UNIVERSITY FOR DEVELOPMENT STUDIES

VALUE CHAIN INTERVENTION STRATEGIES AND GENDER OUTCOMES: A STUDY OF SHEA ACTORS IN NORTHERN REGION

UBAIDA ABDALLAH

2020

VALUE CHAIN INTERVENTION STRATEGIES AND GENDER OUTCOMES: A STUDY OF SHEA ACTORS IN NORTHERN REGION OF GHANA

BY

UBAIDA ABDALLAH

(UDS/MIC/0006/17)

THESIS SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL EXTENSION, RURAL DEVELOPMENT AND GENDER STUDIES, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN INNOVATION COMMUNICATION.

2020

DECLARATION

I, Ubaida Abdallah, declare that the preparation and presentation is the result of my own original work that I have undertaken under the supervision of Dr Nashiru Sulemana, and Mr Paul Kwami Adraki, Faculty of Agribusiness and Applied Economics, Department of Agricultural Extension, Rural Development and Gender Studies of the University for Development Studies, Nyankpala. Except references to other people's work, which have been duly noted and acknowledged, this thesis is the result of my own research work.

Sign……. Date…….

Ubaida Abdallah

(Student)

Sign……. Date…….

Dr, Nashiru Sulemana

(Main Supervisor)

Sign……. Date…….

Mr Paul Kwami Adraki

(Co-Supervisor)

DEDICATION

This dissertation is dedicated to the Almighty Allah for seeing me through, Alhamdulillah. This dissertation is also dedicated to my parents for their tireless and continuous encouragement, my supervisor, Mr Paul Kwami Adraki for pushing me when I was on the verge of giving up, for not doubting me, and always giving me words of encouragement.

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to everyone who helped me complete this thesis successfully. First to my supervisors, Dr Nashiru Sulemana, and Mr Paul Kwame Adraki and all my teachers at the University for Development Studies for their encouragement, and pieces of advice that have made the study a success. I am very grateful to Mr Majeed and Mr Mohammed of SeKaf Ghana Limited, the staff of SNV, and all the shea actors who spared their precious time to interact with me. I wish to also thank Anita Afra and Allotey for their immense support in my time of need; may Allah bless them abundantly.

ABSTRACT

This study investigated the impact of value chain intervention strategies on gender outcomes. The study was conducted in the Sagnarigu District, Tolon District, and Tamale Metropolitan. Simple random sampling, and Purposive sampling methods were used to identify and collect data from 150 shea actors. The research revealed that 68.7 per cent of shea actors had no formal education, and 18 per cent had non-formal education. The research also revealed that shea actors benefitted from both specific and generic value chain interventions. Majority of the actors, 88.3 per cent, of shea actors have benefitted from VSLA, which they stated, helped them towards catering for the educational needs of their children, helped them solve financial issues within families, and aided in health-related issues. The shea actors had access to modern and time saving equipments due to support from SeKaf and SNV. Minority of the actors, 36.7 per cent stated that they were able to access equipments such as kneaders, grinding mills, and crushers because of the interventions they received. Generally, there has been a significant change in the empowerment levels of the shea actors after interventions as compared to before interventions. Domestic Consultation Index, and Household Decision Making Index were high for the shea actors. However, Personal Autonomy Index, and Freedom of Movement Index were at the same levels as before interventions. Further results however, showed that women found it difficult to take part in decision making processes within the community as seen in the results for shea actor role in community managing and politics where the female shea actors stated they had low, and very low participatory roles there.

The study recommends more sensitisation be done to educate shea actors and the general public on the importance of involving females in decision making processes that go

beyond the household because women's contribution to the development of any economy should not and cannot be undermined.

Table of Content

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ARSO……. African Organization for Standardization

CBE……. Cocoa Butter Equivalent

CBIs……. Cocoa butter Improvers

CBS……. Cocoa Butter Substitutes

CEI……Composite Empowerment Index

CFC…… Common Fund for Commodities

CRIG……. Cocoa Research Institute of Ghana

DANIDA……Danish International Development Agency

DHFETE……..... Department of Higher and Further Education, Training and Employment

EU……. European Union

FAO……. Food and Agricultural Organization

GBGS……. Ghana Board of Grades and Standards

GDP…… Gross Domestic Product

GSS…… Ghana Statistical Services

GVCs……Global Value Chains

ICCO…… International Cocoa Organization

IITA……. Information Infrastructure Technology and Applications

ILO……International Labour Organisation

JHS……. Junior High School

LBA…… Local Buying Agents

KIT……Royal Tropical Institute

MSMEs…… Micro Small and Medium Enterprises

MT……. Metric Ton

NGO……... Non-Government Organization

NTFP……... Non-Timber Forest Product

OECD……. Organisation for Economic Cooperation and Development.

OPTCO……...Organic Products Trading Company

SDC…….....Swiss Agency for Development and Cooperation

SHS…… Senior High School

SNV……. StichtingNederlandseVrijwilligers

UEOMA…… Economic and Monetary Union of West African States

UNCTAD……United Nations Conference on Trade and Development

UNIDO……...United Nations Industrial Development Organization.

USAID…… United States Agency for International Development

US……. United States

UV……Ultra-Violet

VC……. Value Chain

WATH……West African Trade Hub

WTO……World Trade Organization

WST……. World System Theory

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

The shea industry is distinguished globally, especially in the international market for its shea trades that are used in the pharmaceutical and confectionery industries, in particular as a cocoa butter equivalent (CBE) in the manufacture of chocolate, cookies, soap, and other cosmetic products because of properties like stearin and its low melting temperature ability (Lovett and Haq, 2013).

The food industry uses nearly 95 percent of shea butter exported, while the rest is absorbed by the cosmetic industry with D'Auteuil (2008) stating that, shea butter trading has to projected global proportions.

Approximately 1,760,000 metric tons of raw shea nuts are produced in Africa annually. However, about 35 percent (about 600,000 MT) of nuts produced are harvested which are then processed into butter and/or exported (IITA, 2002 as cited in Addaquay, 2004). In Ghana, however, only 40 % of shea nuts are collected (SNV, 2006). Although traditional uses of shea nuts and shea products have declined over the years, most people, in the Northern region prefer Western vegetable oils although there is a growing market for shea outside of Ghana (Scholz, 2009). While Africa's share of world exports has declined about 50 % from 1980 to 2007, exportation of shea increased in volume, connecting Sub-Sahara Africa to the global economy (LMC, 2006 and UNCTAD, 2008 as cited in Scholz, 2009).

The growing demand for shea in the cosmetic industry is as a result of its unique quality in regards to its moisturising abilities, anti-irritant properties, and its ability to protect from UV rays as recognised in developed countries (Carette et al., 2009).

Shea nut picking and butter processing are non- farm activities traditionally reserved for women in the Northern Region of Ghana. According to SNV (2006) more than 600,000 women in Northern Ghana depend on incomes made from selling shea butter and other shea-related products for their daily sustenance. Women in Northern Ghana are thought to be particularly susceptible to poverty as a result of gender inequality and have less access to resources and assets which make them more vulnerable to poverty. Several studies show that women and children are extremely affected by poverty and that supporting women and girls is the most effective way to fight poverty (UNDP/JICA, 2010; IFAD, 2001; and Moghadam, 2005).

It is estimated that more than 900,000 women in Northern Ghana are involved in various shea operations, and that more than 2 million people depend directly or indirectly on the shea industry for their livelihood results (Asante, Banidiyia and Tom-Dery, 2012).

Elias et al., (2006) state that, gender equity advocates, poverty reduction advocates, and advocates of sustainable development have shed more light on the increased global demand for shea butter to boost the incomes of deprived female producers. The shea industry is of immense socio-economic value to countries along the shea belt, providing food, income, employment, and providing several domestic and environmental services (Yidana and Adomako, 2004; Lovett, 2013).

The focus of value chain interventions is on encouraging links between smallholder actors and the market in order to build up profits and reduce poverty. (Riisgaard, Bolwig, Ponte, Du Toit and Halberg, 2010). Majority of these value chains can be found in crop chains like shea nuts/butter, sunflower, soya beans, rice, cotton, cocoa, and vegetables (Mayoux and Mackie, 2007).

Value chains are all the activities that help bring about a product from when it was conceptualised, through all the different stages of production to consumption and beyond (De Backer and Miroudot, 2013). Value chain analysis was developed in early 1990's in a bid to understand the rising changes in economic globalisation and international trade. Value chain activities can be within a particular location like a village or a community where the houses are closer and within walking distance, or spread out over a wider area that may require transportation, or across continents (Riisgaard et al., 2010). Value chain interventions are generally good approaches for delivering development aid, most likely because they comprise of a number of stakeholders. The appeal of value chains is in the "leverage" they provide (Roduner, 2007). Value chains provide good avenues for bringing significant transformations to thousands of beneficiaries, rather than just a select number of actors or businesses (Roduner, 2007; Donovan and Dietmar, 2010).

Value chain approaches single out vital entry points for interventions (Gildemacher and Mur, 2013). Over the last decade, value chain approaches have become the conventional practice in response to exclusively productivity-focused agricultural interventions, which have not always delivered the desired economic benefits (Gildemacher and Mur, 2013). The focus of value chain interventions is not just on the efficiency of production, but also on those forces influencing the overall involvement of actors in final markets (Kaplinsky

and Morris, 2001; Ruben et al., 2006). As a result, value chains have become an important part of global development discussions on the influences of globalisation on labour and reducing poverty (Riisgaard et al., 2010). Development practitioners and researchers used value chain approaches to explain the relationships between the increasingly complex and dynamic markets in developing countries, and the relationship amongst the various actors connected in all phases of the marketing path (Kaplinsky, 2000; 2004).

Value chains are operational and analytical models in that, they examine and explain the vertical and horizontal integration, and breakdown of the manufacturing and supply structures, which also comprises the decision-making processes and control over management issues (Roduner, 2005; Roduner, 2007). Roduner (2005) explain value chains as operational because they make up a collection of entities and activities that embody a production process which shows the connection between the buyers and suppliers, and shows the movement of goods and services from the point of production to the point of consumption. Value chain comprises the entire processes entailed in changing, processing and adding value to the product before the product gets to the final consumer (Kidoido and Child, 2014). This is known as the vertical integration of the value chain (Roduner, 2005).

Analytically, value chains provide frameworks for examining how products move from the points of production to the points of consumption. This has encouraged a lot of bilateral and multi-lateral aid organisations to adopt it as a guide to most of their developmental interventions (Roduner, 2007). Particularly, value chains provide frameworks for examining how prospective actors can be encouraged and/or prevented

from entering the value chain, activities undertaken along the value chain, institutional and governance issues engrained within the value chain, advancement along the length of the value chain and how knowledge is developed along and within the value chain. This process is known as the horizontal integration of the value chain (Roduner, 2007).

Value chains from a development perspective, are suitable for development interventions because they provide a distinct understanding of connections and exchanges amid various actors and activities across the product routes (Kidoido and Child, 2014). Across the length of the value chain, different actors trade the ownership of "raw materials, intermediate products, and final products" (Kaplinsky and Morris, 2000). These diverse actors are also connected by multifaceted connections, including demand and supply for goods and services from each other. This, at the end of the day, allows development agents to develop the relative share profits for the different value chain actors and increase efficiency and cumulative value created along the value chain (Kaplinsky and Morris, 2000; Kidoido and Child, 2014).

Most value chain interventions operate with the disposition that value chain development will help in alleviating poverty. It is believed there are unexploited prospects in value chains for increasing the revenues of deprived manufacturers or the employability of poor people (Altenburg, 2007). Therefore, by causing value chains to work more effectively, i.e., by enhancing flow of knowledge and forming linkages, it is estimated that interventions will help the poor by aiding them in being self-sufficient and empowered enough to start a business on their own, which will increase their participation in value chains and in alleviating poverty (Altenburg, 2007).

Thus, donors are putting pressure on development agencies to provide proof of bringing about the necessary changes for the intended beneficiaries (Deaton, 2009; Sen, 2012). This is especially true for agricultural research programs as they are under immense pressure to prove that they are contributing to the end goal of poverty reduction and sustainable environmental development (Lilja et al., 2010). As a result, some development agencies are searching for new and improved alternate approaches to delivering development aid (Mayoux and Mackie, 2007; Kidoido and Child, 2014).

However, value chain interventions, as it has been argued, deal largely with a select few well-to-do entrepreneurs and as a result cause insignificant changes to standard poverty levels (Ton, Vellema, De Wildt, 2011). Flores and Bastiaensen, (2011) and Donovan and Dietmar, (2010) have shown that value chain upgrading which is used regularly with most Value Chain Approaches (VCAs), reduces female participation in the value chain. Furthermore, there is a lack of credible evidence that value chain interventions really can bring forth effective development aid even though policymakers more often turn to them to steer change, create work and improving revenues (OECD, 2012).

Traditional roles of males and females are as important in value chains as in many other production activities (KIT et al., 2012). It is therefore important to understand how gender roles and relationships shift in value chains by linking analysis of the value chain with gender approach to a development operation (Lavin et al., 2009).

According to United Nations report (2006), most interventions in the value chain include women in the growth of the chain by looking at what they already do in the production and processing of crops and other related products. In developing countries women participate in post-harvest activities as a source of cheap, unpaid labour, all the while

maintaining control over bird and animal rearing and distribution (United Nations report, 2006).

On the other hand, development organisations, in their effort to ensure that the interventions they implement will stand the test of time, employ value chain upgrading strategies. These strategies mostly focus on complying with 'sustainability standards'; as observed by organisations like UTZ, Fairtrade, or Rainforest Alliance, to assess the effects of gender segregation on smallholders in value chains that determine participation by certificate, although none of these "sustainability standards" specifically target women (Riisgaard et al., 2010). Hence, these interventions are not gender specific, indicating that the support consists of a variety of strategies on value chain, comprising improved process and product upgrading and co-ordination of actors in the value chain both horizontally and vertically.

These value chain interventions, which are generic hope that the benefits will trickle down to women because they are involved in value chain activities, without the interventions specifically targeting them (Riisgaard et al., 2010). Laven et al., (2012) observed that, the work that both men and women do in the chain may affect other economic activities like crop farming, revenue generating practices and/or household tasks, gender roles and family or group relationships. KIT et al., (2012) in a report indicated the importance of having empirical evidence from the widest possible perspective; if interventions in the value chain alter or influence women in a particular way than men, and how interventions in the value chain affect men and women alike. Most generic value chain interventions are implemented on developmental standards that have been followed for generations by development organisations (UNDP/JICA, 2010).

Such standards go a long way towards showing good results for women involved, particularly when the specifications are not intended for women (Moghadam, 2005). This is mainly because, the value chain upgrading strategies implemented, are expected to eventually address those issues/ areas where women are disadvantaged (Riisgaard et al., 2010). The perception that women will benefit from generic value chain interventions automatically, can have unplanned adverse results. There are reports of aggressive reactions toward beneficiaries who are women from men who manage crops and livestock that are typically the work of a woman, once they have become profitable (Von Braun and Webb, 1989). Reports from Von Braun and Webb, (1989) state that men are forcefully controlling irrigation farms in the Gambia, taking over beans' farms in Malawi and Uganda (Njuki et al., 2011), and Goldstein (2012) have written on the violence meted out to women employed in flower farms in Ethiopia. Due to gender segregation, when it comes to value chain intervention strategies, opportunities relating to "who benefits" are different for men and women and the constraints also exist differently to a degree in all societies (Fontana, 2014). Refusal to acknowledge the disparities in opportunities for both sexes is challenging from a gender stance. Besides this is capable of negating the trade value and developmental policies (Fontana, 2014). Considering issues relating to gender and tackling them is important for value chain interventions to continue to add to both sustainable economic and social gaols (Barrientos, 2014).

Gender is how society gives interpretation to "what it means to be a man and a woman and the power dynamics that occur as a result" (Laven et al., 2009). Kabeer (1999) "defines gender as the socially constructed difference between men and women". Reports have pointed out that paying attention to the "position of" actors in value chains, and also

encouraging the empowerment of women in the local context, as well as the different ideas of masculinity and femininity that might both dispute and/or support gender empowerment (Wyrod, 2008; Parpart et al., 2002).

Due to the prominent roles female workers in developing countries play in the local and export-oriented industries integrated in value chain interventions, claims have been made that their participation in the interventions result in positive developmental benefits for them (Bamber and Staritz, 2016) when in most cases, women are disenfranchised than men in value chain operations as a result of insufficient opportunities to getting information, markets, and access to training, and many development organisations have begun to recognise and take steps to deal with the need for a more operational gender strategy in regards to value chain interventions (Riisgaard et al., 2010). Studies have shown that the total female job quota does not say anything about the type and quality of work, the outcomes of how women and men engage in the value chain and what this means for the form of approaches that are integrated into value chain interventions and the prospects for economic and social upgrading (Riisgaard et al., 2010).

Gender is a central socioeconomic identity. In addition, gender norms and roles are defined facets of families, cultures, and the economy while interconnected with other socio-economic features such as age, gender, jobs, education, skills, nationality, ethnicity, rank and race. Therefore, women as a group share similar prospects and limitations, but the degree, distribution and delivery for different groups of women can vary considering their educational, material or ethnic background (Bamber and Staritz, 2016). This knowledge will make sure that gender concerns are taken into account in value chain

initiatives which are very effective in fostering balanced value chains for both men and women (Bamber and Staritz, 2016).

In strategising value chain interventions, aside the possible benefits of tackling gender inequalities, analysing gender issues are ignored or added as an addendum; regardless of the role that gender plays inside value chains in terms of how it impacts productive activities, the distribution of rewards, learning and eventually incentives to transform, improve and develop. Gendered behaviour patterns construct the roles and activities of men and women from output to manufacturing, and ultimately— taking into account the connections to productivity— the efficiency of value chains in global markets. Recognising the relation of value chain interventions to gender will allow for discussion on the different theories about gender equality which support these interventions. Most value chain intervention strategies fall short of their expected outcomes because of the lack of strong valuation of the impact of "generic value chain interventions".

However, focusing on gender does not rule out the possibility of men working directly as agents for defining economic and social incentives within a value chain. Instead, it allows for effective targeting, size and full ability in initiatives to be implemented by paying attention to gender and balance of power, as well as ensuring that the benefits of value chain projects are shared equally among the stakeholders. In other words, when gender roles are not considered, productivity may suffer.

In lieu of this, it is imperative to find out if interventions use upgrading strategies as a course of action and if so what kind of upgrading strategies are used and what are the impacts of such strategies on gender outcomes. Although there are increasing numbers of assessments of the effectiveness of interventions aimed specifically at improving gender

outcomes in value chains, it is important to differentiate the prospects for actors to move up the value chain, which can move to rewarding positions in the chain, or to produce products of higher quality and/or better returns for producers.

1.2 Problem Statement

Value chain interventions go a long way to increase the livelihoods of the actors and beneficiaries within the chain. They provide equal opportunities for both sexes to get access to resources, markets, assets, horizontal and vertical mobility within the chain, and provide avenues for taking part in decision-making, and linkages to other value chains and value chain actors in a bid to bridge the gender gap and ensure positive gender outcomes (Roduner, 2007).

However, these equal opportunities that value chain interventions are supposed to provide tend to lean towards the male actors than the female actors within the chain, and these are more likely so because of the kind of strategies employed in these interventions. Value chain intervention strategies, most often are of the generic nature. They usually are implemented on the basis that the expected results will be evenly spread to every actor within the chain but that is mostly not the case as the people who benefit from these value chain interventions are male. Although generic value chain interventions can be good for women in the value chain, there are facts that also point that more gender-sensitive value chain intervention strategies, inhibit adverse results (Riisgaard et al., 2010). Inability of actors to move up the chain, inaccessibility of assets and markets and lack of connections to other actors in the value chain are often the main gender-based limitations associated with women engaging in value chains. On the other hand, these constraints can be

addressed by interventions in the value chain which include specific gender strategies; an example of this is the building of linkages focused on women (Riisgaard et al., 2010).

Rubin et al., (2009), concludes that although there are numerous methodological frameworks for gender value chain analysis that have made available 'how to' methods for researchers and practitioners, there are no significant evidences to prove the influence of both generic and specific value chain interventions on gender outcomes. While there has been a considerable number of papers written about gender and value chain in general, there is a lack of convincing empirical proof that shows the effectiveness of interventions which have been designed to improve gender related outcomes in value chains (USAID, 2005 and 2006). This study therefore seeks fill this gap by examining how value chain intervention strategies can lead to better gender outcomes through a gender lens.

1.3 Research Questions

1.3.1 Main Research Question

What are the gender outcomes of value chain intervention strategies on shea actors in the Northern Region?

1.3.2 Specific Research Questions

1. What are the specific and generic value chain interventions that shea actors have benefitted from?
2. What impact have value chain interventions had on gender outcomes and participation of shea actors?

3. What are the opportunities and constraints that shea actors face in the value chain?

1.4 Objective of the Study

1.4.1 Main Objective

The main objective of this study is to examine the gender outcomes of value chain intervention strategies on shea actors in the Tamale Metropolis.

1.4.2 Specific Objectives

The specific objectives are:

1. To identify the specific and generic value chain intervention shea actors have benefitted from.
2. Examine the impact of value chain intervention on gender outcomes and participation of shea actors
3. Identify the opportunities and constraints shea actors face in the value chain.

1.5 Justification of the Study

Women are the most dominant actors in the shea industry; therefore, any intervention based on suggestions of the study will have extensive implication for gender development and equality. Given that value chain is also grabbing the attention of policymakers who seek to support economic development together with poverty alleviation, it is crucial to identify strategies within the value chain interventions that affect the gender outcomes of these interventions, so they can be accurately addressed through explicit development interventions (Nugraha, 2010).

While getting rid of limitations to the output of women's product can be good investment, giving more consideration to gender can enhance and sustain projects. There

seem to be a shortage in information regarding gender as an input to value chain. This study, therefore, seeks to throw more light on the gender outcomes of value chain intervention strategies, which will further go to add to the already existing pool of information. It will also be valuable to development practitioners engaged in the shea value chain and other agricultural value chain programs for the development of the best project interventions that are gender sensitive. Also, it will be an addition to the government's effort in building more gender aware societies.

1.6 Theoretical Framework

The theoretical framework of this study is the Chain Empowerment Matrix developed by KIT et al. (2006). This framework was developed to empower small farmers in a bid to helping them sustain their livelihood. Chain empowerment is about improving the capacities of actors so as to increase their involvement, and value of activities in the value chain, especially when it comes to chain management issues. Hence, they try to answer the questions; (a) "who does what in the chain?" (b) "Who determines how things are done?" (KIT et al., 2006).

In this matrix there are four empowerment strategies:

1. Upgrading as a chain actor. Shea actors are experts with a strong market sense.

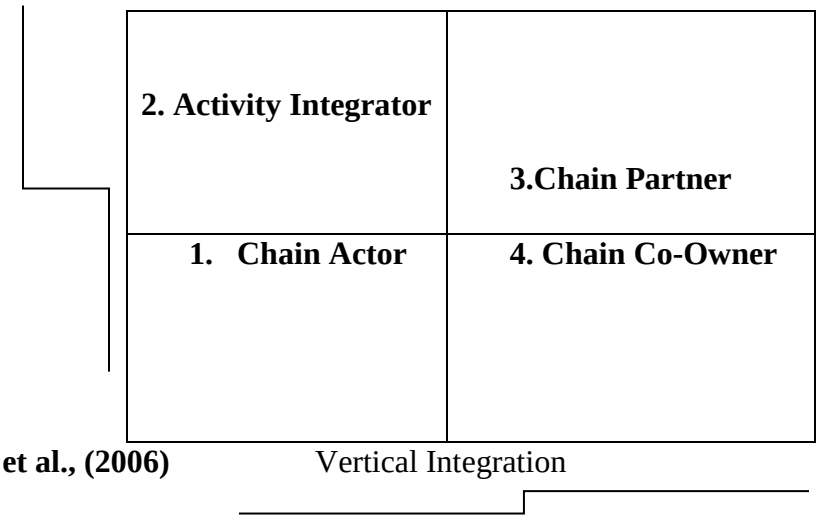
2. Value adding through vertical integration. The actors add value to the product by moving into joint processing and marketing, thus acting as an activity integrator.

3. Development of chain partnerships among the shea actors to foster long-term partnerships with buyers, which is highlights shared interests and common development, encouraging chain partnerships.

4. Chain co-ownerships. Shea actors take possession of the chain by building clear-cut connections with consumers.

As this framework is a tool for deliberate assessment of chain development, it was observed that the best position of an actor does not need to be in the upper right quadrant, rather the position of an actor is contingent on the particular situation, and may change over time.

Figure 1.1 Composite Empowerment Framework



Source: KIT et al., (2006)

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a review of the literature employed in this study and will discuss important concepts relating to the study. The concepts and discussions include gender, value chain, value chain interventions, empowerment as an outcome of the value chain interventions, value chain upgrading, the global shea value chain, and shea producer groups or associations.

2.1 The Concept of Value Chain

Porter, (1980) conceived the concept of value chain in a time of strong competition where tactical management was important for the continued existence of businesses. Porter, (1980) saw the entire production process as a chain of activity resultant in the improvement of quality and cutback cost.

Value chain, is both an analytical and an operational model (Roduner, 2007) which means that a commodity is seldom consumed immediately at the location where it is made. The commodity is modified, combined with other products, then distributed, put together and exhibited until it reaches the final customer. In this process, different actors connected by trade and services are seen as owners of the unprocessed resources, the unfinished products and the final products, each adding value to the finished product (Roduner, 2007).

The value chain model assumes that, by appreciating these interactions, private and public agencies, including development agencies, will be able to recognise points of intervention that will continue to increase effectiveness and thus multiply total value

generated, and to boost the competence of actors to increase their share of the total value created (Roduner, 2007).

The value chain is a composition of physical, economic and social connections between persons and organisations involved in the transformation of raw materials into end products (Ahmed, 2007). Schmitz, (2005) defines the value chain as a group of companies working to meet a demand in the market. It comprises a chain of activities which, through the production and distribution processes of each activity, add value to a product. Both definitions put emphasis on the transformation of products through the activities of individuals, companies, and chain actors. Value chains are also seen as the complete variety of activities required to transform a product from its formation into a final product for consumers (Kaplinsky and Morris, 2001; Will, 2000). The activities that a value chain is made up of are centred locally but also often approved in regional or global inter-company networks (Gereffi, 1994; Kaplinsky and Morris, 2001). Value chains are explained in two ways:

The narrow approach where a value chain consists of activities to be carried out in a company to generate a particular output. This includes the training and design phase, the process of input material acquisition, production activities, marketing activities and distribution activities.

The broad approach examines the diverse range of activities used by different actors such as primary producers, processors, traders, service providers and others to bring a resource from one end of retail to the end of the final product. This approach focuses on past activities carried out by a single company to include all its backward and forward

connections to the level at which the product created is linked to the final consumer (Kaplinsky and Morris 2001; Berg et al., 2008).

In regards to the shea value chain, a wide variety of stakeholders have been recognised, who play different roles at various stages (Lovett, 2004). These stakeholders consist of village pickers and post-harvest dry kernel processors, local purchasing agents (LBAs), traditional butter processors in rural and/or urban areas, large shea kernel exporters, large shea butter processors, small scale cosmetic shea butter producers, external large-scale purchasers and processors of kernel and butter, most especially in the US, EU, and Japan, external entrepreneurs making shea butter based cosmetics, external entrepreneurs or edible products manufacturers including Cocoa Butter Equivalents (CBEs) or Cocoa Butter Improvers (CBIs) based in shea butter. It has been maintained that value chain actors sometimes work together to bring the product to the final consumer, even though they may not know how they relate to upstream actors and players downstream of the chain (Kaplinsky and Morris, 2000).

Instead of concentrating on particular actors or constraints in the chain, the value chain approach places emphasis on the proficiency of the system to make available an understanding of its functionalities, including finding the fundamental causes of constraints (Creevey et al., 2011). Due to the holistic approach of value chain analysis, importance is placed on the participation of the men and women in the agricultural supply chains at all stages. For example, from the supply of production inputs to retail of products, the products are marketed according to consumer households ' gendered socio-economic characteristics (Coles and Mitchell, 2010).

2.1.1 The Filiére Concept

Known as Commodity Chain analysis, this approach was first used by French scholars in the 1960s to analyse the agricultural system of French colonies. The analysis functions mainly as an instrument to study the techniques in which agricultural production system mostly, those of cotton, leather, butter, and cocoa were organized in the developing countries. It is used to model product movement and to classify agents and activities. The Filiére approach is similar to the wide-ranging concept of value chain analysis and focuses on two grounds on which the semblance exists (Berg et al., 2006).

