= No  → Q25



43. Why?

.....  
.....

44. In what form? 1= Cash [ ] 2= Inputs (in kind) [ ]

45. How do you access credit? 1= Individually [ ] 2= Group [ ]

46. Do you have access to market? 1= Yes [ ] 2= No [ ]→ Q29

47. Why?

.....  
.....

**D: Value Chain Intervention/impact on Choice of Enterprise and Business Performance of Shea Actors.**

48. Formally how many kilograms of shea butter did you used to processed week?...

49. Now how many kilograms of shea butter you used to process per week? .....

50. What was the price of a kilogram of shea butter? .....

51. Now what is the price of a kilogram of shea butter? .....

52. What are the benefits of the intervention to your shea business? (Tick all that applies)

- [ ] To sell at a better or higher price
- [ ] To get access to credit
- [ ] To encourage me to save money
- [ ] To get easy market for my shea butter
- [ ] To get equipment support/ tools
- [ ] To receive training on shea processing
- [ ] Others specify

53. What influence your decision to engage in shea business?



A: .....

B: .....

C: .....

54. What was your level of income before the intervention? .....

55. What is your level of income after the intervention? .....

56. How often were you able to access market? .....

57. How often are you now able to access market? .....

58. In what ways do these interventions improve the shea business?

Generic/Specific interventions	Level of improvement (1= very high, 2= high, 3= moderately high, 4= low and 5= very low)				
	1	2	3	4	5
Improving market linkages					
Improving skills					
Improving product quality and prices					
Linking women to market					
Access to equipment					
Access to credit					

59. What are the risks associated with the shea business?

A: .....

B: .....

C: .....

60. Do you have children attending school? 1= Yes [ ] → Q44 & 45 2= No [ ]

61. Before the intervention how many children were in school? .....

62. Now how many children are in school? .....

63. Do you usually take part in decision at the community level? 1= Yes [ ] → Q47 & 48 2= No [ ]



64. What was your level of involvement in decision making before the interventions? 1= Very high [ ] 2= High [ ] 3= Moderately high [ ] 4= Low [ ] 5= Very low [ ]
65. What was your level of involvement in decision making after the interventions? 1= Very high [ ] 2= High [ ] 3= Moderately high [ ] 4= Low [ ] 5= Very low [ ]
66. What is your empowerment level in the shea business? 1= No empowerment [ ] 2= low empowerment [ ] 3= moderate empowerment [ ] 4= High empowerment [ ]
67. Formally what assets were you having? .....
68. Now what assets are you having? .....



**QUESTIONNAIRE ON VALUE CHAIN INTERVENTIONS AND THEIR  
IMPACTS ON EMPOWERMENT OF SHEA ACTORS IN THE SAGNARIGU  
AND KUMBUNGU DISTRICTS OF NORTHERN REGION**

**QUESTIONNAIRE FOR SHEA BUTTER MARKETERS**

**A: Demographic Characteristics**

1. Sex of respondent: 1 = Male [ ] 2 = Female [ ]
2. Marital status: 1= Single [ ] 2= Married [ ] 3= Divorced [ ] 4= Widow [ ]
3. Age of respondent (in years): .....
4. Level of respondent's education. 1 =No formal education [ ] 2= Non-formal education [ ] 3=Basic education [ ] 4= Higher education [ ]
5. Household size of respondent: .....
6. Number of children of respondent: .....

**Value chain activities**

1. What activities in value chain do you involve in? 1= Nut picking only [ ]  
2= Processing only [ ] 3= Marketing only [ ] 4= Nut picking and  
Processing [ ] 5= Nut picking and Marketing [ ] 6= Processing and  
Marketing [ ]

**Marketers Only**

1. Do you have specific buyers? 1= Yes [ ] 2= No [ ]
2. How do you sell your shea butter before the intervention? 1= Buyers come to me [ ] 2= I take the shea butter to the buyers [ ]
3. How do you sell your shea butter after the intervention? 1= Buyers come to me [ ] 2= I take the shea butter to the buyers [ ]
4. Has the intervention improved the quality of shea butter? 1= Yes [ ] 2= No [ ]



5. Has the intervention improved the quality of marketing your shea butter? 1= Yes [ ] 2= No [ ]
6. Has the intervention improved the quality of packaging your shea butter? 1= Yes [ ] 2= No [ ]
7. How then do you determine the price of your shea butter? 1= Buyers determine the price [ ] 2= Processors determine the price [ ] 3= Demand and supply determine the price [ ] 4= I determine the price [ ] 5= Processing cost determine the price [ ]
8. Have you benefited from any interventions in the last 5 years to improve on your shea butter marketing? 1= Yes [ ] → Q9, 10 & 11 2= No [ ]
9. Indicate the interventions which you have benefited from? .....
10. Who provided the intervention? .....
11. For how long have you been a beneficiary of these interventions? .....

**B: Effect of Value Chain Interventions on Gender Roles and Participation of Shea Actors.**

12. What motivated you to involve in shea business? .....
13. How would you describe your engagement in shea marketing? 1 = Full time business [ ] 2= Part-time business [ ]
14. How long have you been in shea business? 1= Less than 5 years [ ] 2= Between 5 and 10 years [ ] 3= More than 10 years [ ]
15. Do you consult your spouse on how income should be spend on the following?