The Filiére approach pays attention to revenue generation and distribution in the product chain and separates costs and incomes between local and internationally traded elements to consider the spill overs of the chain on the national economy and its contribution to GDP (Berg et al., 2006).

This concept is used mainly by research institutions working on agricultural development, scrutinising the interaction of purposes, limitations, and outcomes of each type of stakeholder in the chain. Individual and collective strategies are also evaluated as well as patterns of regulations (Hugo, 1985). It is based on this that, Hugo, (1985) outlines four kinds of strategies when it comes to the product chains in Africa. These are domestic legislation, market regulation, state regulation and international regulations governing agribusiness.

The Filiére approach is said to be more fixed, and is mostly applied to domestic value chain, hence it generally stops at national boundaries (Berg et al., 2006).

2.1.2 The Porter's Concept

Porter, (1985) defines the value chain as the function resulting in improvement of quality and cutback costs within an organisation or a firm and its relation to the organisation's competitive position. Porter, (1985) relates the framework to gauge how a company should position itself in the market and in its association with suppliers, purchasers and competitors. Within a given industry, Porter recognised five competitive forces working together. These include the strength of competition between existing competitors, the entry barriers for new competitors, the challenge of alternative products and services, suppliers' bargaining power and buyers' bargaining power.

Porter, (1985) argued that it is not possible to detect a company's source of competitive advantage by looking at the business as a whole. The business should instead be divided into a set of activities and a competitive advantage contained in one or more of these activities. Porter's framework categorises the activities the firm needs to undertake to find source of competitive advantage into two: Main activities and Secondary activities. Main activities directly influence the quality and value of a good or service during production. Supporting activities indirectly affect the final value of the product.

Porter's (1985) definition does not imply that the idea of a physical transformation and an analysis of the profitability of the value chain of an organization should concentrate on the design of the product, the source of supplies, marketing of goods and services, and after-sales and support services. Hence, Porter's concept has strict business application and is mainly applied to assist management decision and executive strategies.

2.1.3 The Global Value Chain Approach

In the last three decades of globalisation, the global economy, especially global production and international trade organisations, has changed significantly (Pietrobelli and Staritz, 2013). There has been a rise in global trade which has led to a rise in the global economy, GDP, and employment rate and these have been attributed to an increase in the production processes of value chains across the globe (Bamber and Staritz, 2016). Several sectors of production have disintegrated across several countries, bringing together companies, workers and consumers around the world (Feenstra, 1998). Products are no longer simply manufactured in one country and transported to another for sale. In addition, goods often go through several stages, crossing many frontiers, adding parts, and value until they enter their final markets. Taking Global Value Chains as the uncontrollable fact of globalization is crucial for successful trade and wider sustainable development policies (Bamber and Staritz, 2016).

Several studies (Elias, 2003; Fobil, 2007)) indicate that countries in Africa producing shea butter, manually or industrially, account for nearly all the vegetable fat that rural populations eat whereas a large portion of nut are processed outside Africa for use as cocoa butter equivalents. When several cotton oil companies closed down in Mali, most people in the rural areas, and the urban areas increased the consumption of shea oil. (Perakis, 2006).

Policymakers are increasingly turning to integration and upgrading in global value chains as a way to drive growth, generate jobs and increase levels of income (OECD, 2012). Despite statistics showing high levels of female jobs in many global value chains, this inclusion is also seen as a means of reducing poverty and promoting gender equality

through the introduction of women into the labour force. Fair-trade and other certification standards schemes are seen as promising strategies of linking vertical and horizontal value-chain upgrading element in shea industry (Bolwig et al., 2008).

2.2 The Shea Value Chain

Shea trees grow in a 5000 km long region extending from Sudan to Guinea, and can be found in twenty countries like Ghana. In Ghana the shea tree covers almost the entire area of Northern Ghana, about 77,670 square kilometres in Western Gonja, Wa, Tumu, Western Dagomba, Southern Mamprusi, Lawra, and Nanumba, with Eastern Gonja having the densest stands (CRIG, 2002). Some parts of the southern sector of the country, like Ashanti, Brong Ahafo, Eastern and Volta regions have sparse coverage of shea trees. A SNV survey (2006) found that over 600,000 women in Northern Ghana depend on income from shea butter and other shea-related products for their daily provisions such as contributing to the family food budget and meeting educational and medical expenses. These women are viewed as being susceptible to poverty due to gender inequality. Their inaccessibility to resources and assets makes them more vulnerable to poverty.

A large portion of shea nuts collected in Africa are processed outside the continent for use as vegetable fat in confectionary and as a cocoa butter equivalent (CBE), with a fraction of that either produced manually or industrially within the region (Scholz, 2009). Studies indicate that in the producing countries, shea butter is the most common vegetable fat consumed by rural populations (Elias, 2003; Fobil, 2007). It serves as a cheap substitute to imported refined oils that are so revered in urban settings.

In their study of the prospects and limitations in the shea nut/butter value chain in Ghana, Carette et al., (2009) found that while the shea industry a developing one in Ghana, the

consumption of the butter around Tamale seems to be decreasing; attributable to the fact that people around Tamale make more use of imported oil which the inhabitants consider as more modern. The increase is however due to the demand from the southern part of Ghana and also because of international market demand.

Studies have shown that the consumption of shea butter in industrialised countries has increased because consumers have shifted away from synthetic cosmetics to more "natural" and "green" products. Moreover, the shea used in the cosmetic and pharmaceutical markets is expected to be of the highest quality as food safety is a vital aspect of confectionary industries (Fold, 2000; Elias, 2003; Chalfin, 2004). Scholz (2009) indicated in a study that, the quality of shea nuts quality in Ghana is considered to be high, although it had previously been affected by poor quality imports and smuggling from neighbouring countries. However, Derks and Lusby (2006) found that comparatively, shea nuts from Ghana are of a higher quality and have considerably lower Free Fatty Acids level, high oil content and are less contaminated by moisture and smoke from charcoal fires.

2.3 Value Chain Interventions

Various organisations define value chain interventions differently, to suit their developmental objectives. Most often, value chain interventions are defined as general systems expected to strengthen the growth of an economy, expand privatisation, generic skills development, extension services delivery, improving organisational capacities, and/or boosting the commercialisation of activities related to trade and industry (Riisgaard et al., 2010). Value chains encourage development in the areas of exportation, marketing of goods, and services, and concentrate on increasing "social and

environmental development issues" (Stamm and von Drachenfels, 2011; Riisgaard et al., 2010). However, value chain interventions primarily pay attention to increasing/ building connections among actors in various stages of the value chain, either in manufacturing, development, or trade occupations, or in all three aspects, to better the terms of involvement of specific groups (Riisgaard et al., 2010). Value chain interventions are those affecting access and integration into value chain. This is very significant in developing countries and as such, interventions should pay attention to drawing investments, by creating a favourable business environment, attracting lead firms, decreasing investment barriers, increasing global suppliers, and appealing to foreign direct investment; and developing skills and business linkages (Pietrobelli and Staritz, 2013). Value chain interventions are said to be explicit or implicit. Value chain interventions are explicit when they place importance on not only "chain leaders, particularly lead firms, but also global first-tier suppliers or intermediaries" (Stamm and von Drachenfels, 2011). Value chains interventions are also implicit when they create new value chains, increase the skills of target groups, forge new links within a value chain by improving the way actors participate, and/or to minimise undesirable effects of value chain operations (Riisgaard et al., 2010).

Value chain strategies address the reasons for input, output, distribution and/or marketing weaknesses, not by working with each participant in the system, but by working at tactical points of influence that can cause comprehensive change (Creevey et al., 2011). Value chain interventions are categorised into two: Generic and Specific value chain interventions.

Generic value chain interventions seek to increase the effects of benefits on men and women. Specific value chain interventions are interventions that are targeted towards a specific group or gender. Entering value chains is also an important aspect of value chain interventions which promote the entry of economic players, most often SMEs, into local and regional value chains. It emphasises different divisions of supply chains that offer higher added value and incentives, rather than simply focusing on increasing efficiency and avoiding confining themselves to low-value activities (Giuliani, Pietrobelli, and Rabellotti, 2005). Value chain approaches have similar characteristics, though they also vary in some dimensions, most notably in the following:

- The scope of the intervention, the stages attended to and the response areas
- The relationship between the sectors and actors targeted.
- Our primary objectives and specific emphasis on broader development goals, including poverty reduction, assessment of donor value chain programs and interpretation of field experience.

However, questions have been raised on the effectiveness of these value chain interventions. Thus, it is important to put emphasis on some issues that have been identified to as causes of reducing the effectiveness of value chain interventions. These issues include but are not limited to the following:

- A clear understanding of the core value chain concepts and strategies, including the evaluation of governance structures and power relationships that impact on competitive pressures, barriers to entry and opportunities for improvement (Pietrobelli and Staritz, 2013).

- Increasing suitable, context-specific upgrading strategies, as well as evaluating the intricacies of upgrading processes and the costs, risks, and benefits. There isn't a one-size fits all upgrading strategy in value chain interventions (Kaplinsky and Readman, 2001).
- Involving lead companies, manufacturers and intermediaries as stakeholders in ensuring that supplier companies and countries not only improve but also diverge their interests (Altenburg, 2007).
- Emphasis is placed on clusters and collective actions to allow value chains to be improved through collective performance, club provision and public goods, and also as a means of implementing intervention (Pietrobelli and Rabellotti, 2007).
- Cooperation between private and public stakeholders and participation in the development of public resources for strategic policy formulation and implementation and the development of avenues for private-public cooperation (Humphrey and Navas-Aleman, 2010).

2.4 Value Chain Upgrading

Value chain upgrading aims to raise awareness about how interventions can affect men and women differently (Kaplinsky and Morris, 2001). The upgrade of the value chain is the process that equips a company or any other actor in the chain to take on more value-intensive functions in the chain, making it more difficult to restore and therefore more appropriate to the profits generated (Stamm, 2004). This involves the procurement of industrial proficiencies and business linkages allowing companies to improve their effectiveness and step into higher-value activities.

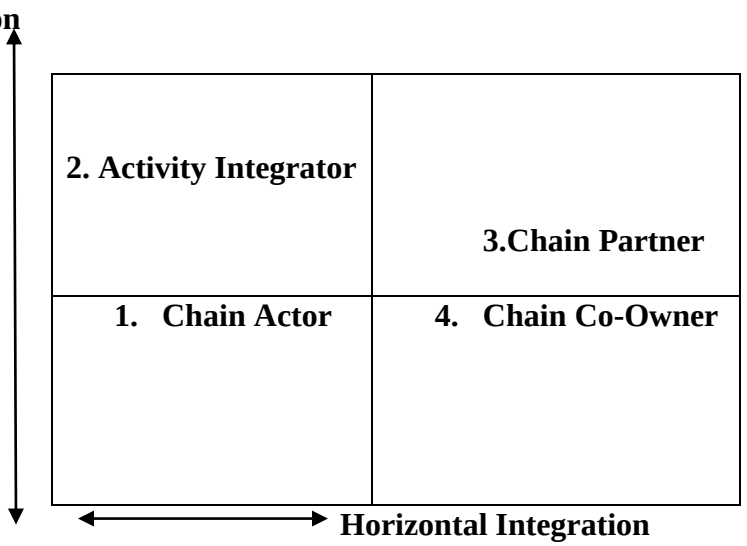
Upgrading is the process by which actors within the chain increase effectiveness and their ranks in the chain of command of value-added activities, progressing from lowest activities to highest activities (Bair and Gereffi, 2003). Value chain intervention upgrading strategies allow donor organisations situate and select the most suitable strategies to address the issues at hand (Schulpen and Gibbon, 2001). These issues can either be related to gender, behaviour of actors in the value chain, intensifying involvement of actors, and more. Value chain strategies should be able to create avenues for products to compete at all levels. Hence, the strategies used in value chain interventions should always be upgraded for products to compete on both local and international markets (Henriksen, Riisgaard, Ponte, et al., 2010).

2.4.1 Upgrading Strategies

Upgrading in the value chain is the process that allows a business or any other entity in the chain to take on more value-intensive functions in the chain, making it more difficult to substitute and thus to take over a larger share of the yield produced (Stamm, 2004). Upgrading strategies are the strategies that boost the value chain's productivity and equity by optimising the benefits its participants earn (Coles and Mitchell, 2010). Upgrading strategies create competition within the value chain. This is necessary to enable entry into a wider range of regional and international markets as there are new standard requirements for quantity, price, scale, protection and other characteristics to which value chains must adhere (Sebstad and Manfre, 2011). Value chain upgrading strategies are used to consider the possibilities for participants to “step up the value chain,” either by shifting to more lucrative places in the chain or by helping generate more value-added goods and/or better consumer returns. (Riisgaard et al., 2010) per the chain empowerment

matrix which states that shea actors can move from being chain actors, to activity integrators, to chain co-owner, and/ chain partner (KIT et al, 2006).

Figure 2. Chain Empowerment Matrix



Source: KIT et al, 2006

2.4.2 Upgrading Strategies from a Gender Lens

Upgrading strategies includes making changes to existing production processes, goods, functions or distribution networks, and adding value in a value chain as a response to changing market conditions and new market opportunities (Sebstad and Manfre, 2011). Upgrading strategies are significant in creating competitive agricultural value chains which provide a main source of income for farm households in rural areas. Upgrading strategies promote access to lump sums of investment money, the adoption of new technology and the development of new business relationships (Sebstad and Manfre, 2011). An analysis focusing on institutions and agency helps to understand the positioning of a rural entrepreneur in a value chain and the constraints to upgrade (or to change that position). As a result, it helps to design interventions that address these

potential constraints to upgrade. A gender lens is essential in that kind of analysis. One way to engender the chain empowerment framework, is therefore to look both at structural and individual constraints and opportunities for men and women to upgrade in a value chain. Based on that, interventions can be designed that aim to achieve gender equal outcomes in upgrade strategies. According to the chain empowerment matrix, actors can fall within one or more of the following stages:

- **Upgrading as chain actor**. This is the first strategy in the chain empowerment framework. For example, the first chain empowerment strategy, focuses on upgrading as a chain actor. In this situation the female chain actor is engaged in a range of activities, but these are often not visible or activities are not valued, compared to the activities of her male counterpart (often also husband). Women may therefore be "crop specialists", but are not recognized as such.

  For most of the cases documented in the literature, upgrading as chain actor is one way of strengthening a rural entrepreneur's position in the chain. In these cases, part of the interventions aims at increasing and securing the returns for female farmers by improving volumes and/or quality that they produce. The case of shea butter in Guinea, represented by Ward Tanghe from the Belgian NGO Trias, is an interesting example. In Guinea women are traditionally involved in the collection and small-scale processing of shea nut. Women are able to this because they don't need land to access nuts. They make butter which they sell at rural markets to earn some money. The income they derive from this activity is little but essential to make ends meet. This activity is not without risks and the negotiation position of women involved in this type of informal activities is often low. This explains also

the choice of development organizations to choose interventions that will strengthen the position for women related to an activity they already do.

To make an intervention successful, no shortcuts can be taken. To enable women to gain a higher and secure income, it is not enough to only improve their technical skills, but to also invest in improving individual skills, such as planning and literacy. On top of that, women had been assisted to organize themselves in unions. As a result, their activities have become more visible in the shea value chain.

- **Upgrading as activity integrator.** The second strategy focuses on adding value through taking control over more activities in the chain. This upgrading strategy requires skills and entails costs. For women, a possible hindrance to upgrade is that they don't control the additional income that they earn. On top of that it may increase a woman's workload considerably with implications for her wellbeing and may not help her to negotiate for better terms in the household.

  In the upcoming book, a number of cases aim at increasing involvement in value chain activities higher up in the chain. Although we lack evidence on how the distribution of income within households takes place, it becomes clear that ownership for women is key. Again, in the shea butter case, the fact that women became owner of the processing machines enabled them to produce higher volumes and better quality of shea butter, and to access favourable markets.

- **Upgrading as chain partner.** The third strategy looks at strategies for actors to become a chain partner. However, here we also see similar gendered constraints. Women can become a member of a producer organization, or they can even

become board members of these organizations, but that does not in itself mean that they are able to influence decision making processes. On top of providing women with a position, women need for example individual skills (i.e. how to negotiate) and awareness of what they can do.

A number of cases in the write shop illustrate the constraints women face and ways of dealing with them. For example, in the case of the Allan Blackia chain in Tanzania, represented by Harold Lema from the NGO Faida MaLi, existing gender policies and targets ensured that women were represented in training, producer organizations and price negotiations. This made them chain partners in a newly developed value chain.

- **Upgrading as chain co – owner.** The fourth strategy is actually a combination of the second and third strategy. As co-owner women control a number of activities in the chain and participate in chain management issues. The case "café feminino", presented by Gay Smith from OPTCO, is an interesting example where the intervention resulted in Peruvian female coffee producers becoming co-owner of the coffee chain. Interventions resulted in higher quality production and female representation at all levels of the value chain. This enabled women to establish sustainable relationships in the chain, which made them co-owners and decision makers. It has resulted in a successful female coffee brand in the world market.

  The intervention initially focused on coffee farming and for coffee producers to become so called "crop specialists". Later on, training was also focusing on finance, leadership and organizational skills. The situational analysis showed that

in Peru coffee producers face a number of constraints (e.g. lack of organization, land ownership). Women involved in coffee production face additional constraints, such as illiteracy, double responsibilities and some face domestic abuse. The NGO that supported the producers, proposed to other actors in the chain to develop a separate women's coffee label and to market this separately. As a result, the cooperative set up a small export company, to manage the processing of the coffee. A US based coffee importer was interested to buy the coffee which was produced, processed and sold only by women. This made it easier for female coffee producers to build sustainable relationships in the chain. As a result, women are now able to co-decide on how their coffee is being produced, processed and sold.

Value chain upgrading strategies are evaluated based on how successful they are in improving gender outcomes. Value chain upgrading strategies are either horizontally integrated or vertically integrated and they are evaluated on these premises.

Horizontal integration looks at types, structures, and degrees of cooperation between actors of the same value chain – e.g. women's groups. Horizontal integration increases functional productivity and reduce market transaction costs. It is mostly the first step in a sequence of interventions that eventually encourages access to markets, often as a prerequisite for other types of upgrading, often vertical coordination and functional upgrading (Mitchell et al., 2009). Horizontal integration also looks at how organisations can promote women access to markets and encourage them to own their social power, increase resource access and ownership of assets and help to challenge some of the gender inequities that underlie it that take away the power of women in value chains. An

example is introduction of “mud crab grow-out for hotel supply in Tanzania” that excluded men from the producer groups, creating resentment and anger against the women thereby resulting in sabotage, and the introduction of extra transactional and input cost for the women groups (Coles and Mitchell, 2009).

Vertical integration looks at the “links between actors in different value chain positions which can increase income, and access to credit on better terms or even increased social status and prestige” (Perkins, 2009). Vertical integration, is when co-operatives take total control of all upstream or downstream activities without the need for ruling middlemen and potentially increasing returns to production (Perkins, 2009). Vertical linkages, however, can emphasise prevailing inequities. For vertical integration to be successful, “it should treat men and women as individuals and empower both for their participation” (Koczberski, 2007). For example, the Papua New Guinea palm oil industry's' Mama Card Scheme' (Koczberski, 2007), which motivated female labour by giving them control over income and allowing men to pay them household money in fruits that were registered on the card. It reduced in-household tensions and resulted in better nutritional results for members of the household, since women-controlled money was mostly spent on family needs.

In Ghana, shea co-operatives play a part of increasing the negotiating ability of women shea nut and shea butter processors, by providing economies of scale in marketing as well as improving access to credit, and by increasing production input and capital. Production capital and resources such as donkey, carts, large plastic containers or storage sheds are difficult for rural women to acquire independently but as a group, access to these things

are much easier since they deal with these setbacks by requesting for credit and coming together as a group.

In shea value chains, however, there are several routes of upgrading. These include Process upgrading, Product upgrading, Functional upgrading, and Channel upgrading (Dunn et al., 2006).

- Process upgrading: The goal is to increase production efficiency by transforming inputs into outputs through the reorganization of productive activities, resulting in lower unit costs.
- Product upgrading: It aims to improve the quality of a product in order to maximize its value to the customer, thereby allowing the company to offer a final higher price.
- Functional upgrading: aims to add new or eliminating old functions that improve the capability quality of the operations and introduce a new value chain feature that produces higher returns. It brings the distance between the firm and the end customer to a close and positions them to receive a higher unit price for the commodity.
- Channel upgrading: getting entry into a new market in the value chain by applying competencies acquired from one function of the chain. These markets can be local, regional, international, or global end markets. It also allows firms to firms to operate in one or more market channels at the same time.

Upgrading is consistently seen as a mechanical and linear process. Morrison et al., (2008), observed upgrading as complex, contested, and relative processes. Upgrading is beneficial for shea actors only when there are comparable levels of effectiveness, product

complexity, and functions. In this context all potential suppliers are 'running to stand still' due to increased competitive pressures (Knorringa and Pegler, 2006). However necessary upgrading is, in relation to gainful integration in the global economy, Kaplinsky and Readman, (2001) observe it may not be enough to guarantee higher and more sustainable sales and wider impacts on growth. Pietrobelli, (2007 and 2008) conclude that developing and increasing capacity in the value chain at the same job can be a better strategy for switching to higher-value goods and functions. In summary, there is no one-size-fits-all upgrade strategy for different industries and all environments because upgrade strategies must always be context-appropriate, context-specific and must take local resources, value chain dynamics into account, and expected risks, costs, and benefits.

2.4.3 Steps for Gender Mainstreaming in Value Chain Development

In the emerging framework, a distinction is made between interventions, upgrading strategies and upgrading outcomes. The upgrading strategies have been identified in the chain empowerment framework and highlight different ways to improve an entrepreneur "position in the value chain". However, relations in the chain, the influence of contextual factors and current constraints and risks to upgrade are not part of the framework. To enable actors in the value chain to define interventions that will lead to gender equal outcomes, additional dimensions have been added to the framework, so that (in)equal chain relations, context and current risks, are being addressed.

In other words when we talk about chain empowerment strategies with the aim to achieve gender equal outcomes, it is important to first look at current constraints and opportunities at individual and institutional levels, which can be addressed in the

intervention. It is also important to look at the kind of change needed, to realize gender equal upgrading outcomes. This means that gender should be "mainstreamed" throughout the process to design, implement and monitor upgrading strategies in the value chain. In order to choose relevant strategies to achieve gender equal and pro poor outcomes in a particular context, the framework can be applied through the following steps:

- **Situational analysis**

What is the current position of small rural entrepreneurs in the chain? What are the (gendered) constraints for ensuring a better position in the chain? Are these (gendered) constraints of a structural or agency nature?

- **Strategy selection and intervention design in a value chain**

Based on the analysis, what upgrading strategy is being selected? What kinds of interventions are needed to ensure that the outcomes of the upgrading strategy are gender equal? What is needed to address structural and individual constraints to contribute to gender equal outcomes?

- **Monitoring of outcomes**

How did men and women benefit from the strategy? What kinds of adjustments are needed to improve the intervention to contribute to gender equal upgrading outcomes?

This means that before interventions are being designed, a situational analysis can help to gain insights in current gender relations and positioning of men and women in the value chain, and to define what is needed to upgrade. A more detailed overview of relevant questions can be looked at in the resource pack that was developed by KIT in 2009. This resource pack also contains questions at other stages in the value chain selection, analysis and development process.

2.5 Impact of Value Chain Interventions and Poverty.

Value chain interventions rotate around the structure, dynamics of inclusion and exclusion, typologies, locations, and linkages between actors in the value chains. It involves understanding the reward structure, the functional division of labour across a chain, its changing shape, and the distribution of added value. However, previous research has not in a consistent way, considered the wider issue of the terms on which the disadvantaged engage in value chains or the impact on deprivation and gender of value chain activities (Riisgaard et al., 2008).

The gender-specific quality of the shea production process contrasted against the exploitative oilseed processors has made shea a target for fair-trade purchasing initiatives by socially conscious cosmetic firms (Elias, 2003). Fair-trade and other certification standards organisations are seen as favourable approaches of linking vertical and horizontal dimension of value chain upgrading in the shea industry (Bolwig et al., 2008). However, these certified shea products are almost non-existent in the food market, though it exists marginally in the limited market of cosmetic and pharmaceutical shea products (Scholz, 2009).

Non- Governmental Organisations, donors, and development practitioners support value chain interventions under the premise of alleviating poverty and to the curb the under-utilised potentials of pro-poor producers by increasing income levels (Kula, Downing and Field, 2006). Hence, by causing value chains to function more efficiently, i.e. by increasing information flows and creating linkages, it is estimated that interventions will

be good for the poor. Aside this notion, the approach to poverty reduction varies immensely between interventions.

An example is USAID's development program that instead of poverty reduction, it relies on economic growth. While different approaches are specifically geared towards achieving results in poverty reduction, for example, through targeting or evaluating specific groups of pro-poor people and resolving barriers that discourage poor people from participating and/or benefiting from value chain participation (Kula et al., 2006), there is insufficient evidence regarding the impact of poverty alleviation approaches on programs that claim to be effective in helping the poor (Humphrey and Navas-Aleman, 2010). The research purports that the focus on poverty that value chain interventions claim to have is not clear, as it does not state which kind of poverty is being targeted and how the poverty can be reduced, and which group of poor people are targeted. However, Humphrey and Aleman (2010) also posit that, 'linkage interventions', that is, several projects that identify and target disadvantaged groups by increasing their assets and assisting developments in value chain knowledge and negotiating power are much clearer forms of value chain interventions targeting the poor.

2.5.1 Value Chain Interventions and Gender Outcomes

In terms of gender and value chains, empowerment as a gender result of value chain intervention approaches is about changing gender relationships in order to increase the capacity of women to have a positive impact on their lives in the way they want (Laven et al., 2009). For example, taking new value chains as an intervention strategy, and employability as a gender outcome, differences in the manner in which women and men participate in and benefit from value chains may not be a problem by definition, although

these differences must be distinguished from denials of preference. It is how these men and women are seen as potentially employable with regards to their skills set, getting a job, keeping the job, and progressing in the job that may just pose enough of an issue.

Recognising how gender-related intervention approaches in the value chain would allow consideration of the different gender equality assumptions that underpin these interventions. These assumptions tell a different story of what constitutes a desired change, what methods are used to achieve that desired change, and the indicators used to measure impact, hence, gender outcomes. Attaining increasing women's incomes, promoting changes in household decision-making or ensuring equal opportunities and free choice are very different processes with different implications for women and gender relations (Riisgaard et al., 2010).

The gender outcomes of value chain intervention strategies will therefore cover both generic value chain interventions as well as specific interventions that target mostly women. Most of these gender results will be analysed at the rates of different groups of women and boys, families, value chain, social, cultural and/or in a political environment (Riisgaard et al., 2010).

2.5.1.1 Generic Value Chain Interventions and Gender Outcomes

Interventions have a gender component in one way or another. Such an aspect ranges from just making assumptions that women would automatically benefit from a generic intervention, to noting that women should be involved, to setting goals for empowerment effects (Riisgaard et al., 2010). The upgrading strategies used in donor interventions include producer training in order to make easy product and process upgrading, and to a lesser degree to improve horizontal and vertical linkages. Coles and Mitchell (2009),

suggest that the standardized updating of systems, goods, roles, and value chains can be extended strategically to participants in nodes where there are specific gender inequalities that can affect positive results. For example, updating strategies employed in areas of the chain where women participate actively will boost their terms of participation.

2.5.1.2 Gender Outcomes of New Value Chains on Employability

Employability is the ability to move into, and within labour markets, and to fulfil one's capacity through sustainable and available employment (DHFETE, 2002). Employability involves the development of skills and adaptable workforces in which all those capable of working are encouraged to develop the skills, expertise, technology and adaptability to allow them to join and stay in employment during their working lives. (HM Treasury, 1997). The employability of the individual depends on his or her attitudes, knowledge and skills and how they present themselves in the labour market environment and in the social and economic context in which work is sought (DHFETE, 2002).

A research project funded by Asian Development Bank (2001) into how new value chains affect employability under the Vietnam Fisheries Infrastructure Improvement Project, did not capture precisely the roles of women in the fisheries sector. Even though the docks provided a marketing area for wholesaling to help some female fish buyers and ice sellers, the intervention did not take in regard the gender needs of the women who were mainly employed as workforce, and the work settings in many of the operations needed to be changed for the better. Eventually, as the ports became modernised, the labour demand, diminished which left the women without jobs and removed the small commercial slots occupied by poor women. The project did not work so well for the

female chain actors because it couldn't correctly capture the role of women in fisheries (Coles and Mitchell, 2009). It didn't have any positive effect on the women.

When it comes to employability in the shea industry in Northern region, women are the most employed by the shea industry as they are the majority within the value chain (Coles and Mitchell, 2009). Most of the female actors become a part of the value chain as early as adolescence. This is where they learn to pick nuts (differentiate between bad nuts, and good nuts, organic and conventional nuts), then begin to learn skills like how to dry the nuts to prevent moisture retention, how to de-shell the nuts, master the skill of marketing and negotiation, for most actors, this is the end of the skills sets. Most actors learn additional skills like how to process the nuts to butter as a means of upgrading their chain positions, whereas some actors enter the value chain by learning how to process nuts without having to learn how to pick; as the skills needed for processing nuts do not necessarily depend on whether one can pick nuts or not (Lindsay and McQuaid, 2004)..

Some female shea actors learn how to add value to the shea butter processed to market for a higher price than if the butte had just been sold without the value addition. However, in the value chain, the same majority of women are at a disadvantage because they only fall within the categories of pickers and/or processors whereas the smaller minority made up of men and big corporations control the value chain as marketers, and chain owners (Nickell and Quintini, 2002). This means that majority of the women in the shea value chain, do not have the necessary skills needed to upgrade to chain owners or chain co-partners and most development organisations do not implement strategies that are geared towards giving training or advocacy to women groups or cooperatives on

techniques on how to become owners of the value chain rather than workers, when they are the people who have mastery of the shea tree.

2.5.1.3 Gender Outcomes of Interventions on Gender Roles and Relations in the Household.

Most interventions that fall under the generic label are implemented with the assumption that the both genders will be targeted and the expected outcomes evenly distributed. Most often than not, that is not the case. The women are always at a disadvantage in these circumstances. A study of two interventions aimed at involving both sexes in aquaculture production in Bangladesh showed an increase in intra-household relations and progress among women who partook in the interventions as against a controlled group of women who didn't take part in the intervention (DANIDA, 2009).

Participation improved women's awareness on their empowerment and self-confidence as a result of the practical changes they saw from attending and taking part in group meetings, and being given credit, rather than them using the knowledge and technical skills they acquired from training (DANIDA, 2009). Although most women participated equally in the technical training, their gender roles prevented them from actually using their training because the men controlled both the pond and financial activities chain (DANIDA, 2009). This relates with the shea value chain in the Northern region as majority of the control is in the hands of the men who are mostly the marketers. The men control both the shea value chain, and the supply

The study reveals that although women taking part in training and credit schemes has been successful, this has not changed unfair gender relations at the household level where men controlled both pond and financial decisions.

2.5.2 Specific Value Chain Interventions and Gender outcomes

Specific value chain interventions target a specific sex within the value chain. Most often, the target groups are women groups or nodes within the chain that have a large number of women. Specific value chain intervention strategies are mostly employed under the assumption that the target group, who are mostly women, will benefit more when their gender needs are considered at the design phase of an intervention, and also because, within the value chain, women mostly have difficulty in regards to taking part in decision making, and governance issues. Just as value chain interventions that have gendered generic strategies have constraints, those that are specific also have their constraints (Riisgaard et al., 2010).

According to Manfre and Sebstad (2010), many issues hinder women from investing in product and process upgrading. The issues include women who are more afraid of taking risks than men; mostly because of their household responsibilities, and because they have few options to count on, such as land access or finance. Moreover, the limited income flow of women and the responsibilities of taking care of the house often make it difficult to collect lump sums necessary for investment. Likewise, in many cultures, the willingness of women to participate in or establish value chain relationships that promote upgradation is restricted because of prevailing social norms.

2.5.2.1 Gender Outcomes of New Value Chains on Increased Gains for Female Actors in the Chain.

In a case study funded by SDC in Pakistan, Stuart and Rahat (2008), discuss Pakistan's handicraft development programme which identified and trained a number of women to earn income by developing new handicrafts. The project's activities incorporated the

production of market-oriented goods, the improvement of processes and procedures for the purchasing of raw materials, managing of records, the circulation and selection of embroidery pieces, paying and delivering of products to branded outlets and the promotion of products for 'Thread-Net Hunza'. This initiative sought to create new value chains with the participation of women at all levels. The study found that the project had modified both the views of women and men about future roles and increased access and control of women's resource (Stuart and Rahat, 2008).

2.5.2.2 Gender Outcomes of Value Chain Interventions that Target Women on Forging New Linkages.

A study in India on community-managed maize procurement addressed the lack of market ties and the unfavourable position of poor female maize producers with local traders. In order to do away with such practices, and enhance women's bargaining power, village procurement centres were created. These centres are in the possession of, and managed by these women's groups. The village procurement centres address quality control, product aggregation, the lack of credit, and market linkage (Riisgaard et al., 2010).

An evaluation conducted a year after the implementation of the project found that the women have increased involvement in making decisions, taking up leadership positions, and putting the technical skills to use. As a result of these groups, women were supervising village businesses, an activity that compelled them to take on duties that were formerly a man's job. For example, negotiating with other traders and agents of other companies. The purchasing centres did not only help the members of the groups alone,

but the whole village benefitted from them. Thus, owing to the benefits of their services, women who took part in the intervention got support from village elders and leaders.

By creating new connections, the project increased the way women were included in the local value chain (Subrahmanyam et al 2006).

2.6 Value Chain Upgrading Using the Chain Empowerment Framework

Analysing and understanding the position of a rural entrepreneur in a value chain and the limitations to upgrade from that position will help implementers conceptualise interventions that will encourage upgrading within the value chain. Upgrading through a gender lens can be done using the chain empowerment framework which in turn, becomes engendered, as this framework looks at both the organisational and specific limitations and prospects to advance the value chain for both men and women. Chain empowerment framework is about enhancing the abilities of actors to increase their activity value to be able to participate in chain management issues (KIT et al, 2006). It is a matrix that purports that empowering small actors is essential for sustainability. Interventions, thus, can be planned with the aim of achieving equal outcomes in the value chain for both men and women (Laven and Verhart, 2011).

2.7 Gender of Shea Actors

Sex refers to the biological and reproductive features of man and woman. Throughout the human race, sexual differences are the same while gender is defined as a type of behaviour acknowledged as masculine or feminine (March et al., 1999). Gender is a social construct. It is defined as a socially created, behaviour that is learned and what society deems as what makes a man and a woman (Kabeer, 1999). Gender differs across

communities, within institutions and across racial, ethnic and cultural groups. It makes reference to cultural, political, and economic arrangements such as social norms, beliefs. Legislation, and institutional practice (England, 2002). Gender and gender identity are built socially by socialisation mechanisms, in which people are sociable people. Lorber (2004) posits in a study that gender institutionalisation is one of the most important ways in which human beings coordinate their lives. It is a way through which societies organise and split responsibilities based on gender, race, and ethnicity, aside the traditional line of looking at different talents, motivation, and capability. Culture and social practices transform social statuses through prescribed processes of teaching, learning and enforcement, which are go a long way to transform social institutions.

Individuals are thought to be feminine or masculine and according to Lorber (2004), gender processes create distinguished social statuses which enables the assignments of rights and responsibilities, and create social differences that define a man, or a woman. The 1970s are regarded as the rise in gender awareness. Gender was seen as a reason for continued inequality and multiple forms of social distinction. Nevertheless, with more women in the social sciences, gender research has expanded (England, 2002), although their productive work is often less evident and less appreciated than their male counterparts. (Moser, 1993).

2.8 Value Chain Interventions, Gender Roles and Poverty

Value chain interventions hinge on how the value chain is structured, the actors, dynamics, typologies, location and linkages of chain actors, and how the dynamics of inclusion and exclusion are analysed (Laven and Verhart, 2011). It also includes comprehending the reward structure, the efficient division of labour along the chain and

its changing shape and the role of standards in allowing or dissuading the participating actors (Subrahmanyam et al 2006). Nevertheless, not many studies on the value chain have managed to directly link the impact of value chain activities and poor people's involvement, or the impact of value chain activities on poverty and gender. The few accounts were primarily for household sales (Riisgaard et al., 2008).

Approaches that analyse in detail the local dynamics of living conditions and shifts in the extent or existence of deprivation and gender frequently downplay the way in which these problems are influenced by the dynamics of the value chain and by restructuring (Riisgaard et al., 2008). A study by Humphrey and Navas-Aleman (2010), on value chain interventions and poverty alleviation strategies revealed that, in general there is insufficient evidence of the impacts of measures on poverty alleviation to suggest that they are effective or efficient in helping the poor. In addition, they conclude that the focus of the value chain interventions on poverty is unclear. Linking pro-poor actors with large agri-businesses is often seen as poverty reduction (Humphrey and Navas-Aleman, 2010).

According to Norem, Yoder, and Martin (1989), in terms of labour duties, decision-making, and awareness there is a huge difference in the gender roles of women and men. While men and women often use resources and handle them in different ways. In some cultures, women participate actively outside their homes for jobs, while others have a clear gender definition of tasks. Women have a triple function in reproduction, production, and community-managing practices. In comparison, men mainly engage in active and civic politics (Moser, 1993).

Reproductive work includes caring for the household and its occupants, including child care and feeding, food preparation, water and fuel collection, shopping, housekeeping and family health care (Moser, 1993; Adu-Okoree, 1996; Olson and Defrain, 2000). In poor communities, reproductive work for the most part is rigorous and time consuming. It is almost always the responsibility of women and girls.

Productive work includes the manufacture of consumer goods and services, and trade in jobs and self-employment. All women and men are active in productive activities but often vary in their roles and obligations. The productive work of women is often less visible and less valued than that of men (Moser, 1993).

Community work includes collective organisation of social events and services, ceremonies and celebrations, community-enhancing activities, participation in groups and organisations, local political activities, etc. This type of work is rarely considered, yet it involves a considerable amount of volunteer time and is important for community spiritual and cultural development (Wallace and March, 1991). Moser (1993), divides community work into two different parts: Community-management activities mostly undertaken by women as an extension of their reproductive role, and by men involved in organized, formal politics, often within the framework of national politics. They are generally paid in cash for this job, or profit indirectly through improved rank or power (Wallace and March, 1991).

2.9 Gender Dynamics on Activity Choice

Gender plays a major role in the way responsibilities, and activities are allocated to men and women in societies. This division, however, varies from society to society, culture, to culture, and because of certain external circumstances, overtime, these changes reflect

within these societies and cultures. However, in most societies the dynamics of gender power are skewed in favour of men, with different values being attributed to women's work and men's work (March, Smyth, and Mukhopadhyay, 1999). Therefore, a distinction must be made between male and female successful and reproductive work.

Reproductive work involves the care of the household and the household members, such as cooking, cleaning, child-bearing, cleaning, building and maintaining shelter. All of these are done mainly by women within households (March et al., 1999).

Productive work involves generating income-oriented goods and services. For example, shea nuts picking, shea butter processing, and nuts and butter sale. It is however noted that not all men's and women's woks are treated the same, although both do productive work (Boserup, 2007). The introduction of wage labour for men as observed and the trade in basic commodities spurred processes by which tribal collectives broke into individual family units where women and children were economically dependent on men (Leacock, 1983).

In 2011, the FAO estimated that women make up of between 60 to 80 perfects of economic production in most developing countries, which is now becoming recognised. The report went further to state that, although women make up the backbone of small-scale agriculture, they face more difficulties than men in gaining access to resources such as training, access to market, credit and productivity enhancing inputs and services, and land (FAO, 2011).

While considering how resources are allocated between men and women, it's important to look at the difference in, and power of, access to resources. Access is described as the right to use a resource and control is the power to determine how, and who has access to,

a resource is used. Women often have access to the resources but no control (March et al., 1999).

2.10 Gender Empowerment and Livelihood Activity

Poverty is one of the world's most significant development issues and more than three-fourths of the world's population live in impoverished developing countries (Sethuraman, 1981). The shift in power from an oppressive state to a just one that is said to be is said to be livelihood improvement. It is providing opportunities for the poor in society to make their decisions in relation to issues in their households that include activities related to development and expenditure in various gender-specific interventions. It also concerns the situation in which those rural poor feel free of any sense of subservience. Hence, improving the term gender and livelihood means increasing the self-reliance of poor women in order to enable them to understand and develop their social and economic well-being (Sethuraman, 1981).

Kabeer (2003) posits that women’s work is important to the existence and protection peri-urban household who are agrarian, and as such, their economic influences should be given more importance and attention when deigning policies although individuals empower themselves by expanding their capacity to regulate their lives own lives in other to create more fulfilling existence through mutual efforts to resolve shared problems (Maser, 1997).

Systematically, women still have little influence over a variety of productive resources, including property, information and financial resources. If women and men are comparatively equal, financial systems tend to grow faster, girls, women and men's well-being is improved, and the poor are able to change their finances quickly. Gender plays a

key role in economic growth, reducing poverty and the effectiveness of progress. Changes in economic, cultural, and historic events in the society in regards to gender relations are as a result emphasis from empowerment with a link to gender and empowerment theories on men and women behaviour in the society (Miller and Razari, 1995; Kabeer, 2002). These changes result in development interventions like value chain development activities. These activities are put in place most often than not to aid in women's empowerment to give them the ability to make decisions and affect outcome that is imperative to them and their families (Kabeer, 2002). Women's empowerment is therefore a process of change, in which women are important actors in the process described or measured (Malhotra, Schuker and Boender, 2002). Kabeer (2002) defines empowerment as "the expansion of people's ability to make strategic choices about life in the context where they were previously denied this ability".

2.11 Gender Roles and Levels of Participation

Norem et al., (1989) suggests that men and women's gender roles are seen as the disparity in labour duties, processes of decision-making and information. There are four key characteristics when it comes to the gendering of local knowledge. These include men and women having knowledge of the same things, men and women organize their knowledge in different ways, and men and women receive and pass on their knowledge in different ways

Alesina et al., (2013) stated that women in certain cultures are allowed to be employed outside their homes, whiles in some other cultures there is a clear specialisation of tasks along gender lines, where women tend to remain home and not participate in activities

outside of their domestic setting. The roles for women fall under three categories: reproductive, productive, and community activities (Moser, 1993).

Reproductive work involves the care and maintenance of the household and its members, including child care and feeding, food preparation, water and fuel collection, shopping, housekeeping and family health care (Moser, 1993; Adu-Okoree, 1996; Olson and Defrain, 2000). Reproductive work in poor communities is largely labour intensive and time consuming.

Productive work comprises the production of goods and services for utilisation and for men, women and girls to trade and find employment or be self-employed within the society. While both sexes may engage in productive activities, their roles and responsibilities also vary. (Moser, 1993).

Community work includes the mutual coordination of social events, programs, ceremonies and celebrations, community building activities, group and individual engagement, local politics and related activities. Both men and women take part in community activities even though there are clear cut lines indicating which sex does what in the community (Wallace and March, 1991). According to Moser (1993), community work is categorised by: manage community activities which are seen as a woman's basic role in the community as part of her reproductive role, for example, making sure that the household could always access resources like water, education, health care. These are mostly unpaid labour, and presumed as a voluntary job description. However, community politics, the other part of community work, is considered the work of men, and they are recognised as the right people to engage in politics either at the local or national level.

The men are paid in cash for their hard work, or benefit by receiving higher status, or power (Wallace and March, 1991).

2.12 Shea Producer Groups or Associations

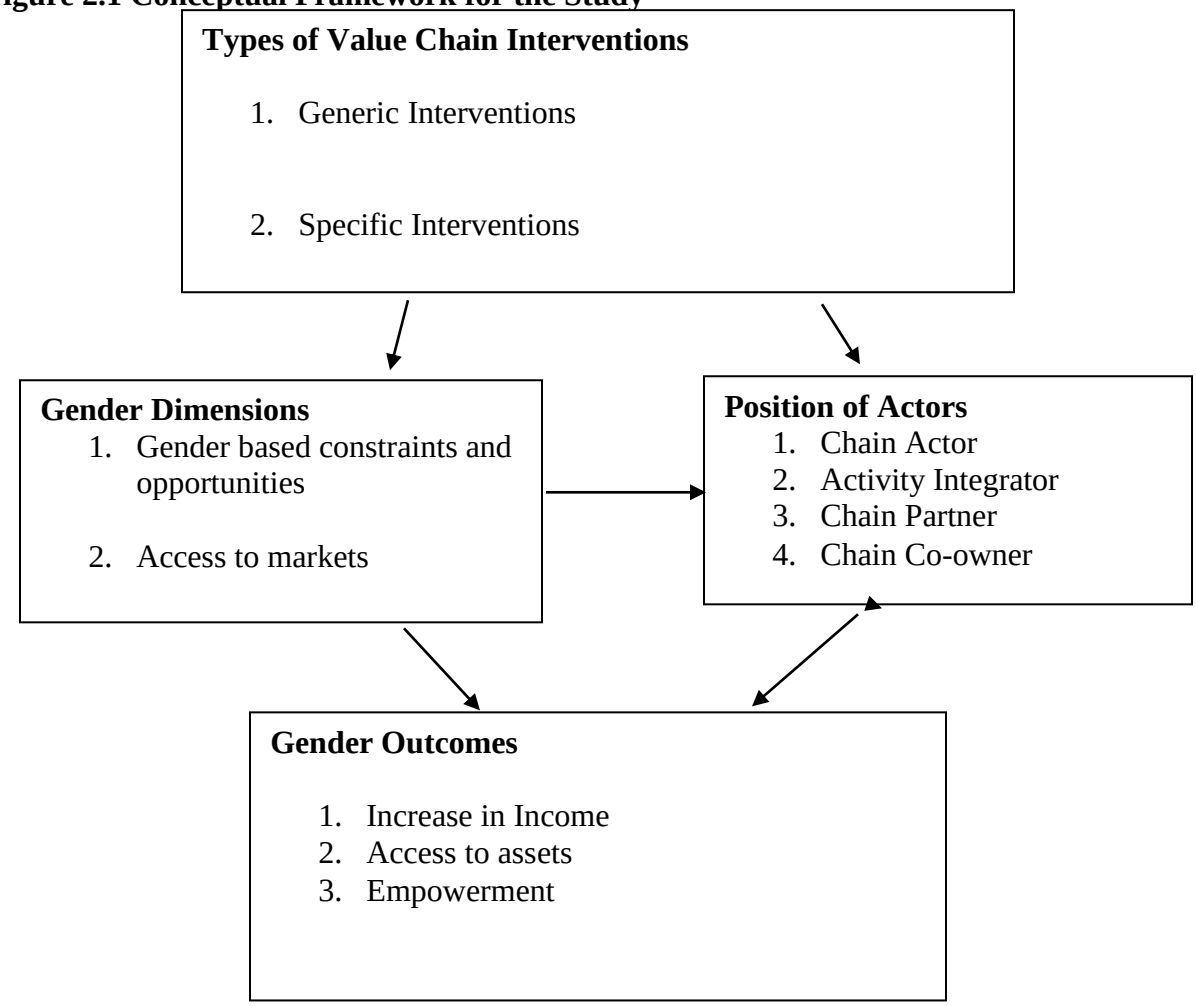
About 60% of butter extracted in Africa is done by individual women and women producer groups using traditional manual processes or methods (Addaquay, 2004). These shea producer groups are mostly formed and assisted by Non-Governmental Organisations (NGOs) and other private companies with their roles having been well documented. Producer groups enable private companies to reduce costs and increase profitability, do more business with smallholder farmers more effectively and efficiently, help improve the quantity and volume of farm produce, and increase credit recovery from farmers (Gulati et al., 2007). Besides, many produce buyers have a preference of dealing with producer groups or co-operatives because the groups provide a sense of stability in regard to the supply of quality products, as against doing business with individual farmers (Vorley et al., 2007). Transaction costs of private buyers may reduce significantly if they deal directly with groups of farmers rather than with different individuals selling smaller quantities of uncertain quality (Shiferaw et al., 2011).

Scholz (2009) pointed out that most of the women formed their producer groups for better marketing of their produce through collective action and improved negotiation power, division of labour and input economies of scale, to acquire management and budgeting skills through training, to increase the quality and quantity of their produce, to better support family livelihoods, and to have some form of social security system for emergency situations.

2.13 Conceptual Framework

The conceptual framework of the study tries to explain value chain intervention strategies and its influence on gender outcomes in relation to increase in incomes, empowerment, gender roles and participation, and gender opportunities and constraints. It is expected that when these gender outcomes are affected, the incomes of the actors will increase, their level of empowerment; ability to make household decisions without seeking permission from their spouses, ability to move freely without seeking permission from their spouses ability to take decisions on family planning without seeking permission, have control over personal autonomy will be affected, employability, and building assets base of the actors will all be affected. The end result will be actors being empowered because vulnerability will be reduced, gender roles will not be stereotypical and decision-making power of actors in markets will increase.

Figure 2.1 Conceptual Framework for the Study



Source: Adopted from KIT et al., (2006)

2.14 Empirical Review

Abubakari (2015), study socio-economic analysis of the emerging shea value chain in Northern Region, Ghana. This study examines the emerging shea value chain in the Northern Region of Ghana, with emphasis on shea butter processors. The analysis in this study involved mapping the shea supply chain and assessing the profit margins and cost structures of the actors at different segments of the chain. Using gross margin analysis and independent sample t-tests results the study revealed that butter processors bear the largest share of cost and receive the lowest profit margin. The independent t- test results

show significant differences in profit margins between butter processors operating in groups and butter processors operating individually. Beyond these empirical findings the study also shed light on the issue of governance and upgrading as it relates to the shea value chain in the Northern Region, highlighting various lead firms and auxiliary organizations in the chain and the role they play in the governance and upgrading process in the shea value chain in the Northern Region.

Afra1 et al, (2018). Value Chain Interventions and its Impacts on Empowerment of Shea Actors in the Northern region of Ghana. The study was done in the Sagnarigu and Kumbungu districts of Ghana in 2017. Primary data on value chain interventions and its impacts on empowerment of shea actors were collected from the shea actors using semi-structured questionnaires. Secondary data was also collected from SeKaf Ghana Limited and Stichting Nederlandse Vrijwilligers (SNV). Composite Empowerment Index (CEI) design by Jeckoniah et al, (2012) and descriptive statistics to examining how value chain interventions impact empowerment of shea actors the Sagnarigu and Kumbungu districts of the Northern region of Ghana. The results of the study revealed that 98.5 % of the shea actors engage in the shea business as fulltime workers whiles, only 1.5 % of the actors engage in it as part-time workers. Considering the empowerment level of shea actors before the interventions given, 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. Whiles after the interventions given, Shea actors recorded higher values in the Domestic Consultation Index and Household Decision Making Index than the other indexes. The same number

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

Charles (2015), study of the contribution of farmers' knowledge, attitudes and institutional support towards shea conservation management in the Upper East Region. The study examines the contribution of farmers knowledge, attitude, and institutional support towards shea conservation management practices in the Upper East Region of Ghana. The study used a mixed method approach. The qualitative method involved key informant interviews with institutions and organizations to collect qualitative data. The quantitative method involved administering a survey questionnaire to a randomly sampled size of 350 farmers. The qualitative data was content-analysed for patterns of relationships, while Chi-square and Likert scale were run for quantitative data. The results indicate that there was no statistically significant difference $\chi 2$ (1, N=350) = 0.206, p = 0.056 between male (95%) and female (93%) farmers knowledge in shea protection. The findings further indicate there was statistically significant difference $\chi 2$ (1, N=350) = 17.725, p = 0.049 between male (90%) and female (71%) farmers knowledge in the importance of weeding around shea trees, pests and disease control and pruning. Also, farmers generally showed a positive attitude towards shea conservation management practices. However, considering the rather low practice in shea tree conservation management by farmers, it is recommended for increased community awareness sensitization by state and private institutions.

Solomon, A, (2017) study on how the creation of new value chains for Shea butter Production influences the livelihood of rural women in a climate change situation in

Northern Ghana. The study examined the issues surrounding the structure, the dynamics of value chains for Shea butter production in Northern Ghana and the actors involved in this process and how that relationship influences the livelihoods of rural women. The results showed that the rural women were at the base of the value chain for Shea butter production although they contributed significantly in the commencement of the value chains, they were not integrated upward apparently because they lacked the capacity to handle issues of logistics. Income generated from Shea however provided women the opportunity to earn wages which projected their status in society leading to a renegotiation of the role of the wife in the household and subsequently leading to a change in gender norms and perceptions. In their bid to protect Shea trees for annual assurance of production of Shea butter, they contributed to forest conservation leaving many more trees in the parklands and planting neem trees as an alternative source of fuel wood and subsequently contributing to mitigating the impact of climate change unconsciously. The study further revealed that although both sexes use, value and protect Shea trees in the area of study, finding showed that the Shea industry is a female heritage and it is recognized as such in this area. However, the proliferation of industries in the Shea industry may as well seem a threat to women's position in these chains.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter discussed the study area and methodology used in this study. It provided a clear explanation of how this study was conducted. It describes the study area, population of the area under study, sampling procedure and sample size, sources of data, instruments of data collection, field work, and data processing and analysis.

3.1 The Study Area

This study was conducted in the Northern region. The research was aimed at understanding how value chain interventions within the metropolitan have affected the roles and participation of actors within the chain, and looking at this in the context of gender analysis.

3.1.1 The Tamale Metropolis

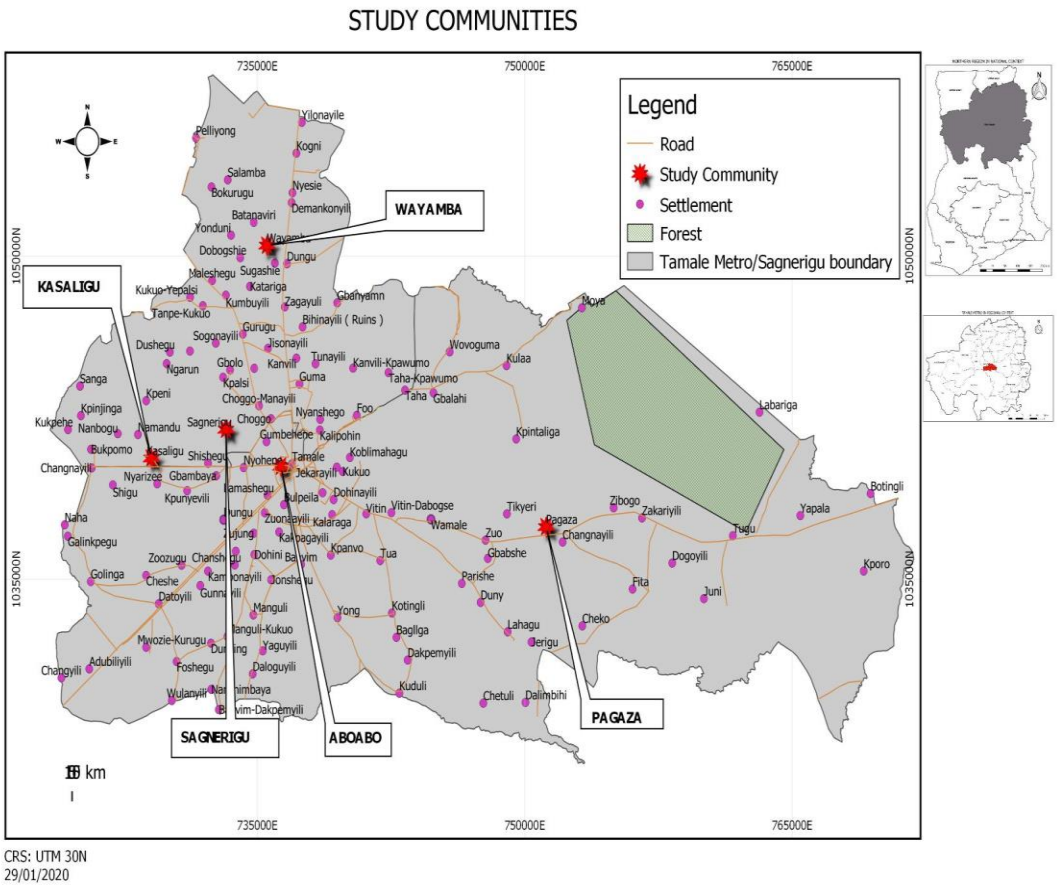
Located in the middle of the Northern Region, the Tamale Metropolitan Assembly occupies a total land area of 646,90180sqkm (GSS, 2010). The Metropolis lies between latitude 9/1616 rpm and 9 /334 rpm and 0 /36 rpm and 0 /557 rpm. The Tamale metropolis Shares boundaries with the district of Sagnarigu in the west and north, the district of Mion in the east, East Gonja in the south and Central Gonja in the middle in the southwest. The metropolis has a population of 233,252 being 9.4 % of the population in the city. 49.7% are male and 50.3% are female (GSS, 2010). Like most areas of northern Ghana, the metropolis of Tamale experiences a single rainy season that begins from April / May through to September / October, and ends with a peak season in July /

August with a mean annual rainfall of 1100mm. The dry season begins in November to March with day temperatures ranging from 33 ° C to 39 ° C and mean night temperatures ranging from 20 ° C to 22 ° C. The Tamale metropolis also lies in the guinea savanna zone characterized by tall grasses and scattered trees. The predominant trees are drought resistant such as shea nut, dawadawa and neem. The economy of the Metropolis is dominated by agribusiness including services and small-scale industries. Currently, around 84.8 % of people are estimated to be engaged in agriculture. Major crops include maize, rice, sorghum, cowpea, groundnuts, soybean, and yam (GSS, 2010).