Acquiring land: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

iv. Purchasing clothing: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

v. Purchasing food: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]



16. Do you seek permission from your spouse when doing the following before the intervention?

- i. Children's education: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Family planning: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- iii. Children's health : 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

17. Do you seek permission from your spouse when doing the following after the intervention?

- i. Children education: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Family planning: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- iii. Children's health: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

18. Do you have the freedom to participate in the following before the intervention?

- i. Visiting financial institutions: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- ii. Visiting friends or relatives: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]
- iii. Social gathering: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

19. Do you have the freedom to participate in the following before the intervention?





- i. Visiting financial institutions: 1= Generally [ ] 2= Occasionally [ ]  
3= Never [ ]
- ii. Visiting friends or relatives: 1= Generally [ ] 2= Occasionally [ ]  
3= Never [ ]
- iii. Social gathering: 1= Generally [ ] 2= Occasionally [ ] 3= Never [ ]

20. Who makes decisions over the following in the household before the intervention?

- i. Children's education: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]
- ii. Daily expenditure: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]
- iii. Purchase of household items: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]
- iv. Spending personal income: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]

21. Who makes decisions over the following in the household after the intervention?

- i. Children's education: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]
- ii. Daily expenditure: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]
- iii. Purchase of household items: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]
- iv. Spending personal income: 1= Mother only [ ] 2= Father only [ ]  
3= Father and mother [ ]



22. How does gender roles affects your level of participation in the shea value chain before the intervention?

- i. Productive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]
- ii. Reproductive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]
- iii. Community managing and polities: 1= Very high [ ] 2= High [ ]  
3= Moderately high [ ] 4= Low [ ] 5= Very low [ ]

23. How does gender roles affects your level of participation in the shea value chain after the intervention?

- i. Productive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]
- ii. Reproductive role: 1= Very high [ ] 2= High [ ] 3= Moderately high [ ]  
4= Low [ ] 5= Very low [ ]
- iii. Community managing and polities: 1= Very high [ ] 2= High [ ]  
3= Moderately high [ ] 4= Low [ ] 5= Very low [ ]

**C: Value Chain Interventions and Influence on Processing Capacity of Shea Actors**

24. Do you have access to training? 1= Yes [ ]→ Q25 2= No [ ]→ Q24

25. Why did you not participate in the training?

.....  
.....

26. Which of the following training have you received as a shea butter marketer? (Tick all that applies)

- [ ] Book keeping [ ] Handling and storage of shea butter [ ] Customer relations



27. How have these training impacted on your shea butter marketing?

A: .....

B: .....

C: .....

28. Do you have access to equipment? 1= Yes [ ] → Q30 & 31 2= No [ ] →

Q29

29. Why haven't you received any equipment?

.....  
.....

30. Which equipment as shea butter marketer:

.....  
.....

31. What are some of the equipment received over the past 5 years? (Tick all that are applicable)

No.	Equipment Received for Marketers	Tick(√)
1	Transport	
2	Storage equipment	
3	Weighing Scale	
4	Packaging materials	
5	Others (specify)	

32. Do you have access to credit? 1= Yes [ ] → Q34 2= No [ ] → Q33

33. Why?

.....  
.....

34. In what form? 1= Cash [ ] 2= Inputs (in kind) [ ]

35. How do you access credit? 1= Individually [ ] 2= Group [ ]

36. Do you have access to market? 1= Yes [ ] 2= No [ ] → Q37



37. Why?

.....  
.....

**D: Value Chain Intervention/impact on Choice of Enterprise and Business Performance of Shea Actors.**

38. Formally how many kilograms of shea butter did you sell per week? .....

39. Now how many kilograms of shea butter do you sell per week? .....

40. What was the price of a kilogram of shea butter? .....

41. Now what is the price of a kilogram of shea butter? .....

42. What are the benefits of the intervention to your shea business? (Tick all that applies)

- To sell at a better or higher price
- To get access to credit
- To encourage me to save money
- To get easy market for my shea butter
- To get equipment support/tools
- To receive training on shea processing
- Others specify

43. What influence your decision to engage in shea business?

A: .....

B: .....

C: .....

44. What was your level of income before the intervention? .....

45. What is your level of income after the intervention? .....

46. How often were you able to access market? .....



47. How often are you now able to access market? .....

48. In what ways do these interventions improve the shea business?

49. What are the risks associated with the shea business?

A: .....

B: .....

C: .....

50. Do you have children attending school? 1= Yes [ ]→ Q52 & 53 2= No [ ]

51. Before the intervention how many children were in school? .....

Generic/Specific interventions	Level of improvement (1= very high, 2= high, 3= moderately high, 4= low and 5= very low)				
	1	2	3	4	5
Improving market linkages					
Improving skills					
Improving product quality and prices					
Linking women to market					
Access to equipment					
Access to credit					

52. Now how many children are in school? .....

53. Do you usually take part in decision at the community level? 1= Yes [ ]→

Q55 & 56 2= No [ ]

54. What was your level of involvement in decision making before the

interventions? 1= Very high [ ] 2= High [ ] 3= Moderately high [ ] 4=

Low [ ] 5= Very low [ ]

55. What was your level of involvement in decision making after the

interventions? 1= Very high [ ] 2= High [ ] 3= Moderately high [ ] 4=

Low [ ] 5= Very low [ ]



56. What is your empowerment level in the shea business? 1= No empowerment

[ ] 2= low empowerment [ ] 3= moderate empowerment [ ] 4= High

empowerment [ ]

57. Formally what assets were you having? .....

58. Now what assets are you having? .....