3.1.2 Tolon district

The Tolon district has an area of 2,631km2 and lies at latitudes 9˚ 15' and 10˚ 002'North and longitudes 0˚53' and 1˚25'West. The Tolon district id bounded by Central Gonja district to the south, Kumbungu district to the north, North Gonja district to the west, and Tamale Metropolis to the east. The population of the district is estimated at 72,990 with females making up 36,630 of the population, and an estimate of 36,360 as males per the 2010 population census with a yearly growth rate of 3.5%. Majority (90 %) of the inhabitants in the district are farmers. The major food crops grown in the district are: maize, rice, sorghum and millet, cassava, yam and Potatoes, groundnuts, cowpea, soybean, pigeon pea and Bambara beans, okra, tomatoes, pepper, onions, garden eggs, leafy vegetables, cashew, mangoes, water melon and shea fruits. The annual average rainfall is 800mm, ranging between 600mm-1000mm. Rain sets in April/May – September/October. The daily maximum temperature is 28˚C to 44˚C. The night minimum temperature is 15˚C to 28˚C (Tolon District, 2015).

Figure 3.1 Map of Study Areas



Source: Town and Council Planning, Tamale Main Office (2020)

3.2 Research Design

A research design provided a framework for the data collection, calculation and interpretation (Copper and Schaindler, 2001). According to McGivern (2009) the aim of the research design is to organise the research in order to provide the required evidence to respond as accurately, clearly and unambiguously as possible to the research problem. Research design is to ensure that the researcher strives toward objectivity (McGivern, 2009). In the view of Saunders et al., (2009) there are several study designs or approaches to choose from, including: experiment, survey, case study, action research, grounded theory, ethnography and archival research. The research design used in this study was the survey research strategy. This strategy was adopted because of the cross-sectional nature of data collected (Robson, 2002). Thus, data collected was done from a cross-section of the target population at one point in time and conclusion drawn from the findings. The choice for this research design was necessary because the researcher explored new insights into the phenomenon under study.

3.3 Target Population

The target population were the shea actors within Kasalgu, Sagnarigu, Pagzaa, Wayamba and Aboabo. The target population included women of the shea processors, pickers and marketers

3.4 Sampling Procedures

3.4.1 Sampling Methods

A combination of simple random sampling, and stratified sampling method was used in collection of data. Stratified sampling grouped the population into homogenous groups i.e. a group of shea pickers, shea processors, and shea marketers. Sixty (60) shea butter

processors, sixty (60) shea pickers, and thirty (30) shea marketers were sampled to gather data needed. The survey for the shea marketers was taken in the Aboabo market in Tamale as Aboabo market is the hub of shea trading. Out of a list of eighty (80) traders supplied by the secretary of the National Association of Shea Nut Farmers, Processors and Buyers of Ghana, thirty (30) traders were randomly selected for the interview.

3.4.2 Sample size

The study districts were purposively selected due to the operations of SeKaf Ghana in Sagnarigu, and SNV in the Tamale Metropolitan areas. The communities that were selected for the study were Pagzaa in the Tamale Metropolitan, Kasalgu in the Sagnarigu district, and Wayamba in the Tolon district.

3.4.3 Sample Size Determination

Data was collected from a sample of 150 actors in 5 communities. In all, 60 butter processors were surveyed from Sagnarigu, and Kasalgu in the Sagnarigu district. In addition, 60 shea pickers were interviewed in Wayamba in the Tolon district, and Pagzaa in the Tamale Metropolis. Also, 30 shea traders in Aboabo were interviewed. In all a total of 150 respondents were surveyed. Each respondent was chosen purposively because of the depth of knowledge and the longevity of their experience in the business. Respondents such as the Maghazia, secretary, treasure, deputy maghazia were purposively chosen and they assisted in picking the remaining respondents. Sample size is meant to be used to generalise or make sample-based inferences about population parameters from which the samples are taken (Yin, 1993). The sample size should not be too large nor too small. However, Karma (1997), states this should be the researcher's

choice. There are an estimate 4494 registered and active shea actors in the communities that the study was conducted in. Hence, the sample size was determined by applying the statistical formula below, given the sample frame enlisted from the target population. Table 3.1 below shows the number of respondents from each of the study areas.

Table 3.1 Communities and respondents table

District	Community	Type of respondent	Number of respondents
Sagnarigu	1. Sagnarigu	Processors	100
	2. Kasalgu	Processors	250
Tolon	3. Wayamba	Pickers	3500
Tamale Metro	4. Aboabo	Marketers	144
	2. Pagzaa	Pickers	500
Total			4494

Source: Records of Various Organisations Interviewed, 2019

Hence the sample size calculated as follows using Sloven Formula

$N/(1+Ne^2)$

Where n = Sample size, N = Sample frame and e = Margin of Error

(Confidence Level = 95%, Margin of Error = 8%)

Sample frame (N) = 4494

Margin of Error (α) = 8% = 0.08

Sample Size (n) =?

$$n = \frac{4494}{4494\,(0.08)^2 + 1}$$

$$n = \frac{4494}{}$$

$$n = \frac{4494\ (0.0064) + 1^{3}}{28.7616 + 1}$$

$$n = \frac{4494}{29.7616}$$

n = 150.99

Therefore, Sample Size (n) is 150.

3.5 Data Collection Methods

3.5.1 Primary Data

Structured interviews and questionnaires were administered to the respondents. These questionnaires had close and open ended questions to collect the necessary information on the what men and women do in the value chain, access to resources within the value chain, how impactful has the value chain intervention been on women taking part in the value chain, the advantages and effects of the value chain intervention on the women within the value chain, and the decision making dynamics within the chain. Focus group discussions were held with various actors within the value chain.

3.5.2 Secondary Data

Information pertaining to women taking part in value chains was obtained from value chain research findings, publications concerning gender and value chain, and from internet search engines. Eta Squared

3.7 Data Processing and analysis

The collected survey data was prepared for analysis by editing and coding. Statistical Package for Social Sciences (SPSS) software was used in data analysis. Content analysis was used to analyse most of the information as most of the research will be qualitative data.

3.7. 1 Composite Empowerment Index

The composite empowerment index was used to analyse the empowerment index of the actors within the Value Chain. The Composite Empowerment Index constructed from the four women empowerment indices (Jeckoniah et al., 2012). They are Freedom of Movement Index (FM), Personal Autonomy Index (PAI), Household Decision Making Index, and Domestic Consultation Index (HDMI). Personal Autonomy Index (PAI) addresses a woman's autonomy in making decisions pertaining to educating children, doing family planning, dealing with children's health issues without having to ask the permission of her husband. Household Decision Making Index (HDMI) looks at who makes decisions in the family in regards to daily expenses, buying of household items, the educating of children, and spending personal income. Domestic Consultation Index (DCI) assesses the autonomy of women in accessing land, buying clothes, and food. Freedom of Movement (FoM) looks at a woman's ability to attend social gatherings, visit her family, friends, and relatives, and her ability to visit and seek financial help from financial institutions.

Responses for each index is graded as follows; generally (1.0), occasionally (0.5), and never (0). In accordance with the construction methods of Human Development Index

(HDI) (UNDP, 2005), CEI is was calculated by averaging the four indices (Jeckoniah et al., 2012).

Where Y is CEI.

Y= ¼ (PA+HDMI+DCI+FM) ----------1

Human development can be calculated on an index ranging from 0 which means that one is deprived of development to 1 which shows total development (UNDP, HDI, 2005; CITE BY Varghese, 2011). According to UNDP, the HDI is further grouped into three levels. Since this study considers empowerment and women empowerment to be important, UNDP's classification of human development will be adopted, and this has four levels.

Respondents who scored 0 on the composite empowerment index were categorised as "no empowerment" those scoring 0.1-0.5 were categorised as "low empowerment", and those whose scores were 0.6-0.7 fall under "medium empowerment". "High Empowerment" were those who fell within the range of 0.8 or higher (Handy and Kassam, 2006; Tayde and Chloe, 2016; Varghese, 2011).

3.7.2 Impact of value chain intervention strategies on Gender outcomes.

The impact of VCI Strategies on gender outcomes looked at three outcomes; Increase in income, Access to assets, and Empowerment. Increase in income was analysed with a paired samples T-test to find the significant differences in the before and after interventions among the three activities. In analysing Access to assets, descriptive analysis was done using cross tabulation, and in analysing empowerment, one-way ANOVA with Levine's test of homogeneity of variances, Post –Hoc analysis, and Means

plots were used in analysing the relationship between value chain activities and gender outcomes.

3.7. 3 Description of Socio-demographic Characteristics of Shea Actors

Descriptive statistics was used to analyse the socio-demographic characteristics of the shea actors such as their age, level of education, marital status and sex usually using graphs, percentages, frequencies and cross tabulation. Descriptive statistic is the generic term used to describe the variables (Saunders, 2011).

3.7.4 Identifying the types of Value Chain Intervention Strategies Shea actors have benefitted from.

This question tried to find out the types of VCI Strategies that shea actors were given. This was answered using descriptive statistics such as cross tabulation, qualitative analysis, and frequency distribution tables.

3.7.5 Examine the impact of VCI Strategies on gender roles of shea actors.

This question looked at the Productive roles, Reproductive roles, and Community managing and politics roles that sea actors played in their communities and houses. Descriptive analysis such as cross tabulation, frequency tables, qualitative analysis, and percentages were employed here.

3.7.6 Identifying constraints and opportunities of shea actors in the shea value chain

In analysing the constraints and opportunities of shea actors in the shea value chain, descriptive statistics such as cross tabulation, was used.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

This chapter presents the results and discussions of data collected from key respondents in the study. The chapter is divided into five sections. Section one presents analysis and discussions of demographic characteristics of respondents involved in the study. Section two examines results on value chain activity of shea actors in Northern Region. Section three presents result of value chain intervention strategies on gender needs and outcomes of shea actors in Northern Region. Section four presents information on value chain intervention strategies and management skills of shea actors. Section five presents result of value chain intervention strategies and empowerment of shea actors in Northern Region. Finally, Section six analyses result on value chain intervention strategies and participation of shea actors in Northern Region.

4.1 Socio-economic Characteristics of Respondents

This section describes the demographic characteristics of 150 shea actors involved in this study. They include shea pickers, shea processors, and shea marketers. Demographic characteristics of the actors important to this research included Age, Sex, Marital Status, Educational Level, and Duration on the job. These are discussed as follows:

4.1.1 Age Distribution of Shea Actors in the study

The age distribution of the shea actors in this study ranged between 25 years and 60 years as presented in Table 4.1. Of the respondents interviewed, 66% were between the ages of 32 to 45. This age range had most of the young actors.

Table 4.1 Frequency Distribution of Ages of shea Actors

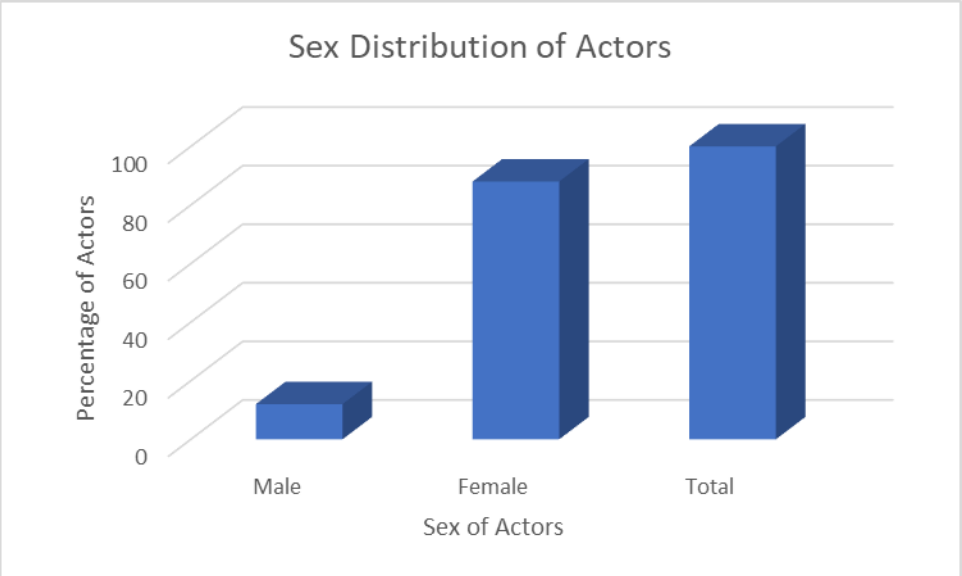
Age Group	Shea Activities							
	Pickers		Processors		Marketers		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
25-31	1	1.7	1	1.7	8	26.7	10	6.67
32-38	29	48.3	11	18.3	7	23.3	47	31.33
39-45	18	30.0	24	40.0	10	33.3	52	34.67
46-52	11	18.3	12	20.0	4	13.3	27	18
53-59	1	1.7	11	18.3	1	3.3	13	8.66
60+	0	0	1	1.7	0	0	1	0.67
Total	60	100	60	100	30	100	150	100

Source: Field Survey Data, 2019.

4.1.2 Sex Distribution of Shea Actors

Out of the 150 actors interviewed, 88 % were female, and 12 % of the respondents were male as shown in the chart below. Hence, women dominate the industry population-wise.

Figure 4.1a Sex Distribution of Shea Actors

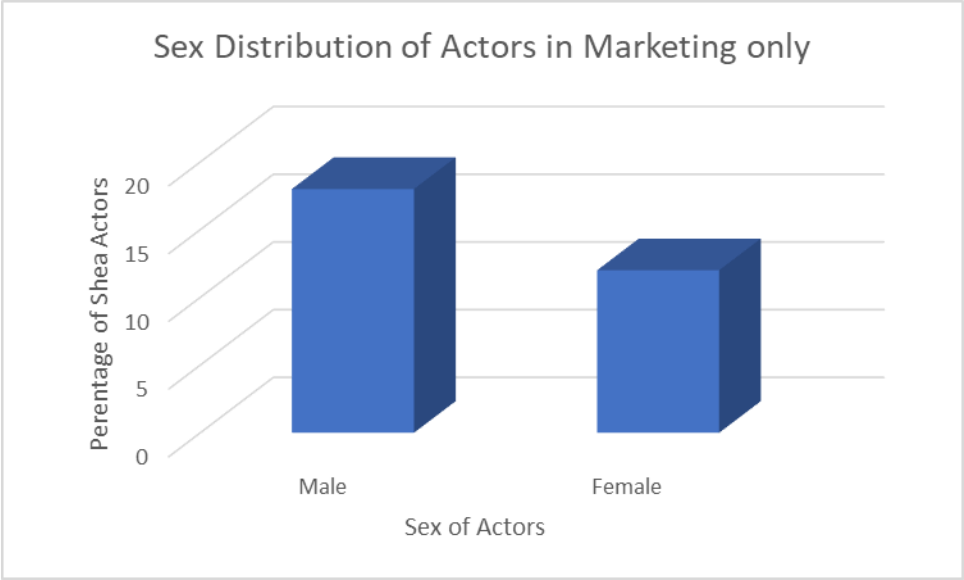


Source: Field Survey Data, 2019.

4.1.3. Sex Distribution of Shea Actors in Marketing Alone.

Out of the 150 respondents, 30 of the randomly selected were marketers within the Aboabo market. Of these 30, 12 were female, making 40 % of marketers interviewed, and 18 were male, making 60 % of the marketers interviewed. This shows that although men do not take part in the traditionally reserved work of picking and processing, they are very much involved in the marketing aspects of the shea value chain, to the point of being the dominate of the two sexes in this particular activity.

Figure 4.1b Sex Distribution of Shea Actors in Marketing Alone



Source: Field Survey Data, 2019.

4.1.4 Marital Status of Shea Actors

Table 4.2a below shows that 88.7 % of the shea actors in the study areas are married, whereas 2.7 % are single, and 8.7 % of the actors are widowed.

Table 4.2a Marital Status of Shea Actors

Marital Status	Frequency	%
Married	133	88.7
Single	4	2.6
Widow/er	13	8.7
Total	150	100

Source: Field Survey, 2019

The analysis below is an individual analysis of actors in each of the activities in all the study areas. All of the pickers interviewed in this study are married, making 100 % of the sampled pickers, 86.7 % of the processors are married, and 78.6 % of the marketers are also married. However, 13.3 % of the marketers are single, and 21.7 % of the processors are widowed.

Table 4.2b Frequency Distribution of Marital Status of Shea Actors

Marital Status	Shea Activities							
	Pickers		Processors		Marketers		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Single	0	0	0	0	4	13.3	4	2.67
Married	60	100	49	81.7	26	86.7	135	90
Divorced	0	0	0	0	0	0	0	0
Widowed	0	0	11	18.3	0	0	11	18.3
Total	60	100	60	100	30	100	150	100

Source: Field Survey Data, 2019.

4.1.5 Educational Level of Shea Actors

The results in table 4.3 indicate the level of education across all the actors in the study areas. It was realised that majority, 55.3 %, of the entire sample population did not have a formal education, 31.3 % had non-formal education, 10 % had basic education, and 3.3 % had a higher-level education.

Table 4.3 Educational Levels of Shea Actors

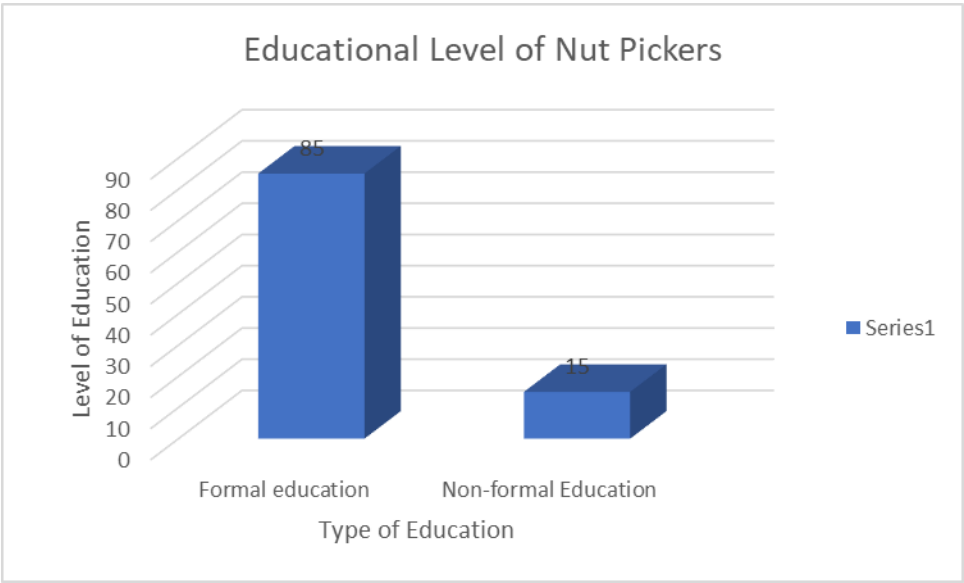
Educational Level	Frequency	Percent
No formal Education	83	55.3
Basic Education	15	10
SHS Education	5	3.3
Non-formal Education	47	31.3
Total	150	100

Source: Field Survey Data, 2019

4.1.5.1 Educational Level of Shea Nut Pickers

The results in Figure 4.2 indicates that 85 % of the respondents do not have any formal education, and 15 % have a form of non-formal education. This result indicates that none of the pickers have any form of formal educational.

Figure 4.2 Educational Level of Shea Nut Pickers

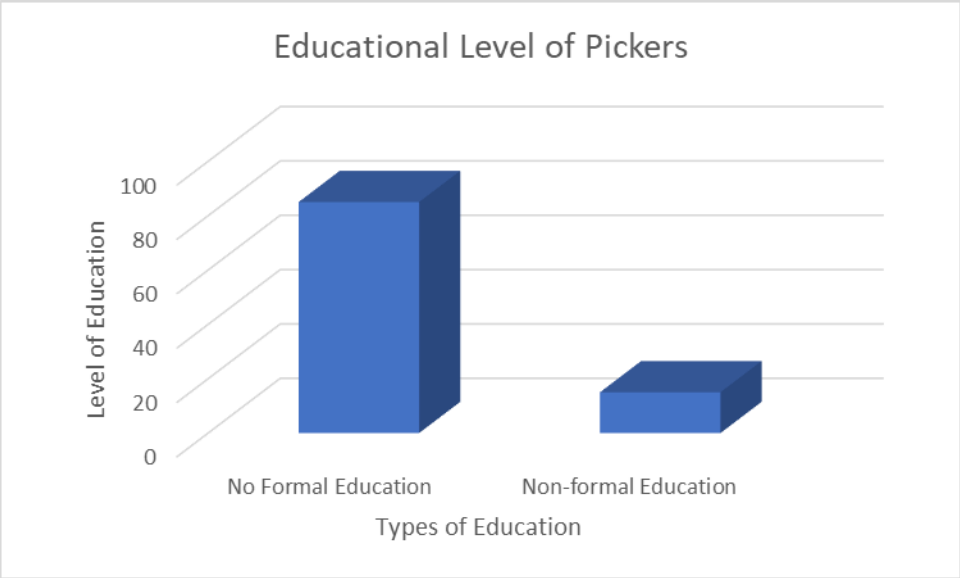


Source: Field Survey Data, 2019

4.1.5.2 Educational Level of Shea Nut Processors

From Figure 4.3 below, 38.2 % of processors have no formal education whereas 61.7% have a level of non-formal education. This point out that the processors have some form of education, although they are not lettered, and as such, if any form of training and/or educational program is provided, it could help them be better processor.

Figure 4.3 Educational Level of Processors

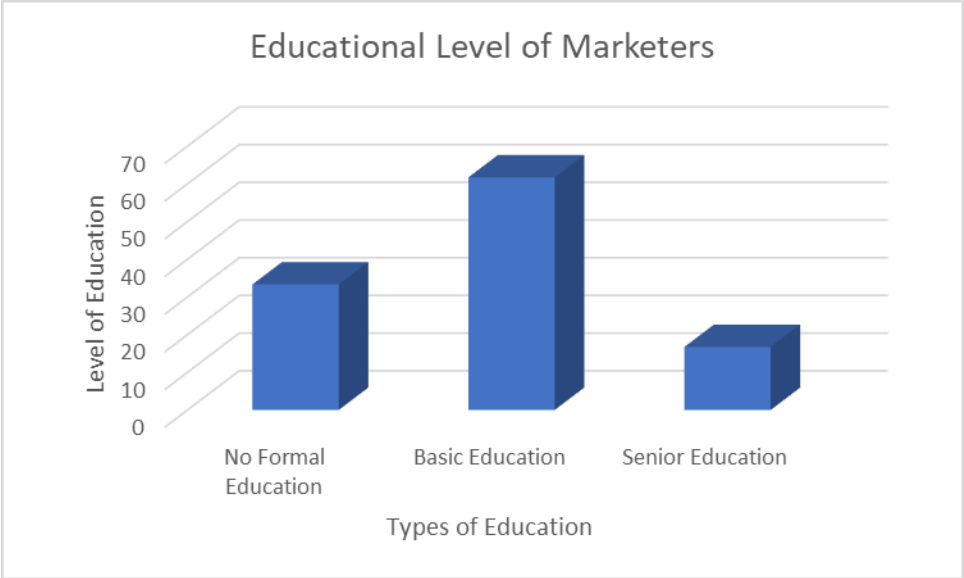


Source: Field Survey Data, 2019

4.1.5.3 Educational Levels of Shea Nut Marketers

The result in Figure 4.4 indicates that 33.3% of the respondents have no formal education, 50.0 % have basic education, and 16.7% have a bit of a higher education. This particular percentile went to senior high school before ending their educational carrier due to financial woes.

Figure 4.4 Educational level of Shea Nut Marketers

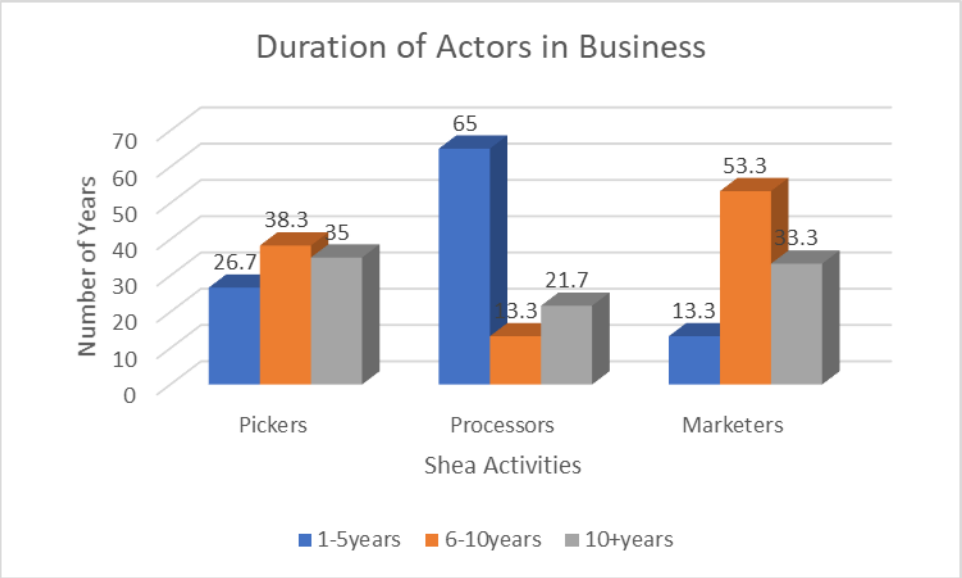


Source: Field Survey Data, 2019.

4.1.6 Duration of Actors in the Shea Business

The study revealed as shown in Figure 4.5 that the majority of shea pickers have been in the business for 6 years to 10 years making 38.3%, pickers between 1-5 years making 26.7%, and above 10 years making 35%. The majority of processors have been in the business for 1 year to 5 years (65%), with those falling between 6-10 years making 13.3 %, and those 10 and above making 21.7%. The majority of marketers, 53.3% have been marketing between 6 years to 10 years, 33.3% above 10 years, and 13.3% fall within 1 year to 5 years. This level of experience can be harnessed to improve their ability to be better within their chosen activity.

Figure 4.5 Duration of Actors in the Shea Business

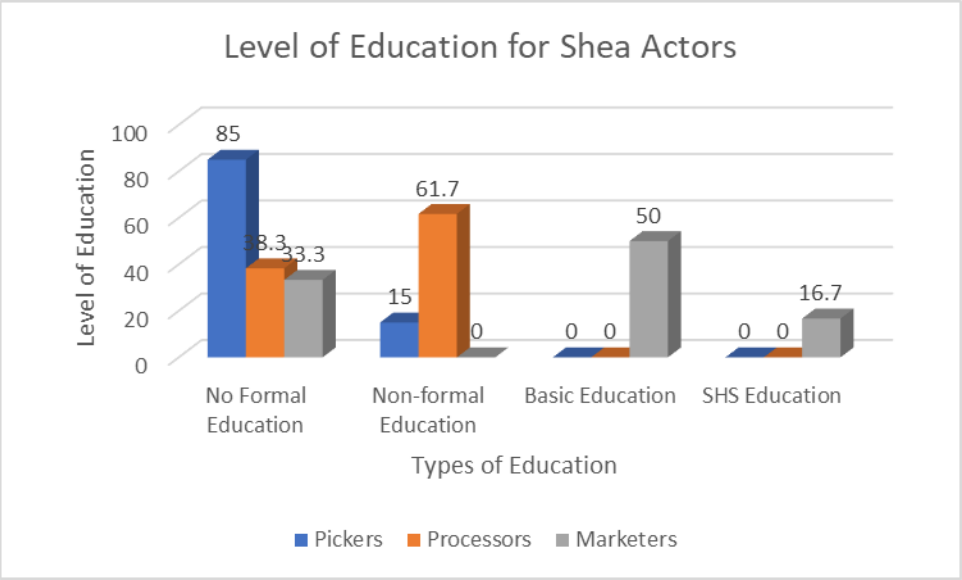


Source: Field Survey Data, 2019

4.1.7 Relationship between Educational Level and Shea Actor Activity

The analysis in Figure 4.6 shows that 85 % of the shea nut pickers have no formal education whiles 15 % had non-formal education. The majority, 61.7 % of the shea butter processors had non-formal education, 38.3 % had no formal education. In regards to the marketers, 50 % had basic education, 33.3 % had no formal education, and 16.7 % had higher level education. From the interview, most of the respondents from these categories stated they wished they had had some level of formal education because they felt it would have greatly helped in their various shea activities in the form of pricing, and learning new techniques in their various shea activities. In the marketing aspect, most of the marketers have basic level education which helps them navigate their everyday business, even though some actors here, too, wished they had pursued education to a higher level; higher than senior high school.

Figure 4.6 Relationship between Educational Levels and Shea Actors



Source: Field Survey Data, 2019

4.1.8 Types of Value Chain Activities

Within the shea value chain there are three main types of activities. These include, Picking, Marketing, and Processing. The table 4.4 below indicates the number of actors within the study areas, and the type of value chain activity they fall under. Out of the 150 respondents, 40% of them were into picking, 40% were into processing, and 20% were into marketing activities.

Table 4.4 Types of Value Chain Activities

Activities	Frequency	Percent
Picking	60	40
Processing	60	40
Marketing	30	20
Total	150	100

Source: Field Survey Data, 2019

4.1.9 Distribution between Sex of Respondents and Choice of Activity

The Table 4.5 shows the distribution between the sex of respondents and choice of activity involved in each activity of their choosing. From the figure 4.7, males recorded "0" in the activities picking and processing. From the interview, the respondents stated that in their tradition's men do not pick nuts, neither do they process butter. Thus, the actors in those activities are mostly women.

Table 4.5 Frequency Distribution of Shea Value Chain Activities by Sex

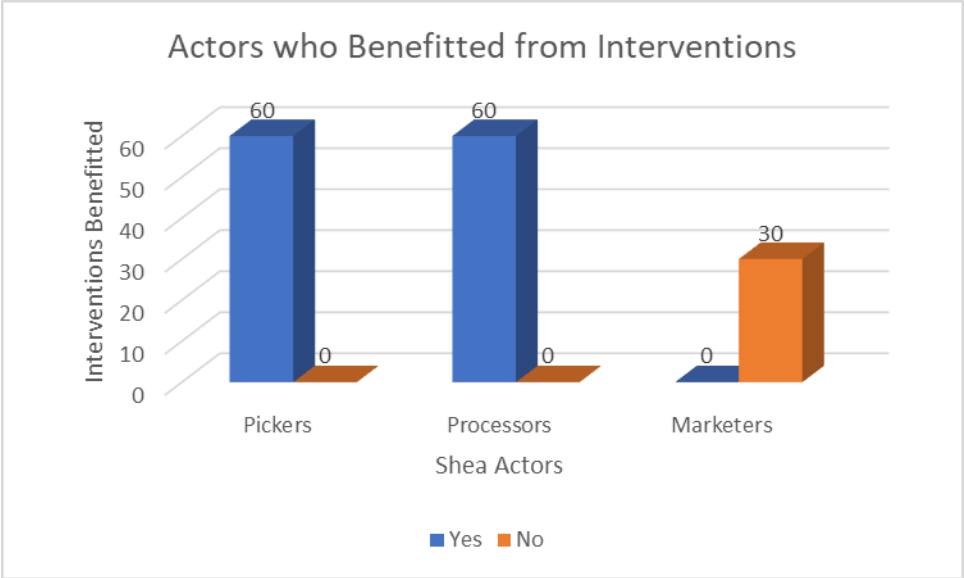
Activity	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Picking	0	0	60	40	60	40
Processing	0	0	60	40	60	40
Marketing	18	12	12	8	30	20
Total	18	12	132	88	150	100

Source: Field Survey Data, 2019

4.1.9.1 Shea Actors who Benefitted from Value Chain Intervention

From the responses, 120 of the 150 respondents stated they have been given some interventions, and 30 of the respondents stated they haven't benefitted from any value chain intervention. Of the 150 respondents, 80 %, making 120, of the respondents said 'yes', of which 60 are pickers, and the remaining 60 are processors. The 30 (20%) respondents who said 'no' were the marketers. The figure 4.7 shows clearly the numbers.

Figure 4.7 Actors who Benefitted from Value Chain Interventions



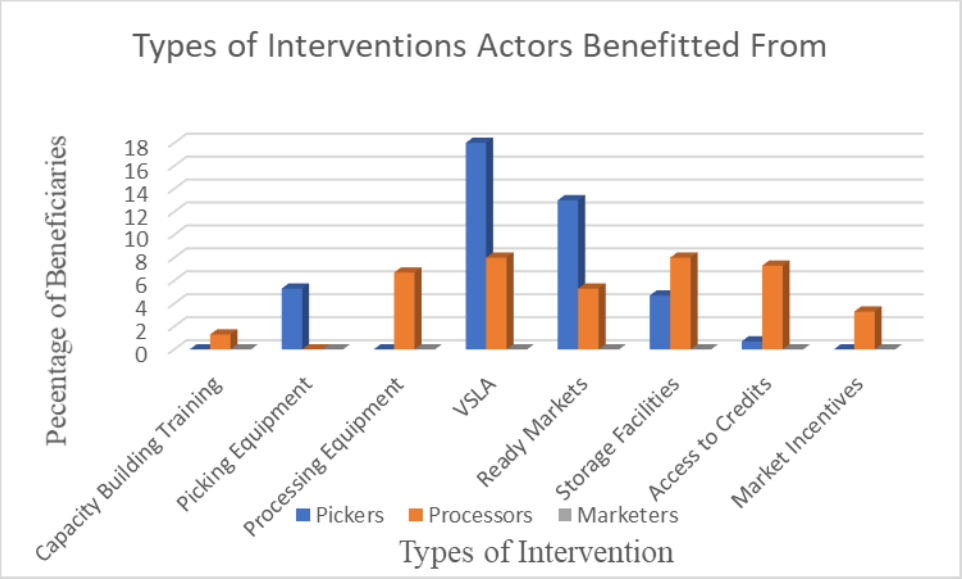
Source: Field Survey Data, 2019

4.1.9.2 Type of Value Chain Interventions to Shea Actors.

Figure 4.8 shows the various types of value chain interventions that shea actors benefitted from. The results show the different types of interventions implemented and the number of respondents that have accessed these interventions. From the figure, it is realised that 18% of the pickers said they benefitted from Village Savings and Loans Association (VSLA) interventions, 11.3 % pickers said they benefitted from ready markets i.e. the organisation they were affiliated with made sure they bought their nuts, or made available

to them markets where their nuts can be sold, 5.3 % said they benefitted from the picking equipments given them by the organisations, 4.7 % pickers said they benefitted from interventions like the storage rooms put up in their various communities by the organisations, 0 pickers benefitted from capacity building trainings, and market incentives, and 0.7 % picker said they benefitted from access to credit, which helped them set up a small business. From the figure, 8 % of the processors benefitted from VSLA, and 8 % from the storage facilities, 6.7 % processors said they benefitted from processing equipments, 5.3 % indicated that they benefitted from ready markets, 7.3 % indicated that they had access to credit, 1.3 % said they benefitted from capacity building training, and last but not least, 3.3 % benefitted from market incentives.

Figure 4.8 Interventions benefitted by Shea Actors



Source: Field Survey Data, 2019

4.2. Types of the Value Chain Intervention Strategies Provided and their Impact on Shea Actors Activities

A number of intervention strategies were stated and shea actors allowed to choose which ones they benefited from and weigh on how it has affected their activity within the value chain on the basis of High, Moderate, and Low. These intervention strategies shown in the table 4.6a below, have been categorised under generic and specific value chain intervention strategies. Generic value chain intervention strategies are geared towards the beneficiaries irrespective of their sex, whereas specific intervention strategies are targeted at a particular sex based on their needs.

4.2.1 Generic and Specific Types of Value Chains Implemented

Table 4.6a Generic and Specific Value Chain Intervention Strategies

Generic Intervention Strategies	Specific Intervention Strategies
Improving Product Quality and Value	VSLA
Capacity building training	Linking women to markets
	Access to equipments
	Access to credit
	Storage Facilities

Source: Field Survey Data, 2019

4.2.2 Impact of Generic and Specific Intervention Strategies on Chain activities of Actors

The table 4.6b below shows the number of actors who received interventions that were of the specific and generic nature on the activities of shea actors involved in picking and processing. The majority of the pickers, 50 %, stated that Specific intervention strategies

like the VSLA improved their chain activity. On access to equipment, 15 % of the pickers stated that they were provided with equipments which helped make their picking activity easier, and faster. Ten (10) % of the pickers stated that they had access to credit, which has helped them in their value chain activity. Five (5) % of the pickers stated that they benefitted from generic intervention strategies such as training on how to improve product quality and value, and 5 % also indicated they benefitted from capacity building training.

Table 4.6b Impact of Generic and Specific Value Chain Intervention Strategies on Shea Actors.

Type of VCI	Nature of VCI	Number of Beneficiaries			
		Processors		Pickers	
Generic	Improving product quality and value.	4	7.5%	3	5%
	Capacity building training.	4	7.5%	3	5%
Specific	Access to equipment.	13	21.7%	9	15%
	VSLA.	30	48.3%	30	50%
	Improving skills of women.	6	10%	9	15%
	Access to credit	3	5%	6	10%

Source: Field Survey Data, 2019

The table further shows that specific interventions strategies implemented improved the activity of shea nut processors. The majority of the processors, 48.3 % stated introducing VSLA improved their empowerment levels. On access to equipment, 21.7 % of the processors stated that they were provided with equipments which helped make their processing activity easier, and faster. Five (5) percent of the processors stated they had

access to credit, which has helped them in their value chain activity. Seven point five (7.5) % of the processors stated they benefitted from generic interventions like the training they received on processing organic butter improved the quality and value of the butter, and seven point five (7.5) % also stated they benefitted from capacity building training.

4.2.3 Value Chain Strategies and Its Impact on Training Shea Actors in Shea Value Chain Activities

The table 4.7a below details value chain intervention strategies and their impact on training shea actors' in shea value chain activities. From the table, 79.3 % of the actors have received training on shea value chain activities whiles 20.7 % said they haven't received any such training.

Table 4.7a Training for Respondents

Response	Frequency	Percent
Yes	119	79.3
No	31	20.7
Total	150	100

Source: Field Survey Data, 2019

The table 4.7b illustrates the kinds of training given to shea actors within the value chain. Ten point seven (10.7) % of shea actors stated they have been given training on tree conservation, eighteen (18.0) % stated they were given training on how to grade nuts according to those used for organic butter and conventional nuts, which can also be used for butter. Eleven point three (11.3) % said they were trained on how to dry nuts so as to prevent moisture retention and thus avoid nuts moulding, and also bad shea butter

quality, and thirty-nine point three (39.3) % stated they received training on how to process organic butter.

Table 4.7b The Kind of Training Shea Actors Received

Types of Training	Frequency	Percent
No Training	31	20.7
Tree Conservation	16	10.7
Grading of Nuts	27	18.0
Drying to prevent moisture	17	11.3
Processing organic butter	59	39.3
Total	100	100

Source: Field Survey Data, 2019

4.3 Impact of Value Chain Intervention Strategies on Gender Roles and Participation of Shea Actors.

Various questions were asked in other to determine the impact of value chain intervention strategies on gender roles and participation. These questions addressed interventions that improved their competency to take part in decision making not only in the community but at the household level as well, improved their incomes over time, improving their skills in the various activities, empower them to be more vocal and present in their homes and households, as well as their communities.

4.3.1 Nature of Engagement in the Shea Business

The table 4.8 shows the engagement level of the actors in the shea value chain. The actors are either fully engaged in the business, or they do part time and have some other business (es) that they are engaged in. The results show that 20 % of the shea actors from

all the study areas are involved in their activities full time, while 80 % are involved part time.

Table 4.8 Engagement in the Shea Business by Shea Actors

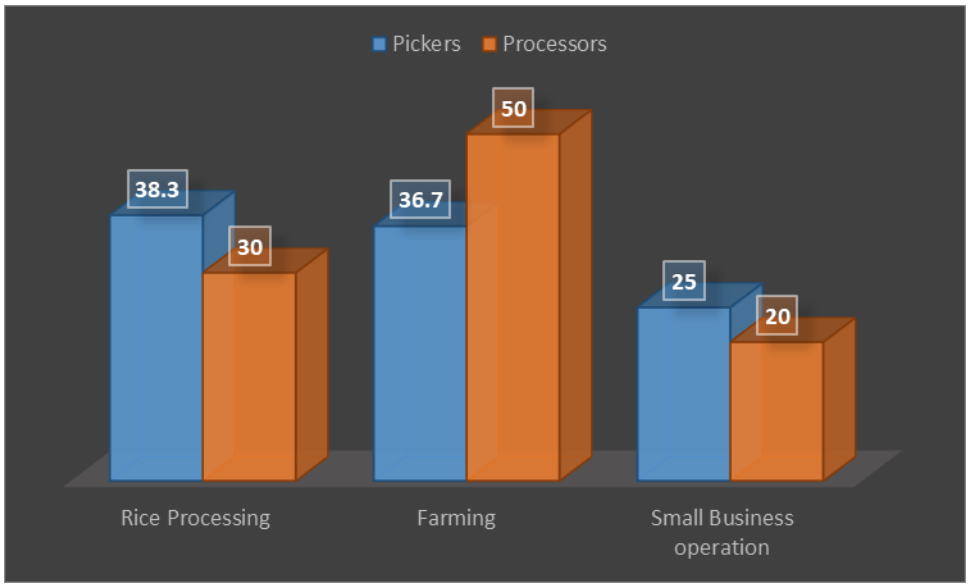
Engagement	Frequency	Percentage
Full time	30	20
Part-time	120	80
Total	150	100

Source: Field Survey Data, 2019

4.3.2 Engagement in other Business aside Shea

The figure 4.9 depicts the other activities that shea actors who do not engage full time in the business do during the lean seasons. Of all the three activities, 100 % of the actors participate fully in their marketing activities, whereas 36.7 % of Pickers were into farming, 38.3 % were into rice farming, and 25.0 % operate a small business. Of the processors, 30 % were into farming, 50 % into rice processing, and 20 % into small business.

Figure 4.9 Engagement in other Business aside Shea



Source: Field Survey Data, 2019

4.3.3 Assessing Impact of Value Chain Interventions on Gender Roles and Participation in Value Chain Activities

In assessing the influence of value chain interventions on gender roles, questions were asked pertaining to the productive, reproductive, and community managing and politics role before and after interventions were implemented. In the table 4.9a below, a paired samples t-test was carried out to evaluate the impact of VCI on the productive roles of shea actors before and after interventions in the value chain. There was a statistically significant decrease in productive role levels of shea actors from Before Interventions (M= 4.00, SD= .941) to After Interventions (M=2.64, SD=.648), t (-16.461), p<.0005. The Mean decrease was -1.360 with a 95% confidence Interval ranging from -1.197 to -1.523. The eta squared statistic was .06, indicating a moderate effect size.

Table 4.9a Paired Samples T-test on Impact of Productive Role on Participation.

VCI on Productive Role	Mean	SD	SE	95% CI		t	df	Sig.
				Lower	Upper			
Before and after	-1.360	1.012	.083	-1.197	-1.523	-16.461	149	.000

Source: Field Survey Data, 2019

Table 4.9b Paired Samples Statistics on Impact of VCI on Productive Role of Shea Actors

VCI on Productive role	Mean	N	SD	SEM
Before Interventions	4.00	150	.941	.077
After Interventions	2.64	150	.648	.053

Source: Field Survey Data, 2019

The table 4.10a below, a paired samples t-test was conducted to evaluate the impact the reproductive roles of shea actors on the level of participation before and after interventions in the value chain. There was a statistically significant decrease in participation levels from Before Interventions (M= 3.51, SD= 1.035) to After Interventions (M=2.67, SD=.596), t (-9.254), p<.0005. The Mean decrease was .840 with a 95% confidence Interval ranging from .661 to 1.019. The eta squared statistic was .036, indicating a small effect size.

Table 4.10a Paired Samples T-test on Impact of Reproductive Role on Participation.

Reproductive Role	Mean	SD	SE	95% CI		t	df	Sig.
				Lower	Upper			
Before and after	.840	1.112	.091	.661	1.019	-9.254	149	.000

Source: Field Survey Data, 2019

Table 4.10b Paired Samples Statistics on Impact of VCI on Reproductive Roles.

Reproductive role on participation	Mean	N	Std. Deviation	Std. Error Mean
Before Interventions	3.51	150	1.035	.084
After Interventions	2.67	150	.596	.049

Source: Field Survey Data, 2019

The table 4.11a below a paired samples t-test was conducted to evaluate the impact the community managing and politics role of shea actors has on the level of participation before and after interventions in the value chain. There was a statistically significant decrease in participation levels from Before Interventions (M= 3.91, SD= .944) to After Interventions (M=3.26, SD=.690), t (8.889), p<.0005. The Mean decrease was .647 with a 95% confidence Interval ranging from .503 to .790. The eta squared statistic was .035, indicating a small effect size.

Table 4.11a Paired Samples T-test on Impact of Community Managing and Politics Role on Participation.

Community Managing and Politics	Mean	SD	SE	95% CI		t	df	Sig.
				Lower	Upper			
Before and after	.647	.891	.073	.503	.790	8.889	149	.000

Source: Field Survey Data, 2019

Table 4.11b Paired Samples Statistics on Impact of Community Managing and Politics Role on Participation.

Community Managing and Politics	Mean	N	Std. Deviation	Std. Error Mean
Before Interventions	3.91	150	.944	.077
After Interventions	3.26	150	.690	.056

Source: Field Survey Data, 2019

4.4 The Influence of Value Chain Interventions on Gender Outcomes

In assessing how the value chain interventions affected gender outcomes, we examined the relationships between the value chain intervention strategies and income levels, value chain intervention strategies and access to assets, value chain intervention strategies and empowerment.

4.4.1 Relationship between Value Chain Intervention and Shea Actors Income Level

4.4.1.1 Impact of Value Chain Intervention on Quantity of Nuts Picked

A paired sample T-test was done to observe whether a statistically significant relationship could be established in the mean scores before and after interventions for pickers in the picking activity and if this reflected in the duration used in picking.

The table below shows the overall significance between quantity of nuts picked before and after interventions. There is a significant difference between the scores of before and after interventions were implemented. Thus, this shows an overall significance in the quantity of nuts picked before and after interventions.

The probability table 4.12a showed the probability value at .000, which is less than the .05 value. It shows a significant increase in the quantity of nuts picked after interventions. The mean value for quantity of nuts picked before interventions were implemented was 1.73 which increased to 2.38 after interventions were implemented. Thus, it can be stated that the interventions implemented after interventions increased the pickers picking ability, thus increasing the quantity of nuts picked. The table shows a t-value of -7.36 with a degree of freedom value of 59, and a mean score of -.650. The results presented in table 4.12b show the difference obtained in the two sets of scores wasn't coincidental and the effect size proves it. Eta Squared was used to calculate the effect size of the set of scores and the value obtained from the calculation was 0.48. Going by Cohen's (1988) guidelines for interpreting the value; where a value of .14 can be interpreted as a large effect, it can be interpreted that the effect (0.48) of interventions on the quantity of nuts picked after interventions was large.

Table 4.12a Quantity of Bags of Nuts Picked before and after Interventions

Quantity of Nuts Picked	Mean	SD	SE	95% CI		t	df	Sig.
				Lower	Upper			
Quantity of nuts before Quantity of nuts after	-650	.685	.088	-827	-473	-7.355	59	.000

Source: Field Survey Data, 2019

Table 4.12b Quantity of Bags of Nuts Picked before and after Interventions

Quantity of Nuts Picked (Bags)	Mean	N	Std. Deviation	Std. Deviation Error
Quantity of nuts before	1.73	60	.548	.071
Quantity of nuts after	2.38	60	.640	.83

Source: Field Survey Data, 2019

4.4.1.2 Impact of Value Chain Interventions on Quantity of Nuts Processed

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 for processors in the processing activity and if this reflected in the duration used in processing.

The table below shows the overall significance between quantity of nuts processed before and after interventions. There is a significant difference between the scores of before and after interventions were implemented. Thus, this shows an overall significance in the quantity of butter processed before and after interventions.

The probability table 4.13a shows the probability value at .000, which is less than the .05 value. It shows a significant increase in the quantity of butter processed before and after interventions. The mean scores before interventions were implemented was 16.25 and the score increased to 75 after interventions were implemented. Thus, it can be stated that the interventions implemented after had an enormous result on the processors processing ability, thus increasing the quantity of butter processed.

The table shows that the t-value -124.350 with a degree of freedom value of 59, with a mean score of -58.73.

The results presented in table 4.13a show the difference obtained in the two sets of scores wasn't coincidental and the effect size proves it. Eta Squared was used to calculate the effect size of the set of scores and the value obtained from the calculation was 0.99. Going by Cohen's (1988) guidelines for interpreting the value; where a value of .14 can be interpreted as a large effect, it can be interpreted that the effect (0.99) of interventions on the quantity of butter processed after interventions was large.

Table 4.13a Quantity of Butter Processed before and after Interventions

Kilos of Butter Processed	Mean	Std. Deviation	Std. Error Mean	95percent CI		t	df	Sig.(2-tailed)
				Lower	Upper			
Kilos of Butter before Kilos of Butter after	-58.733	3.659	.472	-59.678	57.788	-124.350	59	.000

Source: Field Survey Data, 2019

Table 4.13b Quantity of Butter Processed before and after Interventions

Kilos of Butter Processed	Mean	N	SD	SD Error
Kilos of Butter before	16.27	60	3.659	.472
Kilos of Butter after	75.00	60	.000	.000

Source: Field Survey Data, 2019

4.4.1.3 Impact of Value Chain Interventions on Quantity of Nuts Sold.

Although marketers claimed they didn't receive any intervention from any organisation, nor had their association implemented any intervention to benefit them as a group, the researcher using her own discretion to calculate the quantity of bags of nuts sold as against the average number of years the other groups of shea actors received interventions. A paired sample T-test was conducted to examine whether a statistically significant relationship could be established in the mean scores before and after an average time of 5 years after respondents joined the association.

The table below shows the overall significance between number of bags of nuts sold before and after 5 years of being a member of the shea marketers association. There is a significant difference between the scores. Thus, this shows an overall significance in the quantity of bags of nuts sold within the time period. The probability table 4.14a shows the probability value at .000, which is less than the .05 value. It shows a significant increase in the quantity of nuts sold before and after joining the association. The mean scores before joining the association was 684.60 and the score increased to 1025.43 after joining the association. Thus, it can be stated that the average number of bags that a marketer sold increased.

The table shows that the t-value 5.337 with a degree of freedom value of 29, with a mean score of 340.833.

The results presented in table 4.14a show the difference obtained in the two sets of scores wasn't coincidental and the effect size proves it. Eta Squared was used to calculate the effect size of the set of scores and the value obtained from the calculation was 0.49. Going by Cohen's (1988) guidelines for interpreting the value; where a value of .14 can be interpreted as a large effect, it can be interpreted that the effect (0.49) of joining the association on the quantity of bags sold was large.

Table 4.14a Impact on Quantity of Bags Sold in a Month

Quantity of Nuts Sold	Mean	SD	SE	95% CI		t	df	Sig.
				Lower	Upper			
Before After	- 340.833	349.803	63.865	- 471.452	-210.215	-5.337	29	.000

Source: Field Survey Data, 2019

Table 4.14b Impact on Quantity of Bags Sold in a Month

Quantity of Nuts Sold	Mean	N	SD	SD Error
Quantity of nuts before Quantity of nuts after	684.60 1025.43	30 30	455.739 611.826	83.206 111.704

Source: Field Survey Data, 2019

4.4.2 Impact of Value Chain Interventions on Income Levels of Shea Actors.

Income levels of shea pickers were calculated as: the product of a unit price of the nuts by quantity of nuts picked. That is, the income received by the shea pickers after selling the shea nuts within a certain period, in this case, bag per month.

A paired samples t-test was performed to show whether a statistically significant connection could be established in the mean scores of before and after interventions were carried out and to assess the impact of the interventions on the revenue of shea pickers.

The table 4.15a below shows the overall significance between income of pickers before and after interventions. There was a significant difference between the scores of before and after interventions like provision of hand picks, raincoats, basins, wellington boots, and torch lights were implemented.

The probability table 4.15a shows the probability value at .000, which is less than the .05 value. It shows a significant increase in the income level of the pickers before and after interventions. The mean income scores before interventions were implemented was 265.00 and increased to 375.08 after interventions were implemented. Thus, it can be stated that after the interventions were implemented pickers had an increase in income levels.

The table shows that the t-value 8.345 with a degree of freedom value of 59, with a mean score of 110.083.

The results presented in table 4.15a show the difference obtained in the two sets of scores wasn't coincidental and the effect size proves it. Eta Squared was used to calculate the effect size of the set of scores and the value obtained from the calculation was 0.54. Going by Cohen's (1988) guidelines for interpreting the value; where a value of .14 can

be interpreted as a large effect, it can be interpreted that the effect (0.54) of interventions on the quantity of butter processed after interventions was large.

Table 4.15a Income of Pickers before and after Interventions

Income	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the difference		t	df	Sig.(2-tailed)
				Lower	Upper			
Income before Income after	-110.083	102.178	13.191	-136.479	-83.688	-8.345	59	.000

Source: Field Survey Data, 2019

Table 4.15b Income of Pickers before and after Interventions

Income	Mean	N	SD	SD Error
Income before	265.00	60	84.523	10.912
Income after	375.08	60	99.943	12.903

Source: Field Survey Data, 2019

4.4.2.2 Impact of Value Chain Interventions on Income Levels of Shea Processors.

Income levels of shea processors were calculated as the product of a unit price of butter processed by quantity. That is, the income received by the shea processors after selling their butter in a certain period, in this case, kilo per month.

A paired samples t-test was performed to show whether a statistically significant relationship could be established in the mean scores of before and after interventions

were carried out. Paired samples t-test was carried out to assess the impact of the interventions on the revenue of shea processors.

The table below shows the overall significance between income of processors before and after interventions. There is a significant difference between the scores of before and after interventions were implemented. Thus, this shows an overall significance in the quantity of butter processed before and after interventions.

The probability table 4.16a shows the probability value at .000, which is less than the .05 value. It shows a significant increase in the income level of the processors before and after interventions. The mean income level before interventions were implemented was 197.30 before intervention, which increased to 1,125.00 after interventions were implemented.

The table shows that the t-value 165.167 with a degree of freedom value of 59, with a mean score of 927.700.

The results presented in table 4.16a show the difference obtained in the two sets of scores wasn't coincidental and the effect size proves it. Eta Squared was used to calculate the effect size of the set of scores and the value obtained from the calculation was 0.99. Going by Cohen's (1988) guidelines for interpreting the value; where a value of .14 can be interpreted as a large effect, it can be interpreted that the effect (0.99) of interventions on the quantity of butter processed after interventions was large.

Table 4.16a Income of Processors before and after Interventions

Income	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the difference		t	df	Sig.(2-tailed)
				Lower	Upper			
Before After	-927.700	43.50	5.617	-938.939	-916.461	-165.167	59	.000

Source: Field Survey Data, 2019

Table 4.16b Income of Processors before and after Interventions

Income	Mean	N	SD	SD Error
Before After	197.30 1125.00	60 60	43.507 000	5.617 000

Source: Field Survey Data, 2019

4.4.2.3 Impact of Value Chain Interventions on Income Levels of Shea Marketers.

Income levels of shea marketers have been measured per quantity as the product of a unit price of the nuts. That is, the income the shea marketers earn after they have sold their products in a certain time, in this case bags per month.

A paired samples t-test was performed to show whether a statistically significant relationship could be established in the income levels of marketers before and after joining the association. Paired samples t-test was carried out to assess the impact of the interventions on the revenue of shea marketers.

The table below shows the overall significance between income of marketers before and after joining associations. There is a significant difference between the income levels of

marketers before and after they joined the association. Thus, this shows an overall significance in the quantity of bags of nut sold before and after joining the association.

The probability table 4.17a shows the probability value at .000, which is less than the .05 value. It shows a significant increase in the income level of the marketers before and after interventions. The mean income level before joining the association was 102,690 which increased to 153,798.33 after joining the association were implemented. Thus, it can be stated that the marketers forming an association had a great impact on their income levels.

The table shows that the t-value -5.334 with a degree of freedom value of 29, with a mean income score of 51,108.333.

Table 4.17a Paired Samples Test on Income Levels of Shea Marketers.

Income	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the difference		t	df	Sig.
				Lower	Upper			
Before After	-51,108.333	52484.769	9582.368	-70706.476	-31510.191	-5.334	29	.000

Source: Field Survey Data, 2019

Table 4.17b Paired Samples Statistics of Income Levels of Shea Marketers.

Income	Mean	N	SD	SD Error
Before	102,690.00	30	68360.919	12480.939
After	153,798.33	30	91767.544	16754.385

Source: Field Survey Data, 2019

4.4.3 Relationship between Value Chain Intervention Strategies and Shea Actors Access to Assets

Access to assets is an important outcome of value chain intervention strategies. The table below indicates that, before interventions 16.7% of pickers own pieces of cloths, 40.0 % owned cauldrons, 25.0% own Televisions, and 18.3 % owned bicycles.

Before interventions were introduced, 15.0 % of processors own pieces of cloths, 41.7% own cauldrons, 25.0 % own Televisions, and 18.3 % own bicycles. 26.7 % of marketers own pieces of cloths, 26.7 % own cauldrons, 33.3 % owned televisions, and 13.3 % owned bicycles.

Table 4.18a Value Chain Activities and Access to Assets before Interventions

Activities	Assets				Total	%
	Cloths	Cauldrons	Television	Bicycle		
Picking	10 16.7%	24 40%	15 25%	11 18.3%	60	100%
Processing	9 15%	25 41.7%	15 25.0%	11 18.3%	60	100%
Marketing	8 26.7%	8 26.7%	10 35.3%	4 13.3%	30	100%
Total	27 18%	57 38%	40 26.7%	26 17.3%	150	100%

Source: Field Survey Data, 2019

Table 4.18b shows how assets were allocated according to sex of respondents. From the table, 4.0 % of male respondents owned cloths, 2.7 % owned cauldrons, 4.0 % owned televisions, and 1.3 % owned bicycles.

In the case of female actors and their access to assets, 14.0 % females owned cloths, 35.3 % owned cauldrons, 22.7 % owned television sets, and 16.0 % owned bicycles before interventions were implemented.

Table 4.18b Sex of Respondents and Access to Assets after Interventions

Sex of Respondents	Assets				Total	%
	Cloths	Cauldrons	Television	Bicycle		
Male	6 4.0%	4 2.7%	6 4.0%	2 1.3%	18	12%
Female	21 15%	53 41.7%	34 25.0%	24 18.3%	132	88%
Total	27 18%	57 38%	40 26.7%	26 17.3%	150	100%

Source: Field Survey Data, 2019

Table 4.18c below indicates the allocation of assets after interventions. From the table, 8.7% of pickers owned cloths, 4.7% owned cauldrons, 6% owned televisions, 10% owned bicycles, 10.7% owned jewellery and 0 owned land and 0 motorcycle.

In the case of processors, 4.7% of processors own cloths, 4.7% own cauldrons, 11.3% own televisions, 12.0% own bicycles, 7.3% own jewellery, 0 own lands, and motorcycles.

For marketers, 0 marketers owned cloths after the interventions, the actors within this activity said they invested their money on other assets other than buying cloths. 1.3% of the marketers owned cauldrons after interventions, 2.7% of marketers owned televisions, 4.7% owned bicycles, 3.3% owned jewellery, 5.3% owned land and 2.7% owned motorcycles.

Table 4.18cValue Chain Activity and Access to Assets after Interventions

Activities	Types of Assets							Total	%
	Cloths	Cauldrons	Television	Bicycle	Jewellery	Land	Motorcycle		
Picking	13 8.7%	7 4.7%	9 6.0%	15 13.8 %	16 10.7%	0	0	60	40%
Processing	7 4.7%	7 4.7%	17 11.3%	18 12%	11 7.3%	0	0	60	40%
Marketing	0	2 1.3%	4 2.7%	7 4.7%	5 3.3%	8 5.3 %	4 2.7%	30	20%
Total	20 13.3 %	16 10.7%	30 20%	40 26.7 %	32 21.3%	8 5.3 %	4 2.7%	150	100 %

Source: Field Survey Data, 2019

Table 4.18d shows access to assets according to sex of respondents. From the table, none of male respondents owned cloths, or cauldrons, 0.7% owned televisions, 2.7% owned bicycles, 0.7 owned jewellery, 5.3% owned land, and 2.7% owned motorcycles.

In the case of female actors and their access to assets, 13.3% females owned cloths, 10.7% owned cauldrons, 19.3% owned television sets, and 24.0% owned bicycles before interventions were implemented. 20.7% of female actors owned jewellery after interventions.

Table 4.18d Sex of Respondents and Access to Assets after Interventions

Sex	Types of Assets							Total	%
	Cloths	Cauldrons	Television	Bicycle	Jewellery	Land	Motorcycle		
Male	0	0	1 0.7%	4 2.7%	1 0.7%	8 5.3 %	4 2.7%	18	12%
Female	20 13.3%	16 10.7%	29 19.3%	36 24%	31 20.7%	0	0	132	40%
Total	20 13.3%	16 10.7%	30 20%	40 26.7%	32 21.3%	8 5.3 %	4 2.7%	150	100 %

Source: Field Survey Data, 2019

4.4.4 Impact of Value Chain Interventions on Shea Actors Empowerment

Empowerment is considered to be an important aspect of human development. In this study, composite empowerment index was used to measure the empowerment level of shea actors in the study by using questions that asked 'before, and after' using the terms "Generally, Occasionally, and Never" to depict the frequency with which an event occurs depending on the type of questions asked under the four headings of the composite empowerment index by Jeckoniah et al., (2012). Composite empowerment index was created from the four empowerment indices, and they include the following: Personal Autonomy Index (PAI), Household Decision Making Index (HDMI), Domestic Consultation Index (DCI), and the Freedom of Movement Index (FMI) (Jeckoniah et al.,

2012). Respondents in this study were scored and categorised under the headings "No Empowerment" when they showed a score of (0), (0.1-0.5) depicting "Low empowerment", (0.6-0.7) depicting "medium empowerment", and a "high empowerment" is a score of 0.8 or higher. The figures below show how each component of the CEI fared against the questions.

Table 4.19 Activity Specific Indices and the Composite Empowerment Index Scores before and after Intervention.

Activity	DCI		HDMI		FMI		PAI		CEI	
	Before	After	Before	After	Before	After	Before	After	Before	After
Picking	.716	.773	.449	.523	.327	.327	.327	.327	.454	.487
Processing	.773	.775	.466	.503	.320	.320	.320	.320	.469	.479
Marketing	.775	.823	.538	.581	.613	.589	.327	.327	.563	.580
Average Index	.755	.790	.484	.536	.420	.412	.324	.324	.495	.516

Source: Field Survey Data, 2019.

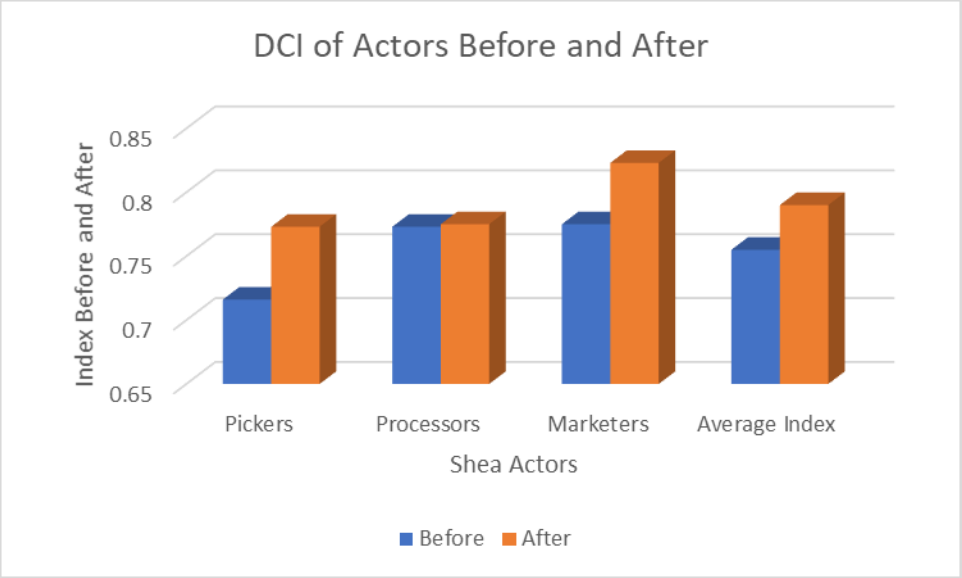
From this table 4.19, it is observed that the composite empowerment level of the shea actors in this study was low level; falling within 0.495 before interventions and 0.516 after interventions. Hence, the empowerment levels of shea actors were not affected by the interventions that were administered.

4.4.4.1 Domestic Consultation Index before and after Interventions

Empowerment level for pickers in the case of Domestic Consultation Index before intervention was .716 which increased to .773 after interventions were provided. The level of empowerment for domestic consultation for pickers before and after interventions was within the medium empowerment level. Processors before any intervention was introduced had a DCI of .773, and after intervention they had a score of .775 which indicated a medium empowerment level. In the case of the marketers, DCI

was .776 before intervention and .823 which is also a medium level of empowerment for the actors in this activity. These figures go to show that, the actors in this category had a good empowerment level on a general scale. Averagely, the composite empowerment level was 0.755 before, .790 after which is a good indicator; most especially for the pickers and processors because they are women, and as such, for them to have a domestic consultation at this level, it shows that times are changing and women need not seek permission from their spouses to do the most basic of things in the household.

Figure 4.10 Domestic Consultation Index before and after Intervention



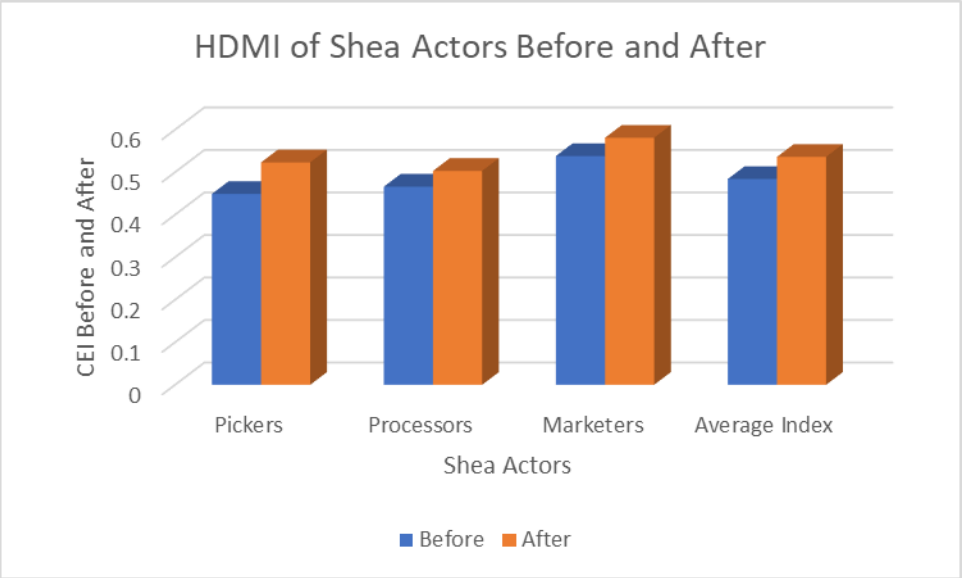
Source: Field Survey Data, 2019.

4.4.4.2 Household Decision Making Index before and after Interventions

Household Decision Making Index for the pickers was low with an index of .449 before interventions, increasing to .523 after interventions, Processors also had low empowerment in their HDMI with a score of .466 before intervention, and .503 after interventions. For their score in HDMI, the marketers also had .538 before intervention, which increased to .581 after intervention, also an indication of low level of

empowerment with an average index of .340, which indicates a low level of empowerment as well. These scores indicated that, shea actors in the value chain were not empowered enough by the interventions, and in terms of overall empowerment as regards HDMI, the shea actors had a low level of empowerment.

Figure 4.11 Household Decision Making Index before and after Intervention



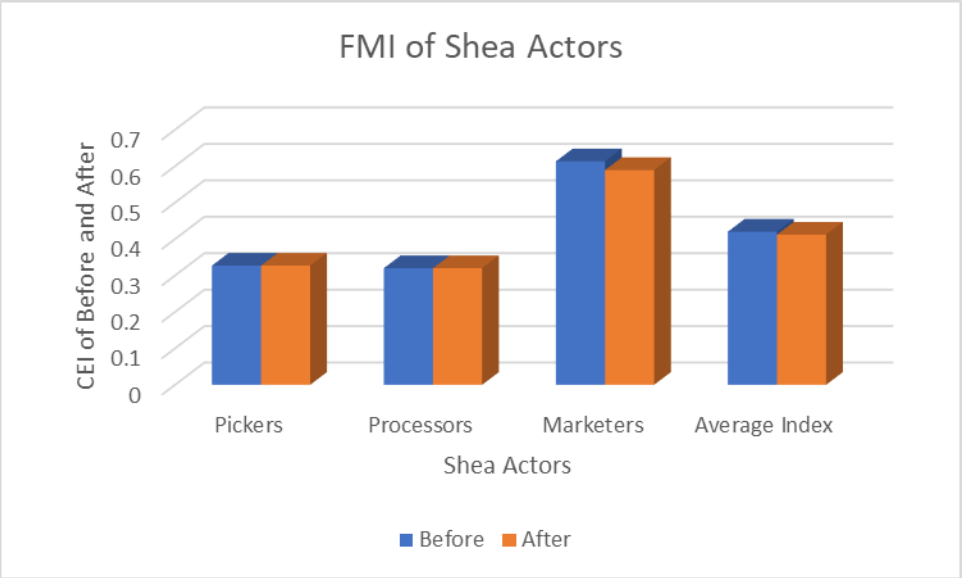
Source: Field Survey Data, 2019

4.4.4.3 Freedom of Movement before and after Interventions

For their Freedom of Movement Index, before intervention the pickers had low empowerment, with a value of 0.327; maintaining the same score even after interventions, the Processors scored 0.320 also maintaining the same score even after interventions on their index, indicating a low level of empowerment, and the marketers scored 0.613 which is an indicator of medium empowerment level before interventions, however, the empowerment level reduced after intervention to .589, a low empowerment level. The average index level of shea actors i.e. pickers and processors, most especially was low because the actors involved in picking and processing are women, and "they

mostly seek permission from their spouses before they left the house to go anywhere". When asked why they had to seek the permission and consent of their spouses, Mma Sanna the 'Magaagiya' of the processors at Sagnarigu stated that "they own us. They brought us to the house and as such, they have to give us permission to go anywhere".

Figure 4.12 Freedom of Movement before and after Intervention

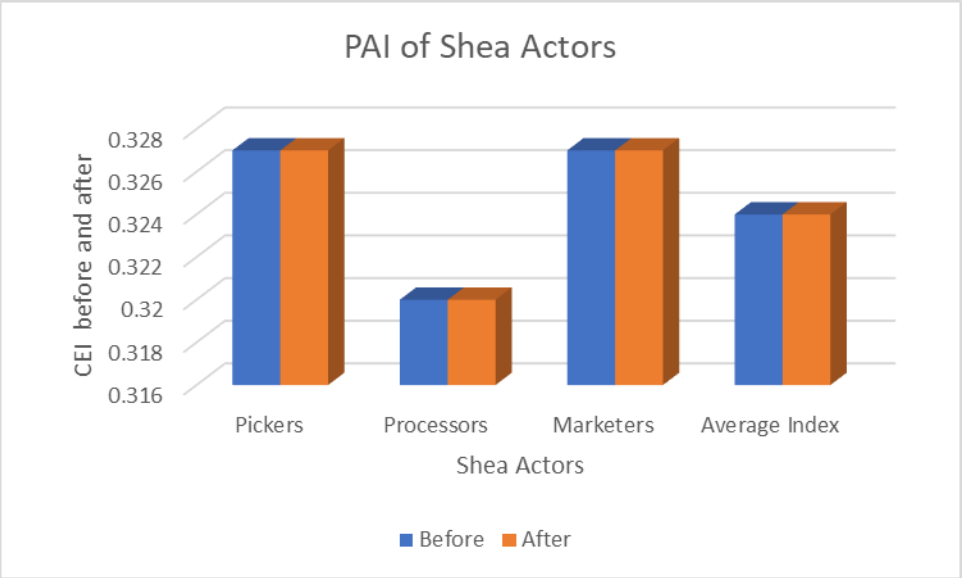


Source: Field Survey Data, 2019

4.4.4.3 Personal Autonomy Index before and after Intervention

Pickers had 0.327 for PAI before interventions and the index stayed the same after interventions which means there was low empowerment. The processors also scored an index of 0.320 which maintained after interventions; indicating a low empowerment level for the processors, shea marketers had a score of 0.327 before and after interventions, also indicating a low level of empowerment. Generally, for PAI, the results showed low levels of empowerment because both parties consult and seek permission from the other, especially in regards to educating children, health issues, and family planning.

Figure 4.13 Personal Autonomy Index before Intervention



Source: Field Survey Data, 2019

4.4.4.4 Assessing the Outcome of VCIs Empowerment Levels on Value Chain Actors.

The table 4.20a below indicated that there was a statistically significant difference in empowerment levels before interventions and after interventions. The mean score values showed that the domestic consultation index for actors before intervention was .7509 and 0.7840 after interventions. This means that, there was an increase in empowerment levels for Domestic Consultation among shea actors**.**

Table 4.20a Differences in Domestic Consultation Index among Shea Activities.

DCI before and after	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower	Upper
Picking	60	.7161	.08862	.01144	.6932	.7390
Processing	60	.7733	.04625	.00597	.7614	.7853
Marketing	30	.7756	.04789	.00590	.7577	.7934
Total	150	.7509	.07222	.00608	.7392	.7625
Picking	60	.7733	.04706	.00608	.7612	.7855
Processing	60	.7750	.04739	.00612	.7628	.7872
Marketing	30	.8233	.05947	.01086	.8011	.8455
Total	150	.7840	.05333	.00435	.7754	.7926

Source: Field Survey Data, 2019

This table 4.20b gives both between-groups and within-groups sums of squares, degrees of freedom, etc. From the table, it can be seen that the significant values for DCI before and after are .000, less than .05. This means that there is an overall significant difference in shea actors' domestic consultation index for the three value chain activities.

Table 4.20b Table indicating one-way ANOVA for DCI before and after

Index	Sum of Squares	df	Mean Square	F	Sig.
DCI Before	.121	2	.061	13.561	.000
	.656	147	.004		
Total	.777	149			
DCI After	.058	2	.029	11.676	.000
	.366	147	.002		
Total	.424	149			

Source: Field Survey Data, 2019

The Levene's test for homogeneity of variance test is to see whether scores are the same for the actors within each activity. There is a significant difference in empowerment levels for Domestic Consultation Index for Pickers, Processors and Marketers after the intervention.

Table 4.20c Levene Test of Homogeneity of Variances

Index	Levene Statistic	df1	df2	Sig.
DCI before	10.150	2	147	.000
DCI after	1.164	2	147	.315

Source: Field Survey Data, 2019

Table 4.20d Differences among Each Activity Using Post-hoc

DCI		Mean Difference	Std. Error	Sig.
Before Picking	Processing	-.05722*	.01220	.000
	Marketing	-.05944*	.01494	.000
Processing	Picking	-.05722*	.01220	.000
	Marketing	-.00222*	.01494	.988
Marketing	Picking	.05944*	.01494	.000
	Marketing	.00222*	.01494	.988
After Picking	Processing	.00167	.00911	.982
	Marketing	.05000*	.01115	.000
Processing	Picking	.00167	.00911	.982
	Marketing	.04833*	.01115	.000
Marketing	Picking	.05000*	.01115	.000
	Processing	.04833*	.01115	.000

Source: Field Survey Data, 2019

From the ANOVA table, it was concluded that there is significant difference among the mean scores of the dependent variables in for the three activities. This Post-hoc table shows exactly where the differences occur among the value chain activities. In the column labelled Mean Difference, the asterisks next to values listed there show that the two groups being compared are significantly different from one another. That is, in DCI before, pickers had a significantly different value from both processors and marketers, Processors had a significantly different value from picking, and marketers had a significant different value from pickers. In DCI after, pickers had a significant difference

from marketers, processors had a significant difference from marketers, and marketers had a significant difference from pickers and processors. This means that actors in each activity had different levels of empowerment although on average, all the actors had a high level of empowerment.

The one way between-groups analysis of variance explored the impact of value chain activities and interventions on the domestic consultation index of the actors in each activity. There was a significant difference in the domestic consultation index of actors in the various groups. Even with reaching statistical significance, the actual difference in mean scores between groups was large. The effect size, calculated using eta squared, was 0.14 for domestic consultation index after intervention, and -0.656 before interventions were implemented. Post-hoc comparisons using the Tukey HSD test indicated that the significant difference for domestic consultation index before intervention was .986, and 1.000 after interventions were implemented. This implies that there was a statistically there was an improvement in the empowerment level of actors in regards to domestic consultation index.

4.4.4.5 Relationship between PAI before and after and the Types of Value Chain Activities.

The table 4.21a indicated that, there was no statistically significant difference in the empowerment levels for Personal Autonomy Index among the shea actors before and after interventions. The empowerment levels remained low even after interventions level with an average of 0.3240.

Table 4.21a Differences in Personal Autonomy Index among Activities

PAI before and after	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower	Upper
Picking	60	.3267	.14246	.01839	.2899	.3635
Processing	60	.3200	.13876	.0.1791	.2842	.3558
Marketing	30	.3267	.14368	.02623	.2730	.3803
Total	150	.3240	.14032	.01146	.3014	.3466
Picking	60	.3267	.1246	.01839	.2899	.3635
Processing	60	.3200	.13876	.01791	.2842	.3558
Marketing	30	.3267	.14368	.02623	.2730	.3803
Total	150	.3240	.14032	.01146	.3014	.3466

Source: Field Survey Data, 2019

The significant value for Levene's test for homogeneity of variance is greater than .05 which means that there is no violation of the assumption of homogeneity. This indicates that, the overall empowerment level in personal autonomy index for actors before interventions remained the same after interventions.

Table 4.21b Levene Test of Homogeneity of Variances

Index	Levene Statistic	df1	df2	Sig.
PAI before	.050	2	147	.952
PAI after	.050	2	147	.952

Source: Field Survey Data, 2019

This table 4.21c gives both between and within groups of sums of squares, degrees of freedom, etc. The significant value for level of empowerment for PAI before and after is greater than .05 at .961 which means that there was no difference in significance among the mean scores in the dependent variable for the value chain activities, indicating low empowerment for personal autonomy index for actors.

Table 4.21c shows one way between-groups analysis of variance explored the impact of value chain activities and interventions on the personal autonomy index of the actors in each activity. There was no significant difference in the PAI of actors in the various groups. Despite attaining statistical significance, the actual difference in mean scores between groups was small. The effect size, calculated using eta squared, was 0.00068 for PAI before and after interventions were implemented. Post-hoc comparisons using the Tukey HSD test indicated that there was no significant difference for PAI before intervention because the values remained the same before and after interventions were implemented. This indicates that the level of empowerment for personal autonomy index for shea actors was the same even with interventions.

Table 4.21c Table indicating One Way ANOVA table for PAI before and after

Index	Sum of Squares	df	Mean Square	F	Sig.
PAI before	.002 2.932 2.934	2 147 149	.001 .020	.040	.961
PAI after	.002 2.932 2.934	2 147 149	.001 .020	.040	.961

Source: Field Survey Data, 2019

The table 4.22a indicates that there were no statistically significant differences in empowerment levels for Freedom of Movement. The table shows that the mean scores for empowerment for actors within the picking and processing activities were low before and after interventions, whiles the mean scores for empowerment levels for actors in marketing were medium level before and after interventions.

4.4.4.6 Relationship between Freedom of Movement and Value Chain Activities

4.22a Differences in Freedom of Movement Index among Shea Activities

Activities before and after	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower	Upper
Picking	60	.3267	.14246	.01839	.2899	.3635
Processing	60	.3200	.13876	.01791	.2842	.3558
Marketing	30	.6133	.19605	.03579	.5401	.6865
Total	150	.3813	.19156	.01564	.3504	.4122
Picking	60	.3267	.08433	.01089	.3049	.3485
Processing	60	.3233	.08149	.01052	.3023	.3444
Marketing	30	.5889	.21412	.03909	.5089	.6688
Total	150	.3778	.15996	.01306	.3520	.4036

Source: Field Survey Data, 2019

From the table, the significant value for Levene's test for homogeneity of variance is .000 which is less than the .05. This means that the assumption of homogeneity is flawed and violated. This indicates that there was no increase, or decrease in the empowerment level of actors after interventions.

Table 4.22b Levene Test of Homogeneity of Variances

Index	Levene Statistic	df1	df2	Sig.
FM before	9.510	2	147	.000
FM after	73.329	2	147	.000

Source: Field Survey Data, 2019

From the ANOVA table 4.22c, there is significant difference among the mean scores of the dependent variable for the three activities. This Post-hoc table shows exactly where the differences occur among the value chain activities. In the column labelled Mean Difference, the asterisks next to values listed there show that the two groups being compared are significantly different from one another. That is, in Freedom of Movement before, Pickers had a significantly different value from Marketers, Processors had a significantly different value from marketers, and marketers had a significantly different value from pickers and processors.

In Freedom of Movement after, pickers had a significant difference from marketers, processors had a significant difference from marketers, and marketers had a significant difference from pickers and processors.

Table 4.22c Table indicating One Way ANOVA table for FM before and after

Index	Sum of Squares	df	Mean Square	F	Sig.
FM before	2.020	2	1.010	43.054	.000
	3.448	147	.023		
Total	5.468	149			
FM after	1.672	2	.836	57.388	.000
	2.141	147	.015		
Total	3.813	149			

Source: Field Survey Data, 2019

The one way between-groups analysis of variance explored the impact of value chain activities and interventions on the freedom of movement index of the actors in each activity. There was no significant difference in the Freedom of Movement among actors.

Actors actually has less empowerment in this category after interventions were implemented. The effect size, calculated using eta squared, was 0.438 for Freedom of Movement before and 0.369 for Freedom of Movement after interventions were implemented. This indicated that shea actors did not enjoy more freedom with the advent of interventions.

Table 4.22d Differences among Each Activity Using Post-hoc

FM Activity		Mean Difference	Std. Error	Sig.
Before Picking	Processing	.00667	.02796	.969
	Marketing	-.28667*	.03425	.000
Processing	Picking	-.00667	.02796	.969
	Marketing	-.29333*	.03425	.000
Marketing	Picking	.28667*	.03425	.000
	Processing	.29333*	.03425	.000
After Picking	Processing	.00333	.02203	.987
	Marketing	-.26222*	.02699	.000
Processing	Picking	-.00333	.02203	.987
	Marketing	-.26556*	.02699	.000
Marketing	Picking	.26222*	.02699	.000
	Processing	.26556*	.02699	.000

Source: Field Survey Data, 2019

4.4.4.7 Relationship between Household Decision Making Index and Value Chain Activities.

The mean scores for Household Decision Making Index as seen in table 4.23a above shows that actors within the picking and processing activities had low empowerment levels when it came to household decision making before interventions, whiles actors in marketing had a medium level empowerment after interventions. The levels improved after interventions were implemented with Pickers recording .523, processors recording .503, and marketers recording .581. These figures showed an increase in their empowerment levels from low to medium level.

Table 4.23a Differences in Household Decision Making Index among Shea Activities

Activities HDMI before and after	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower	Upper
Picking	60	.449	.0555	.0072	.435	.463
Processing	60	.466	.0432	0056	.455	.478
Marketing	30	.538	.0555	. 0101	.517	.558
Total	150	.474	.0604	.0049	.464	.483
Picking	60	.523	.0470	.0061	.510	.535
Processing	60	.503	.0452	.0058	.491	.515
Marketing	30	.581	.0668	.0122	.557	.606
Total	150	.527	.0582	.0048	.517	.536

Source: Field Survey, 2019

The Levene's test of homogeneity of variance for Household Decision Making Index is at a significant value of .051, above the expected .05. This indicates that there is no violation in the assumption of homogeneity of variance.

Table 4.23b Levene Test of Homogeneity of Variances

Index	Levene Statistic	df1	df2	Sig.
HDMI before	3.034	2	147	.051
HDMI after	2.322	2	147	.102

Source: Field Survey, 2019

From the table above, there is a significant difference among the mean scores between groups and within groups for HDMI which is less than .05. This, however, does not tell which group is different from the other. Despite reaching statistical significance, the actual difference in mean scores between groups was quite small.

In the results presented above, in HDMI before, the picking activity is statistically significantly different from the marketing activity, and there is a statistically significant difference between Processing activity and marketing activity. Also, there is a statistically significant difference between marketing and both picking and processing activities. In HDMI after, there is a statistically significant difference between picking and marketing; processing and marketing; and, a significant difference between marketing, picking and processing. The effect size, calculated using eta squared, was 0.5. Post Hoc comparisons using the Tukey HSD test indicated that the mean score of HDMI before interventions was significantly different from HDMI after interventions.

Table 4.23c Table indicating One Way ANOVA table for HDMI of Shea Actors

HDMI before/after	Sum of Squares	df	Mean Square	F	Sig.
B/W Groups	2.020	2	1.010	43.054	.000
W/In Groups	3.448	147	.023		
Total	5.468	149			
B/w Groups	1.672	2	.836	57.388	.000
W/In Groups	2.141	147	.015		
Total	3.813	149			

Source: Field Survey Data, 2019

4.5 The Gender Constraints and Opportunities in the Value Chain

The table 4.24a below shows the strategies that actors felt would enable them upgrade on their activities. These strategies have been labelled as opportunities that actors feel when provided will improve on their value chain activities. Table 4.24a, indicates that 1.3 % of pickers stated they had training on value adding techniques, 14.7 % stated they had other capacity building training, and 24.0 % stated there were ready markets opportunities to enable them upgrade. 14.7 % of processors stated there were opportunities in training on value adding techniques, so that they could add further value to the butter that they process, 6.7 % stated there are opportunities for upgrading in capacity building training, 17.3 % stated there are upgrading opportunities in ready markets, and 1.3 % said there are upgrading opportunities on networking and forming partnerships with other shea actors in the value chain. Two (2) % marketers stated there are opportunities in capacity building training to enhance their knowledge, ten (10) % stated there were opportunities for

upgrading in ready markets, and 8.8 % stated there were opportunities in networking and partnerships with other actors in the value chain.

4.24a Opportunities within Value Chain Activities

Activity	Capacity Building Training		Ready Markets		Networking and Partnerships		Training on value adding processes		Total
	Freq.	percent	Freq.	percent	Freq.	percent	Freq.	percent	
Picking	22	14.7	36	24.0	0	0	2	1.3	60
Processing	10	6.7	26	17.3	2	1.3	22	14.7	60
Marketing	3	2.0	15	10.0	12	8.0	0	0	30
Total	35	23.3	77	51.3	12	9.3	24	16	150

Source: Field Survey Data, 2019

The table 4.24b below shows the factors that actors feel constrain them from upgrading in their activities. These strategies have been labelled as constraining factors. From the table, 18.7% of pickers indicated financial challenges, and 21.3% indicated not enough picking equipments as constraining factors. 16.7% of processors indicated financial challenges, 21.3 % stated lack of training in value adding to shea products, and 2.0% stated not having enough processing equipments as constraining factors. 8.7% of marketers also stated financial challenges, 10.7% stated lack of training on how to add value to their shea products, and 0.7% stated not having enough equipments as factors that constrain activities.

4.24b Constraining Factors in Value Chain Activities

Activity	Financial Challenges		No training in Shea Value Adding		Lack of Equipments		Total
	Freq.	%	Freq.	%	Freq.	%	
Picking	28	18.7	0	0	32	21.3	60
Processing	25	16.7	32	21.3	3	2.0	60
Marketing	13	8.7	16	10.7	1	0.7	30
Total	66	44	48	32	36	24	150

Source: Field Survey Data, 2019

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

This chapter presents a summary, conclusions and recommendations of the study which when implemented could enhance the efficiency of shea activities of the shea actors.

5.1 Summary of Findings

The study had three specific objectives: first objective was to identify the types of value chain interventions shea actors have benefitted from, the second objective was to examine the impact of value chain intervention on gender roles and participation of shea actors, the third objective was to examine to identify the opportunities and constraints that exist in the shea value chain in the Sagnarigu district and Tamale Metropolitan areas of the Northern Region.

5.1.1 Demographic Characteristics of the Shea Actors

Shea nut picking and processing within the Northern regions are a woman dominated occupation. From the data collected, 55.3 % of pickers have no formal education, whiles 31.3 % have non-formal education. All the pickers (100 %) interviewed were married, and 35 % of them have been picking for 10 year and above.

The majority of the processors (65 %) have been processing for between 1-5 years, 81.7 % of them are married whiles 18.3 % are widowed. 38.2 % have no formal education whiles 61.7 % of them have non-formal education.

The marketing aspect of the shea value chain is mostly a male dominated scene with 18 (60 %) of the actors interviewed being male and 12(40 %) being female. 86.7 % of the

marketers were married with 13.3 % single. 33.3 % had no formal education, 50 % had basic education, and 16.7 % had a higher education. 53.3 % have been in the shea marketing business between 6-10 years.

5.1.2 Types of Value Chain Intervention Strategies and their Impact of Shea Actors Activities.

The study revealed that the shea actors benefitted from both generic and specific interventions like improving product quality and value, VSLA, providing equipments to women, making access to credit easier, linking women to markets, capacity building training, and improving skills of women. From the study, 25 % of shea actors benefitted from generic value chain interventions like improving product quality, and capacity building training. According to the actors, these interventions have equipped them with skills which enabled them increase their shea businesses in terms of sales, and quality of products.

Majority of the actors (75%) stated that they benefitted from the specific value chain interventions like VSLA, improving skills of women, access to credit, and access to equipments. The actors stated that these interventions have helped to increase their productivity and reduce their labour in terms of production with the provision of equipments, have helped to reduce their financial burden because of VSLA, and accessibility to credit facilities, especially in paying the school fees of their children, and taking care of family emergencies. A shea processor from Sagnarigu, Mma Afisheitu, commented that the VSLA has become “my source of emergency fund. I know I can

depend on it in times of hardship, most especially, when it comes to paying my children's school fees."

The study went further to assess the impact of training on shea actors value chain activities. The majority of the shea actors, 39.3 % benefitted from training such as processing organic butter, 18.0 % had training on grading of nuts according to organic and conventional, 11.3 % have had training on drying nuts to prevent moisture retention, 10.7 % said that they have received training on tree conservation. However, 20.7% of the said they have not received any training.

5.1.3 Impact of VCIs on Gender Roles of Shea Actors in Value Chain Activities

The study revealed that majority of the shea actors (80 %) are not engaged full time in their activities, and 20 % engaged full time in the business. Of the actors who were engaged part time in the shea business, 36.7% of pickers said they engaged in farming activities during off-seasons, 38.3 % are into rice processing, and 25% are into small business. 30 % of processors are into farming, 50 % are in to rice processing, and 20 % are into small business activity.

The relationship between gender roles and VCIs was analysed in this chapter. Variables such as Productive roles, Reproductive roles, and Community managing and politics were used to assess the level of shea actors' participation in value chain activities. Productive roles of shea actors before and after intervention was .064, an indication that value chain interventions had a moderate effect size on the productive role of shea actors. Reproductive roles of shea actors before and after interventions was 0.36, an indication that the value chain interventions had a small effect size on shea actors. Community

managing and Politics had an effect size of 0.35, also an indication of small effect size of value chain interventions on community managing and politics of shea actors.

5.1.4 Impact of Value Chain Intervention Strategies on Gender Outcomes.

In finding the impact of VCI strategies on gender outcomes, paired samples t-test were used to calculate for the statistical significance of each variable to the other. Gender outcomes were broken down to income level, access to assets, and empowerment.

A paired samples T-test was conducted to evaluate the impact of the interventions on the number of bags of nuts pickers picked a month before and after intervention. There was a statistically significant increase in the number of bags of nuts shea pickers picked after interventions were given from (M = 1.73, SD = .548) before interventions to (M = 2.38, SD = .640, t value (54.2) = -7.36, p< .0005). The eta squared statistic indicated a large size at 0.48.

This same test was done to ascertain the quantity of kilos of butter processed by processors before and after interventions were implemented from (M = 16.27, SD = 3.659) before interventions to (M = 75.00, SD = .000, t value (15,462.9) = 124.350, p< .0005). The eta squared statistic indicated a large size at 0.99.

A paired samples T-test was conducted to evaluate the impact of the interventions on the number of bags of nuts marketers sold in a month before and after joining the association that they belong to. There was a statistically significant increase in the number of bags of nuts shea nut marketers sold after joining the association that they belong to from (M = 684.60, SD = .455) before interventions to (M = 1025.43, SD = .611.8, t value (28.4) = 5.337, p< .0005). The eta squared statistic indicated a large size at 0.49.

A paired samples T-test was conducted to evaluate the impact of the interventions on the income of pickers in a month before and after intervention. There was a statistically significant increase in the revenue of pickers from (M = 265, SD = 84.5) before interventions to (M = 375, SD = 99.9 t value (69.6) = -8.345, p< .0005). The eta squared statistic indicated a large size at 0.54.

A paired samples T-test was conducted to evaluate the impact of the interventions on the income of processors in a month before and after intervention. There was a statistically significant increase in the revenue of processors from (M = 197.3, SD = 43.5) before interventions to (M = 1125.0, SD = .000 t value (27.3) = -125.2, p< .0005). The eta squared statistic indicated a large size at 0.99.

A paired samples T-test was conducted to evaluate the impact of the interventions on the income level of marketers sold in a month before and after joining the association that they belong to. There was a statistically significant increase in the number of income level of marketers after joining the association that they belong to from (M = 102690.0, SD = 68369.9) before interventions to (M = 153798.3, SD = 91767.5, t value (28.4) = 5.337, p< .0005). The eta squared statistic indicated a large size at 0.49.

The specific intervention strategies have improved their shea business activities. It is evident that improving skills of women, VSLA, access to credit, linking women to markets, access to equipments, all had good impact on the activities of the shea actors. The generic intervention strategies like improving product quality and value, and capacity building training also improved on the activities of the shea actors.

The results of the study revealed that the Domestic Consultation Index level of shea marketers before intervention was the highest at .775, followed by shea processors at .773, and pickers with the least score at .716.

Household Decision Making Index of shea marketers before interventions was at .538 indicating medium level of empowerment, followed by shea processors at .466, and shea pickers with the lowest score at .449 both indicating a low level of empowerment.

Freedom of Movement for shea marketers before interventions was at .613 indicating medium level of empowerment, pickers followed with .327, and processors with the least .320 both indicating a low level of empowerment.

Finally, for Personal Autonomy Index, marketers and pickers tied at .327 each indicating low empowerment levels, and processors recorded the least index of .320

After interventions were implemented, the score went up a bit for some indices, but remained the same for some other indices.

For instance, marketers increased their index in Household Decision Making after the intervention. The score went from .775 to .832, an increase of 0.057, indicating a high level of empowerment. Processors also increased their index from .773 to .775, with 0.002, also indicating a medium level of empowerment, and pickers had a score of .773, from .716, an increase of 0.057 which indicated a medium level of empowerment.

Again, marketers had the highest score after intervention for Household Decision Making Index with a score value of .581, an increase from .538, an increase of 0.043, pickers had an increase from .449 to .523, an increase of 0.074 and processors had the least score of .503, even though it was an increase of 0.037 from .466.

Freedom of Movement after the intervention had the marketers with the highest score value of .589, a decrease of 0.024 from their previous value of .613, pickers and processors still maintained their score of 320 from before interventions were implemented

Personal Autonomy Index for marketers and pickers were at the same level of .327 after the intervention, and the processors also maintained the value of .320, the same as before interventions were implemented.

Comparing the level of empowerment with the shea value chain activities, the results revealed that shea actors had medium empowerment in Household Decision Making Index with an overall average value of 0.500, Domestic Consultation Index of actors was next with a score value of 0.387, Freedom of Movement was next with an average score value of 0.379, and lastly, Personal Autonomy Index had the least score of 0.232.

Access to assets was another important outcome of value chain intervention strategy. Before interventions, 16.7% of pickers owned cloths, 40.0% owned cauldrons, 25.0% owned Televisions, and 18.3% owned bicycles.

Processors before interventions were introduced had 15.0% owning cloths, 41.7% owning cauldrons, 25.0% owning Televisions, and 18.3% owning bicycles.

26.7% of marketers owned cloths, 26.7% owned cauldrons, 33.3% owned televisions, and 13.3% owned bicycles.

After interventions, 8.7% of pickers owned cloths, 4.7% owned cauldrons, 6.0% owned televisions, 10% owned bicycles, 10.7% owned jewellery and 0 owned land and 0 motorcycle. The percentage of land owners was recorded at 0 for pickers because, in

traditional Northern cultures, women do not own land, they only work as un-paid labour on the farms of their husbands, or as farm hands on other farms owned by other people.

Processors, 4.7% of processors own cloths, 4.7% own cauldrons, 11.3% own televisions, 12.0% own bicycles, 7.3% own jewellery, 0 own lands, and motorcycles.

Marketers, 0% owned cloths after the interventions, the actors within this activity said they invested their money on other assets other than buying cloths. 1.3% of the marketers owned cauldrons after interventions, 2.7% of marketers owned televisions, 4.7% owned bicycles, 3.3% owned jewellery, 5.3% owned land and 2.7% owned motorcycles.

0% of male respondents owned cloths, 0% owned cauldrons, 0.7% owned televisions, 2.7% owned bicycles, 0.7 owned jewellery, 5.3% owned land, and 2.7% owned motorcycles.

In the case of female actors and their access to assets, 13.3% females owned cloths, 10.7% owned cauldrons, 19.3% owned television sets, and 24.0% owned bicycles before interventions were implemented. 20.7% of female actors owned jewellery after interventions, 0% owned land, and motorcycles.

5.1.5 Gender Opportunities and Constraints

In finding out the opportunities that exist in the value chain for the shea actors, 1.3% of pickers indicated that they had training on value adding techniques, 14.7% said they had other capacity building training, and 24.0% said there were ready markets opportunities to enable them upgrade. 14.7% of processors said there were opportunities in training on value adding techniques, so that they could add further value to the butter that they process, 6.7% said there are opportunities for upgrading in capacity building training, 17.3% said there are upgrading opportunities in ready markets, and 1.3 % said there are

upgrading opportunities on networking and forming relationships with other shea actors in the value chain. 2 % of marketers indicated that, there are opportunities in capacity building training to enhance their knowledge, 10% said there were opportunities for upgrading in ready markets, and 8.8% said there were opportunities in networking and partnerships with other actors in the value chain.

18.7% of pickers indicated that they had financial challenges, and 21.3% indicated that they do not have enough picking equipments in regards to finding out about their constraints and challenges. 16.7% of processors indicated that they had financial challenges, 21.3% said they had no training in value adding to their shea products, and 2.0 said they did not have enough processing equipments. 8.7% of marketers also said they had financial challenges, 10.7% said they have no training on how to add value to their shea products, and 0.7% said they didn't have enough equipments.

5.2 Conclusion

Generally, the study revealed that shea nut picking and shea nut processing are two areas within the shea value chain that are controlled by women. However, the marketing activities are dominated by men. The interventions given have had a substantial influence on the lives of the shea actors. For example, the training given to the shea actors have helped increase the quantity of nuts pickers were able to pick in a month, the quantity of nuts processors was able to process in a month, and the quality of their butter. Marketers were also able to improve the quantity of nuts they were able to sell in a month. The training has helped to intensify the output, improve the quality of nuts/ butter being sold, increase productivity of both pickers and processors, and increased income levels of the shea actors.

The value chain interventions have also enhanced the empowerment levels of actors as noticed from the empowerment indices. There has been, a generally significant change on the empowerment levels of actors now, as compared to before interventions were implemented.

The study also revealed that 16% of shea actors indicated there were opportunities for upgrading in training in value adding techniques, 23.3% indicated that there were upgrading opportunities in capacity building training, 51.3% said the availability of ready markets will enhance upgrading abilities of shea actors, 9.3% indicated that networking and creating partnerships with other shea actors can add to an actor's upgrading abilities.

The study also revealed that, 44% of the shea actors have challenges in the financial area, 32.0% had challenges when it comes to adding value to their shea products, and 24.0% have challenges in not having enough equipments to aid their work.

5.3 Recommendations

Based on the findings of the study, the following recommendations were drawn:

The study recommends that intervention strategies like encouraging women to take part in local level politics that empower women both at the community and household level decision-making should be encouraged, and community leadership should acknowledge and embrace the changing times and make the participation of women in both community politics and leadership positions. This will trickle down to their household decision making power, as well as increase their personal autonomies. Hence, there is the need for a gender responsive monitoring and evaluation approach in identifying sustainable methods in sensitising communities on the importance of empowering women in this day and age.

With the global acclaim of shea and its by-products, the study recommends that government sets up a shea board that will regulate the prices of shea both at the local level, and the international level.

Even though throughout this study, the researcher kept hearing that "men do not pick nor process butter", it is the study's recommendation that men are encouraged to join the shea picking and butter processes, and not just confined themselves in the selling of nuts and butter. This will go a long way to increase the level of production shea products.

Also, the study recommends that the NGOs involved in shea operations employ governments help to make easier policies that will enable them strengthen vertical linkages which can help to reduce the inequities in the value chain, most especially in overcoming constraints in women's participation in community managing and politics.

Policies should be put in place to address gendered constraints relating to upgrading such as product and process, and also policies that will strengthen vertical and horizontal linkages.

Private organisations implementing interventions should increase and put emphasis on strengthening skills development of shea actors, most especially in the capacity building area, value adding areas. This will go a long way to increase actors' market value and negotiation skills when it comes to pricing and selling.

REFERENCES

Abubakari, Y., A., (2015). *A Socio-Economic Analysis of the Emerging Shea Value Chain in Northern Region,* Ghana, Kwame Nkrumah University of Science and Technology, Kumasi.

Addaquay, J., (2004). *The Shea Butter Value Chain- Refining in West Africa*. WATH Technical Report No. 3.

Afra, A., Adraki, P., K., and Allotey, S., S., K., (2018). *Value Chain Interventions and its Impacts on Empowerment of Shea Actors in the Northern region of Ghana*, *World Journal of Sociology and Anthropology Vol. 2(1)*

Ahmed, N., (2007). *Value chain analysis for hilsa marketing in coastal Bangladesh*. *Aquaculture News.*

Alander, J., (2004). *Shea butter – a multifunctional ingredient for food and cosmetics*. Lipid Technology 16.

Alesina, A., Giuliano, P., and Nunn, N., (2013). *On the origins of gender roles: Women and the plough.* The Quarterly Journal of Economics.

Altenburg, T. (2007*). Donor approaches to supporting pro-poor value chains.* Report prepared for the Donor Committee for Enterprise Development, Working Group on Linkages and Value Chains, GTZ.

Armando, E., Azevedo, A. C., Fischmann, A. A., and Pereira, C., E., C., (2016). *Business strategy and upgrading in global value chains: a multiple case study in Information Technology firms of Brazilian origin.* RAI Revista de Administração e Inovação.

Asante, W., J., Banidiyia, M., A., and Tom-Dery, D., (2012). *Effect of planting depth on the germination and initial growth and development of shea (Vitellaria paradoxa. Gaertn).* International Journal of Biosciences (IJB).

Ashby, J., Hart, M., Lambrou, Y., Larson, G., Lubbock, A., Pehu, E., and Ragasa, C., (2009). *Investing in women as drivers of agricultural growth. Gender in Agriculture Sourcebook.*

Asian Development Bank (2001), *Special Evaluation Study on Gender and Development.*

Bair, Jennifer, and Gary Gereffi. (2003). *Upgrading, Uneven Development and Jobs in the North American Apparel Industry.* Global Networks 3(2).

Bamber, P, and Cornelia S. (2016). *The Gender Dimensions of Global Value Chains*. Geneva: International Centre for Trade and Sustainable Development (ICTSD).

Barrientos, S. (2014). *Gender and Global Value Chains: Challenges of Economic and Social Upgrading in Agri-Food.* European University Institute. Robert Schuman Centre for Advanced Studies.

Bassett, T., J., (2010*). Slim pickings: fair trade cotton in West Africa.* Geo forum, 41.

Bingen, J., and Siyengo, A., (2002). *Standards and corporate reconstruction in the Michigan dry bean industry*. Agriculture and Human Values 19.

Bolwig, S., S. Ponte, A. du Toit, L. Riisgaard & N. Halberg (2008). *Integrating Poverty, Gender and Environmental Concerns into Value Chain Analysis A Conceptual Framework and Lessons for Action Research,* DIIS Working Paper 2008.

Bolwig, S., S. Ponte, A. du Toit, L. Riisgaard and N. Halberg (2010). *Integrating Poverty and Environmental Concerns into Value-Chain Analysis: A Conceptual Framework.* Development Policy Review 28(2).

Carette, C., Malotaux, M., Leeuween, M., V., and Tolkamp, M., (2009). *Shea Nut and Butter in Ghana- Opportunities and Constraints for Local Processing.* Resilience and Wageningen University.

Charles, A., A., (2015). *The Contribution of Farmers' Knowledge, Attitudes and Institutional Support towards Shea Conservation Management in the Upper East Region,* University of Ghana, Legon.

Chalfin, B., (2004). *Shea Butter Republic: State Power, Global Politics, and the Making of an Indigenous Commodity.* New York, NY. Routledge.

Coles, C. and J. Mitchell, (2009). *Gender and agricultural value chains – a review of current knowledge and practice and their policy implications,* ODI Paper forthcoming for UN FAO SOFA 2010, ODI, UK.

Creevey, L., Dunn, E. and Farmer, E. (2011). *Outreach, Outcomes, and Sustainability in Value Chain Projects.* MicroREPORT #171.

Danida (2009), *Impact Evaluation of Aquaculture Interventions in Bangladesh*.

D'Auteuil, C., (2008). *Improved Shea Butter Trading Through Certification.* LEISA MAGAZINE 24.1.

De Backer, K. and S. Miroudot (2013-12-19), *"Mapping Global Value Chains"*, OECD Trade Policy Papers, No. 159, OECD Publishing, Paris.

Derks, E. and Lusby, F., (2006). *Mali Shea Kernel Value Chain Case Study.* Report Prepared for ACDI/VOCA with funding from USAID. Washington, DC: ACDI/VOCA.

Elias, M., (2003). *Globalization and Female Production of African Shea Butter in Rural Burkina Faso.* Master's thesis. Los Angeles, CA: University of California, Los Angeles, 2003.

Elias, M., Bayala, J., and Dianda, M., (2006). *Impediments and innovations in knowledge sharing: The case of the African shea sector*. Journal 2(1).

England, P. (2002). Gender and Feminist Studies. International Encyclopaedia of the Social and Behavioural Sciences, Pp 5924-5929

Fobil, J., N., (2007). *Bole, Ghana: Research and development of the shea tree and its products*, New Haven, CT: HORIZON Solutions International, http://www.solutionssite.org/artman/publish

Folke, L.; L. Riisgaard, S. Ponte, F. Hartwich and P. Kormawa (2010). *Agro-Food Value Chain Interventions in Asia: A review and analysis of case studies.* Working Paper. November 2010. United Nations Industrial Development Organization (UNIDO). Vienna, Austria.

Gereffi, G., M. Korzeniewicz (Eds.) (1994). *Commodity Chains and Global Capitalism*, Greenwood Press: Westport/Conn.

Gereffi, G., J. Humphrey, and T. Sturgeon (2003). *The Governance of Global Value Chains*, forthcoming in Review of International Political Economy.

Hatskevich A., Jenicek V., Antwi Darkwah S., (2011). *Shea Industry-Means of Poverty Reduction in Northern Ghana. Agricultura Tropica et Subtropica* Vol. 44(4). Review Article.

Holtzman, J., (2004). *The Shea Butter Value Chain: Study Synthesis and Recommendations for WATH.* West African Trade Hub Technical Report 1. Report prepared for the United States Agency for International Development. Durham, NC: Abt Associates.

Human Development Report (2000). *United Nations Development Programme*.

Human Development Report (2010*). United Nations Development Programme.*

Humphrey, J. Schmitz, H. (2000). *Governance and Upgrading: Linking Industrial Cluster and Global Value Chain Research,* Brighton: IDS (Working Paper 120).

Humphrey, J., and Navas-Alemán, L., (2010). *Value chains, donor interventions and poverty reduction: A review of donor practice.* IDS Research Reports, 2010(63).

IFAD. (2001). *Rural Poverty Report- The Challenge of Ending Rural Poverty*. Oxford University Press.

Kabeer, N. (1999*). Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment. Development and Change,* Vol. 30: 435-464.

Kaplinsky, R. (2000). *Spreading the Gains from Globalisation: what can be learned from value chain analysis?* Brighton: IDS (Working Paper 110).

Kaplinsky, R., and Morris, M., (2001). *A handbook for value chain research* (Vol. 113). Ottawa: IDRC.

KIT, Faida M., K., I., and IIRR (2006). *Chain empowerment: Supporting African farmers to develop markets,* Royal Tropical Institute, Amsterdam; Faida Market Link, Arusha; and International Institute of Rural Reconstruction, Nairobi

KIT, Agri-ProFocus and IIRR, (2012). *Challenging chains to change: Gender equity in agricultural value chain development.* KIT Publishers, Royal Tropical Institute, Amsterdam.

Koczberski, G. (2007). *Loose Fruit Mamas: Creating Incentives for Smallholder Women in Oil Palm Production in Papua New Guinea.* World Development 35 (7).

Laven, A., A. van Eerdewijk, A. Senders, C. van Wees and R. Snelder (2009). *Gender in Value Chains. Emerging Lessons and Questions,* A Draft working paper, Agri-ProFocus, Netherlands.

Laven, A. and N. Verhart, (2011). *Addressing gender equality in agricultural value chains: On track with gender.* Available from www.ontrackwithgender.nl.

Lorber, J. (2004). "Night to day": The social construction of gender. *Race, class, and gender in the United States: An integrated study, 6, 54-65.*

Lovett, P., (2004), *Opening Bottlenecks in the African Shea Butter Industry*. Report prepared for the United States Agency for International Development. Washington, DC: Enterprise Works Worldwide.

Lovett, P., N., and Haq, N., (2013). *Progress in developing in vitro systems for shea tree (Vitellaria paradoxa C.F. Gaertn.) Propagation*. Forests, Trees and Livelihoods. 60–69.

Manfre, C. and J. Sebstad (2010). *Behaviour change perspectives on gender and value chain development: framework for analysis, draft in progress,* unpublished, USAID reaming gender analysis in value chain development, ILO.

Maranz, S., and Wiesman, Z., (2003). *Evidence for indigenous selection and distribution of the shea tree, Vitellaria paradoxa, and its potential significance to prevailing parkland tree patterns in Sub-Saharan Africa north of the equator*, Journal of Biogeography 30, no. 10, 2003: 1505-1516.

Mayoux, L. and G. Mackie. (2008). *Making the Strongest Links: A practical guide to mainstreaming gender analysis in value chain development,* Addis Ababa, United Nations International Labour Office.

Mayoux, L., and Mackie G (2007). *Making the Strongest Links. A practical guide to mainstreaming gender analysis in value chain development.* ILO: Geneva.

McCormick, D. and H. Schmitz. (2001). Manual for Value Chain Research on Homeworkers in the Garment Industry. Brighton, Institute of Development Studies.

Mitchell, J., J. Keane and C. Coles (2009). Trading Up: How a Value chain approach can benefit the rural poor, ODI, London, UK.

Miller, C., and Razavi, S., (1995). *Gender mainstreaming: A study of efforts by the UNDP, the World Bank and the ILO to institutionalize gender issues* (No. 4). UNRISD Occasional Paper.

Mitchell, J., Coles, C., and Keane, J., (2009). *Upgrading along value chains: strategies for poverty reduction in Latin America.* Overseas development institute (ODI).

Moghadam, V., M., (2005). *The 'Feminization of Poverty and Women's Human Rights.* SHS Papers in Women's Studies. Gender Report No.2.

Moser, C., O., (1993), *Gender Planning and Development: Theory. Practice and Training*. London and New York: Routledge.

Naved, R., T., (2000). *Intra-household impact of the transfer of modern agricultural technology: A gender perspective.* Washington, DC: International Food Policy Research Institute.

Niemanis, A., (2007). *Gender Mainstreaming in Practice: A Toolkit.* United Nations Development Programme. Regional Bureau for Europe and the CIS (UNDP RBEC).

Norem, R., H., Yoder, R., and Martin, Y., (1989). *Indigenous agricultural knowledge gender issues in third world agricultural development.*

OECD. (2012). *Global Production Networks and Employment.* A Developing Country Perspective. Paris Organisation for Economic Co-operation and Employment.

Otsuki, T, Wilson, J., S., and Sewadeh, M., (2001). *Saving two in a Billion: Quantifying the Trade Effect of European Food Safety Standards on African Exports*. Food Policy 26.

Parpart, J.L., S. M. Rai and K. Staudt (eds.) (2002). *Rethinking Empowerment: Gender and development in a global/local world,* Routledge, London.

Rammohan, S., (2010). *The shea value chain reinforcement initiative in Ghana.* In Case Study, Stanford Global Supply Chain Management Forum (Vol. 13).

Ravallion, Martin and Shaohua Chen, (2007). China's (Uneven) progress Against Poverty.

Raynolds, L., T., (2002). *Wages for wives: Renegotiating gender and production relations in contract farming in the Dominican Republic.* World Development, 30(5).

Riisgaard, L., S. Bolwig, F. Matose, S. Ponte, A. du Toit and N. Halberg. (2008). *A Strategic Framework and Toolbox for Action Research with Small Producers in Value Chains.* DIIS Working Paper no. 2008/17. Copenhagen, Danish Institute for International Studies.

Roduner, D. (2007). *Donor Interventions in Value Chain Development,* Working Paper, AGRIDEA, Swiss Agency for Development and Cooperation (SDC), Switzerland.

Russo, L., Etherington, T. (Eds.) (2001). *Non-Wood News: An Information Bulletin on Non-wood Forest Products.* Volume 8. Rome, Italy. Food and Agricultural Organization of the United Nations.

Ruben, R., R. Fort and G. Zuniga. (2008). *Impact Assessment of Fairtrade Programs for Coffee and Bananas in Peru, Costa Rica and Ghana.* Nijmegen, Centre for International Development Issues.

Rubin, D., C. Manfre and K. Nichols Barret (2009). *Handbook: Promoting gender equitable opportunities in Agricultural Value chains,* USAID, Washington.

Schmitz, H. Knorringa P., (2000). *Learning from Global Buyers,* Journal of Development Studies, vol. 37 (2).

Schmitz, H. (2005). *Value Chain Analysis for Policy-Makers and Practitioners*, ILO: Geneva.

Scholz, K., (2009). *Governance and Upgrading in High-Value Chains of Non-Timber Forest Products: The Case of Shea in Ghana.*

Seguino, S., (2000). *Gender Inequality and Economic Growth: A Cross-Country Analysis*, World Development, Elsevier, vol. 28(7).

SEND-GHANA (2014). *Women and Smallholder Agriculture in Ghana Policy Brief* No.4/October 2014 http://www.sendwestafrica.org.

SNV. (2006). *Shea Sub Sector Study Ghana*.

Solidaridad and UTZ (2009). *The role of certification and producer support in promoting gender equality in cocoa production*, UTZ certified, Solidaridad-Certification Support Network in cooperation with Oxfam Novib.

Solomon, A., (2017). *A study on how the creation of new value chains for Shea butter Production influences the livelihood of rural women in a climate change situation in Northern Ghana,* International Institute of Social Studies, Hague, The Netherlands.

Stamm, A. (2004). *Value Chains for Development Policy. Challenges for Trade Policy and the Promotion of Economic Development,* Eschborn, GTZ.

Stathacos, C., (2004). *The Shea Butter Value Chain: The US Market Study*. WATH Technical Report 4. Report Prepared for the United States Agency for International Development. Accra, Ghana: West African Trade Hub (WATH), 2004

Stonehouse, G., and Snowdon, B., (2007). *Competitive advantage revisited: Michael Porter on strategy and competitiveness.* Journal of Management Inquiry, 16(3).

Stuart, R., Rahat, S.K., (2008). *Independent Evaluation of SDC 's Performance in Mainstreaming Gender Equality*. Pakistan Country case study, SDC, Pakistan.

Subrahmanyam, S., C.P. Nagi Reddy and R. Nalini (2006). *Maize Procurement by Village Organizations- An impact analysis.*

UNCTAD (2013). *World Investment Report: Global Value Chains, Investment and Trade for Development.* Geneva: United Nations Conference on Trade and Development (UNCTAD).

UNDP/JICA. (2010). *Empowering Rural Women and Alleviating Poverty by Strengthening the Local Shea Butter Industry in Northern Ghana*.

USAID (2005). RAFI Notes, Issue 2: *Value Chain Finance*, Washington, D.C.

USAID. (2005). *Enhancing Women's Access to Markets: An Overview of Donor Programs and Best Practices.* Washington DC, United States Agency for International Development.

USAID. (2006a). *Women in the Economy: A Review of the Recent Literature.* Washington DC, United States Agency for International Development.

USAID (2006b). *Gender analysis of shrimp sector in Bangladesh and artichoke sector in Peru*

USAID (2007). *A Pro-poor Analysis of the Artichoke Value Chain in Peru. Research brief.* Washington DC, United States Agency for International Development identify intervention opportunities, USAID.

Vroegindewey, R., (2015). *A framework for analysing coordination in agricultural value chains*: Evidence from cereal markets in Mali. Michigan State University.

von Braun, J. and P.J.R. Webb. (1989). *The Impact of New Crop Technology on the Agricultural Division of Labour in a West African Setting*. Economic Development and Cultural Change, Vol. 37(3).

Walker, B., L., E., (2001). *Sisterhood and seine-nets: Engendering development and conservation in Ghana's marine fishery.* The Professional Geographer, 53(2).

World Bank. (2007). *Implementation Completion and Results Report on the Economic Policy and Public Finance Management Credit*, Report ICR0000543. Washington, DC: The World Bank, 2007.

World Bank, FAO, and IFAD (2009). *Gender in agriculture sourcebook*, The World Bank: Washington DC.

Wyrod, R. (2008). *Between Women 's Rights and Men 's Authority: Masculinity and shifting discourses of gender difference in Urban Uganda*, *Gender and Society*, 22(6).

Yidana, J., A., and Adomako, R., (2004). *Progress in developing technologies to domesticate the Cultivation of Shea Trees (Vitellaria paradoxa L.) in Ghana*. Agricultural and Food Science Journal, 3, 249 – 267.

APPENDIX

QUESTIONNAIRE ON VALUE CHAIN INTERVENTION STRATEGIES AND GENDER OUTCOMES: A STUDY OF SHEA ACTORS IN THE NORTHERN REGION.

QUESTIONNAIRE FOR SHEA ACTORS (Pickers)

Demographic Characteristics

1. Name of the community …….
2. Sex of the respondent Male [] Female []
3. Age of respondent…….
4. Marital status. Married [] Single [] Divorce [] Widow/er []
5. Level of Education? No formal education [] Primary [] JHS [] SHS [] Tertiary []
6. Household size?

Key Actor Characteristics

7. How would you describe your value chain activity? Picking [] Processing [] Marketing []
8. How long have you been in the business? .....
9. Are you a member of a group/ association? Yes [] No []
10. Who facilitated the formation of the group? Self-initiative [] NGO []
11. If NGO, what is the name of the organisation? …….
12. For how long have you been a member of the association? …….

Value Chain Activity

13. Has there been any intervention since becoming a member of the association/NGO? Yes [] No []
14. For how long have you benefitted from the intervention?
15. What type of intervention is it? (multiple ticks apply) Establishing co-operative groups [] Giving market incentives [] Capacity building training [] Creating partnerships and networking [] providing equipments [] others specify ……...
16. Who put the intervention in place? The association [] the NGO []
17. If NGO, does it address your needs in relation to your value chain activity?
18. Have you benefitted from the value chain intervention? Yes [] No []
19. What benefits have you enjoyed from the intervention?
20. What is the nature of the value chain activity you are currently engaged in? Chain Actor [] Activity Integrator [] Chain Partner [] Chain Co-owner []
21. Has the nature of the VC activity changed after the intervention? Yes [] No []
22. Has the value chain intervention changed your involvement in group activities? Yes [] No []
23. If yes, in what ways has that changed?

Value Chain intervention Strategies and Gender Needs and Outcomes

24. Are value chain interventions introducing labour or time saving technologies to address constraints? Yes [] No []

25. What kind of technology (ies) have been introduced to address labour/time saving constraints? Processing equipments [] Picking equipments [] Weighing equipments []
26. Have you benefitted from any kind of literacy training? Yes [] No []
27. How has that helped your position in the chain?
28. Do you add value to the nuts that you pick? Yes [] No []
29. What value do you add? (multiple ticks apply) De-shelling [] Drying [] Processing butter []
30. What are the basic assets you need to help make picking easier for you? (multiple ticks apply) Raincoats [] Hand gloves [] basins [] storage facilities [] hand pickers [] wellington boots []
31. What do you need to help you be a better picker? (multiple ticks apply) Picking equipments [] Capacity building training [] Literacy training [] fair prices from buyers []
32. What do you need to help you advance from your position as a picker? (multiple ticks apply) Training on how to add value [] picking equipments [] financial aid []
33. What conditions will make your work better and easier for you?

Value Chain Intervention Strategies and Employability and Management Skills

34. Are there opportunities for you to move up the chain? Yes [] No []
35. What opportunities will help you move up the chain? (multiple ticks apply) Market incentives [] easy access to picking equipments [] training on value adding practices [] ready markets []

36. Are value chain intervention strategies helping to build capacity and skills of actors in the chain? Yes [] No []
37. What forms of VCI strategies helped to build capacity and skills? (multiple ticks apply) Establishing co-operative groups [] Community Commerce methodology [] Capacity building training [] Creating partnerships and networking []
38. What skills did you have before the intervention that helped you maintain/improve on your position as a picker?
39. What skills do you have now that has improved/maintained your position as a picker? (multiple ticks apply) raising early to pick nuts [] drying nuts to remove moisture [] de-shelling []
40. What skills do you need to move up from you position as a nut picker? (multiple ticks apply) raising early to pick nuts [] drying nuts to remove moisture [] de-shelling []
41. How has the VCI contributed to the number of bags of nuts you pick in month?
42. What quantity of nuts did you pick in a month before the intervention? 1-10 bags [] 11-20 bags [] 20-30 bags []
43. What quantity of nuts do you pick now after the intervention? 1-10 bags [] 11-20 bags [] 20-30 bags []
44. What was the cost of a bag of nuts before the intervention? 99-120 cedis [] 120-140 cedis []
45. What is the cost of a bag of nuts now? 99-120 cedis [] 120-140 cedis []
46. Who determines the price of nuts in the chain? The market prices [] the marketers [] the organisation [] the processors []

47. Who determines the standard of nuts to be picked? The market value [] the marketers [] the buyers [] the pickers []
48. How do you identify the markets to sell to?
49. How do you compete in markets?
50. How do you meet market demands?

Value Chain Intervention Strategies and Empowerment

51. Before the intervention, did you seek permission from your spouse when it comes to?
    - Selling your produce: Generally [] Occasionally [] Never []
    - Joining groups: Generally [] Occasionally [] Never []
    - Buying food: Generally [] Occasionally [] Never []
52. After the intervention, do you seek permission from your spouse when it comes to?
    - Selling your produce: Generally [] Occasionally [] Never []
    - Joining groups: Generally [] Occasionally [] Never []
    - Buying food: Generally [] Occasionally [] Never []
53. Before the intervention, did you seek your spouse's permission before doing any of the following?
    - Educating children? Generally [] Occasionally [] Never []
    - Family Planning? Generally [] Occasionally [] Never []
    - Health issues of children? Generally [] Occasionally [] Never []
54. After the intervention, did you seek permission from your spouse before doing the following?

- Educating children? Generally [] Occasionally [] Never []
- Family Planning? Generally [] Occasionally [] Never []
- Health issues of children? Generally [] Occasionally [] Never []

55. Before the intervention, did you have the freedom to o the following?
    - Visit family members? Generally [] Occasionally [] Never []
    - Seek financial help from institutions? Generally [] Occasionally [] Never []
    - Go for social gatherings? Generally [] Occasionally [] Never []
56. Who made decisions in the household on these before the intervention?
    - Children's expenditure? Mother [] Father [] both []
    - Purchase of household items? Mother [] Father [] Both []
    - Spending personal income? Mother [] Father [] Both []
57. Who makes the decisions in the household on these after the intervention?
    - Children's expenditure? Mother [] Father [] Both []
    - Purchase of household items? Mother [] Father [] Both []
    - Sending personal income? Mother [] Father [] Both []
58. What strategic areas should the intervention focus on to enhance your capacity to pick nuts?
59. What strategic intervention areas should be focused on to enhance capacity building of the actors in the chain?
60. What strategic areas should be focused on to strengthen the links between pickers and pickers?

61. What intervention strategies areas should be enhanced to provide picking facilities?
62. What strategic areas should be focused on to strengthen the services in the shea value chain?

Value Chain Intervention Strategies and Participation

63. What constraints do you face in the value chain?
64. What opportunities are available to you in the value chain?
65. How has your participation in the value chain empowered you?
66. Are there challenges for women to take part in decision-making as members of the group? Yes [] No []
67. What do you think can be done to build equity in the groups?
68. Are there challenges for women to take part in group activities? Yes [] No []
69. Are there challenges for women to participate in decision-making as members in the household before intervention? Yes [] No []
70. Are there challenges for women to participate in household decision making after the intervention? Yes [] No []

QUESTIONNAIRE ON VALUE CHAIN INTERVENTION STRATEGIES AND GENDER OUTCOMES: A STUDY OF SHEA ACTORS IN THE TAMALE METROPOLIS

QUESTIONNAIRE FOR SHEA ACTORS (Processors)

Demographic Characteristics

1. Name of the community …….
2. Sex of the respondent Male [] Female []
3. Age of respondent…….
4. Marital status. Married [] Single [] Divorce [] Widow/er []
5. Level of Education? No formal education [] Primary [] JHS [] SHS [] Tertiary []
6. Household size?

Key Actor Characteristics

7. How would you describe your value chain activity? Picking [] Processing [] Marketing []
8. How long have you been in the business? .....
9. Are you a member of a group/ association? Yes [] No []
10. Who facilitated the formation of the group? Self-initiative [] NGO []
11. If NGO, what is the name of the organisation? …….
12. For how long have you been a member of the association? …….

Value Chain Activity

13. Has there been any intervention since becoming a member of the association/NGO? Yes [] No []
14. For how long have you benefitted from the intervention?

15. What type of intervention is it? (Multiple ticks apply) Establishing co-operative groups [] Giving market incentives [] Capacity building training [] Creating partnerships and networking [] providing equipments [] others specify ……...

16. Who put the intervention in place? The association [] the NGO []

17. If NGO, does it address your needs in relation to your value chain activity?

18. Have you benefitted from the value chain intervention? Yes [] No []

19. What benefits have you enjoyed from the intervention?

20. What is the nature of the value chain activity you are currently engaged in? Chain Actor [] Activity Integrator [] Chain Partner [] Chain Co-owner []

21. Has the nature of the VC activity changed after the intervention? Yes [] No []

22. Has the nature of the value chain changed your involvement in group activities? Yes [] No []

23. If Yes, in what ways has that changed?

Value Chain intervention Strategies and Gender Needs and Outcomes

24. Are value chain interventions introducing labour or time saving technologies to address constraints? Yes [] No []

25. What kind of technology (ies) have been introduced to address labour/time saving constraints? Processing equipments [] Picking equipments [] Weighing equipments []

26. Have you benefitted from any kind of literacy training? Yes [] No []

27. How has that helped your position in the chain?

28. Do you add value to the butter you process? Yes [] No []

29. What value do you add to the butter you process? Soap making [] Hair products [] Refined cooking oil [] no value addition []

30. What are the basic assets you need to help make processing easier for you? (Multiple ticks apply) Kneaders [] Roasting drums [] Grinding mills [] Water [] Pots and Basins [] Storage facilities []

31. What do you need to help you be better processor? (Multiple ticks apply) Training on how to add value [] more nuts [] financial aid []

32. What do you need to help you advance from your position as a processor? (Multiple ticks apply) More nuts [] training on value addition [] Financial aid [] Processing equipments []

33. What conditions will make your work better and easier for you?

Value Chain Intervention Strategies and Employability and Management Skills

34. Are there opportunities for you to move up the chain? Yes [] No []

35. What opportunities will help you move up the chain? (multiple ticks apply) Market incentives [] easy access to processing equipments [] easy access to processing facilities [] ready markets [] training on value adding practices [] others (specify) …….

36. Are value chain intervention strategies helping to build capacity and skills of actors in the chain? Yes [] No []

37. What forms of VCI strategies helped to build capacity and skills? (multiple ticks apply) Establishing co-operative groups [] Community Commerce methodology [] Capacity building training [] Creating partnerships and networking []

38. What skills did you have before the intervention that helped you maintain/improve on your position as a processor? (multiple ticks apply) roasting nuts in basins over fire [] carrying to mill in basins [] pounding nuts in mortar and pistil []

39. What skills do you have now after the intervention? (multiple ticks apply) Operating processing equipments [] processing organic butter [] roasting nuts properly []

40. What skills do you need to move up the chain from your current position? (multiple ticks apply) training on how to add value to the butter [] literacy skills []

41. How many kilos of butter did you sell in a month before the intervention? 1-10 kilos [] 11-20 kilos [] 21-30 kilos [] 31-40 kilos

42. How many kilos of butter do you sell in a month now?? 41-50 kilos [] 51-60 kilos [] 61-70 kilos [] 71-80 kilos []

43. How has the VCI contributed to the number of kilos of butter you sell in month?

44. What was the cost of a kilo of butter before the intervention?

45. What is the cost of a kilo of butter after the intervention?

46. Who determines the price of butter in the chain? The market prices [] the organisation [] the processors [] the marketers []

47. Who determines the standard of butter to be sold? The market value [] the buyers [] the marketers [] the processors []

48. How do you identify the markets to sell to?

49. How do you compete in markets?

50. How do you meet market demands?

51. What management skills do you have? (multiple ticks apply) Book keeping [] Planning and taking stock of products [] customer relations []

Value Chain Intervention Strategies and Empowerment

52. Before the intervention, did you seek permission from your spouse when it comes to?

- Selling your produce: Generally [] occasionally [] Never []
- Joining groups: Generally [] occasionally [] Never []
- Buying food: Generally [] occasionally [] Never []

53. After the intervention, do you seek permission from your spouse when it comes to?

- Selling your produce: Generally [] occasionally [] Never []
- Joining groups: Generally [] occasionally [] Never []
- Buying food: Generally [] occasionally [] Never []

54. Before the intervention, did you seek your spouse's permission before doing any of the following?

- Educating children? Generally [] occasionally [] Never []
- Family Planning? Generally [] occasionally [] Never []
- Health issues of children? Generally [] Occasionally [] Never []

55. After the intervention, did you seek permission from your spouse before doing the following?

- Educating children? Generally [] Occasionally [] Never []
- Family Planning? Generally [] Occasionally [] Never []
- Health issues of children? Generally [] Occasionally [] Never []

56. Before the intervention, did you have the freedom to o the following?

- Visit family members? Generally [] Occasionally [] Never []

- Seek financial help from institutions? Generally [] Occasionally [] Never []
- Go for social gatherings? Generally [] Occasionally [] Never []

57. Who made decisions in the household on these before the intervention?

- Children's expenditure? Mother [] Father [] both []
- Purchase of household items? Mother [] Father [] Both []
- Spending personal income? Mother [] Father [] Both []

58. Who makes the decisions in the household on these after the intervention?

- Children's expenditure? Mother [] Father [] Both []
- Purchase of household items? Mother [] Father [] Both []
- Sending personal income? Mother [] Father [] Both []

59. What strategic areas should the intervention focus on to enhance your capacity to pick nuts?

60. What strategic intervention areas should be focused on to enhance capacity building of the actors in the chain?

61. What strategic areas should be focused on to strengthen the links between processors and marketers?

62. What intervention strategies areas should be enhanced to provide processing facilities?

Value Chain Intervention Strategies and Participation

63. What constraints do you face in the value chain?

64. What opportunities are available to you in the value chain?

65. How has your participation in the value chain empowered you?

66. Are there challenges for women to take part in decision-making as members of the group? Yes [] No []

67. What do you think can be done to build equity in the groups?

68. Are there challenges for women to take part in group activities? Yes [] No []

69. Are there challenges for women to participate in decision-making as members in the household before intervention? Yes [] No []

70. Are there challenges for women to participate in household decision making after the intervention? Yes [] No []

QUESTIONNAIRE ON VALUE CHAIN INTERVENTION STRATEGIES AND GENDER OUTCOMES: A STUDY OF SHEA ACTORS IN THE TAMALE METROPOLIS

QUESTIONNAIRE FOR SHEA ACTORS (Marketers)

Demographic Characteristics

1. Name of the community …….
2. Sex of the respondent Male [] Female []
3. Age of respondent…….
4. Marital status. Married [] Single [] Divorce [] Widow/er []
5. Level of Education? No formal education [] Primary [] JHS [] SHS [] Tertiary [
6. Household size?

Value Chain Activity

7. How would you describe your value chain activity? Picking [] Processing [] Marketing []
8. How long have you been in the business? .....
9. Are you a member of a group/ association? Yes [] No []
10. Who facilitated the formation of the group? Self-initiative [] NGO []
11. If NGO, what is the name of the organisation? …….
12. For how long have you been a member of the association? …….

Key Actor Characteristics

13. Has there been any intervention since becoming a member of the association/NGO? Yes [] No []
14. For how long have you benefitted from the intervention?

15. What type of intervention is it? (multiple ticks apply) Establishing co-operative groups [] Giving market incentives [] Capacity building training [] Creating partnerships and networking [] providing equipments [] others specify ……...

16. Who put the intervention in place? The association [] the NGO []

17. If NGO, does it address your needs in relation to your value chain activity?

18. Have you benefitted from the value chain intervention? Yes [] No []

19. What benefits have you enjoyed from the intervention? (You can tick more than one) Paying school fees [] contribute to household expenses [] increased unity among the women [] Start a side business []

20. What is the nature of the value chain activity you are currently engaged in? Chain Actor [] Activity Integrator [] Chain Partner [] Chain Co-owner []

21. Has the nature of the VC activity changed after the intervention? Yes [] No []

22. Has the value chain intervention changed your involvement in group activities? Yes [] No []

23. If yes, in what ways has that changed?

Value Chain intervention Strategies and Gender Needs and Outcomes

24. Are value chain interventions introducing labour or time saving technologies to address constraints? Yes [] No []

25. What kind of technology (ies) have been introduced to address labour/time saving constraints? Processing equipments [] picking equipments [] weighing equipments []

26. Have you benefitted from any kind of literacy training? Yes [] No []

27. How has that helped your position in the chain? It hasn't [] I can identify quantities [] knowledge in numeracy and literacy []

28. Do you add value to the nuts/butter you sell? Yes [] No []

29. What value do you add? Processing to butter [] making hair products [] making skin products []

30. What are the basic assets you need to help make marketing easier for you? Weighing scales [] storage facilities [] transportation []

31. What do you need to help you be better marketers? (multiple ticks apply) more nuts/butter to sell [] stable economy [] capacity building training []

32. What do you need to help you advance from your position as a marketer? (multiple ticks apply) More nuts/butter to sell [] stable economy [] capacity building training [] financial aid []

33. What conditions will make your work better and easier for you?

Value Chain Intervention Strategies and Employability and Management Skills

34. Are there opportunities for you to move up the chain? Yes [] No []

35. What opportunities will help you move up the chain? (multiple ticks apply) Market incentives [] easy access to equipments [] easy loan acquisition []

36. Are value chain intervention strategies helping to build capacity and skills of actors in the chain? Yes [] No []

37. What skills did you have before the intervention that helped you maintain/improve on your position as a marketer? (multiple ticks apply) Packing [] storing [] marketing []

38. How has the VCI contributed to the number of bags of nuts you sell in month?

39. What forms of VCI strategies helped to build capacity and skills? (multiple ticks apply) Establishing co-operative groups [] Community Commerce methodology [] Capacity building training [] Creating partnerships and networking []

40. What skills did you have before the intervention that helped you maintain/improve on your position as a marketer?

41. What skills do you have now after the intervention? (multiple ticks apply) packing [] storing [] marketing []

42. What skills do you need to move up from your position to a better position?

43. What quantity of nuts did you sell monthly before the intervention?

44. What quantity of nuts do you sell now after the intervention?

45. What was the cost of a bag of nuts before the intervention?

46. What is the cost of nuts now?

47. Who determines the price of nuts in the chain?

48. Who determines the standard of nuts to be sold?

49. How do you identify the markets to sell to?

50. How do you compete in markets?

51. How do you meet market demands?

Value Chain Intervention Strategies and Empowerment

52. Before the intervention, did you seek permission from your spouse when it comes to?

- Selling your produce: Generally [] Occasionally [] Never []
- Joining groups: Generally [] Occasionally [] Never []
- Buying food: Generally [] Occasionally [] Never []

53. After the intervention, do you seek permission from your spouse when it comes to?

- Selling your produce: Generally [] Occasionally [] Never []
- Joining groups: Generally [] Occasionally [] Never []
- Buying food: Generally [] Occasionally [] Never []

54. Before the intervention, did you seek your spouse's permission before doing any of the following?

- Educating children? Generally [] Occasionally [] Never []
- Family Planning? Generally [] Occasionally [] Never []
- Health issues of children? Generally [] Occasionally [] Never []

55. After the intervention, did you seek permission from your spouse before doing the following?

- Educating children? Generally [] Occasionally [] Never []
- Family Planning? Generally [] Occasionally [] Never []
- Health issues of children? Generally [] Occasionally [] Never []

56. Before the intervention, did you have the freedom to o the following?

- Visit family members? Generally [] Occasionally [] Never []
- Seek financial help from institutions? Generally [] Occasionally [] Never []
- Go for social gatherings? Generally [] Occasionally [] Never []

57. Who made decisions in the household on these before the intervention?

- Children's expenditure? Mother [] Father [] both []
- Purchase of household items? Mother [] Father [] Both []
- Spending personal income? Mother [] Father [] Both []

58. Who makes the decisions in the household on these after the intervention?

- Children's expenditure? Mother [] Father [] Both []
- Purchase of household items? Mother [] Father [] Both []
- Sending personal income? Mother [] Father [] Both []

59. What strategic areas should the intervention focus on to enhance your capacity to sell nuts?

60. In what areas do inequalities exist between men and women?

61. What strategic areas should be focused on to strengthen the links between pickers and marketers?

62. What strategies should be focused on to strengthen the services in the shea value chain?

Value Chain Intervention Strategies and Participation

63. What constraints do you face in the value chain?

64. What opportunities are available to you in the value chain?

65. How has your participation in the value chain empowered you?

66. Are there challenges for women to take part in decision-making as members of the group? Yes [] No []

67. What do you think can be done to build equity in the groups?

68. Are there challenges for women to take part in group activities? Yes [] No []

69. Are there challenges for women to participate in decision-making as members in the household before intervention? Yes [] No []

70. Are there challenges for women to participate in household decision making after the intervention? Yes [] No []