

**DEVELOPMENT IMPLICATIONS OF THE SHEA INDUSTRY AS A  
LEAD CASH CROP FOR NORTHERN GHANA: CASE STUDIES IN  
BOLE, WA-WEST AND BONGO DISTRICTS**

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## ABSTRACT

The Shea Industry is as old in Ghana as the nation-state of Ghana with immense intergenerational development implications. Almost anyone brought up in rural Northern Ghana has come into contact with the shea and its products. The shea industry is currently dominated by women and children who pick and process shea into nuts for sale directly, or as butter on a small scale. The industry is currently assuming a large scale commercial status with the advent of large scale shea (nut and butter) buyers and exporters who have in recent years discovered the high value of shea on the international market and are cashing-in on it as quickly as possible.

This study investigated the opportunities for developing the shea tree as a cultivar; appraise the opportunities and potentials for developing the shea as an export cash crop; assess the benefits Northern Ghana stands to derive if the shea industry is developed, and to consider the role of government in developing the shea industry.

The methodology adopted was the case study approach, making use of one district each from the three regions of the North out of a total of thirty-eight (38) districts, in view of possibilities of varying geological (physical, biological, environmental, ecological, and geographical) and social differences in the three regions in question. Sampled districts were Bole in the Northern Region, Wa-West in the Upper West Region and Bongo in the Upper East Regions. One shea community was purposively sampled in each district on the basis of its pronounced involvement in the collection, processing and marketing of shea products.

The study found that applied research has been able to establish a shea cultivar that can grow, mature and fruit within seven (7) years through both vegetative propagation and upper culture, which could further be developed to improve upon the maturation duration of the shea plant. The study also identified the income and employment potential in shea products against the background of increasing international demand for shea nuts and butter. Consequently the shea industry was identified as one of the alternative livelihoods for the people of Northern Ghana.

The study therefore recommends public education on the protection and cultivation of shea trees with the following state agencies collaborating and facilitating the survival of both

wild and cultivated shea trees: Forestry Commission (FC), Environmental Protection Agency (EPA), Ministry of Food and Agriculture (MOFA), National Commission for Civic Education (NCCE) and National Fire Service). In addition, the study recommends the setting up of a regulatory framework for the shea industry (a law similar to that which regulates cocoa) to ensure sanity in the shea industry and finally, the setting up of shea cooperative to coordinate local shea business from community to national levels.

Government intervention in the shea industry is being sought to first of all, avert the exploitation of rural women and their households, and secondly to support the growth of the industry through promotional and regulatory frameworks that would both enable rural people protect wild shea trees and cultivate more, and at the same time, forestall the current exploitation going on in the industry.



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## DEDICATION

I dedicate this piece of work to my mother who single-handedly educated me from basic school to the tertiary level.

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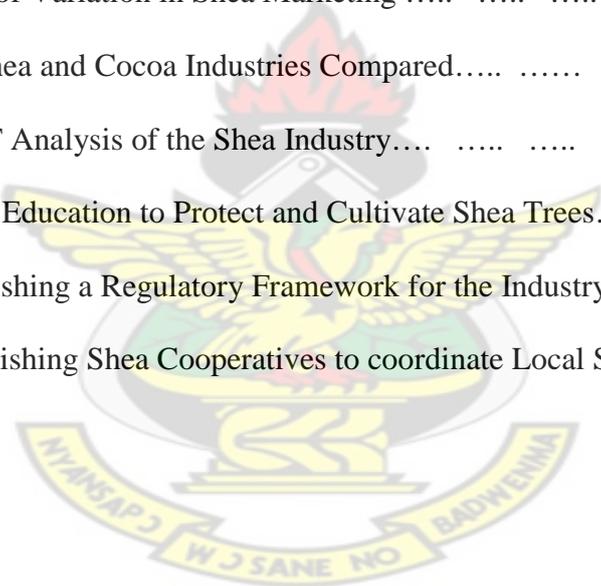
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## LIST OF ABBREVIATIONS

ACDEP	Association of Church Development Projects
CRIG	Cocoa Research Institute of Ghana
DA	District Assembly
DMTDP	District Medium Term Development Plan
EPA	Environmental Protection Agency
EU	European Union
GoG	Government of Ghana
GPRS I	Ghana Poverty Reduction Strategy
GPRS II	Growth and Poverty Reduction
GDP	Gross Domestic Product
GNP	Gross National Product
GSS	Ghana Statistical Service
GLSS	Ghana Living Standards Survey
GHDR	Ghana Human Development Report
IFAD	International Fund for Agricultural Development
ICCO	International Cocoa Organisation
LDC	Less Developed Countries
MDG	Millennium Development Goals
MLGRD	Ministry of Local Government and Rural Development
MOFA	Ministry of Food and Agriculture
NBSSI	National Board for Small Scale Industries
NGOs	Non-Governmental Organizations
REP	Rural Enterprises Project
SWOT	Strengths, Weaknesses, Opportunities and Threats
SARI	Savanna Agricultural Research Institute
SPB	Shea Products Board
SNV	Netherlands Development Organization
UG	University of Ghana
UNDP	United Nations Development Programme
UNCTAD	United Nations Conference on Trade and Development
USA	United States of America

UDS  
WDR  
WTO  
WATH

University for Development Studies  
World Development Report  
World Trade Organization  
West Africa Trade Hub

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# CHAPTER ONE

## GENERAL INTRODUCTION

### **1.0 Background to the Study**

The World Bank prioritizes poverty reduction, education, water and sanitation, and health as key to achieving the main targets of the MDGs. Attaining these goals require a broadening of life choices and opportunities for everyone, prerequisites in the quest for acceptable standards of quality of life of a people. Fortunately Ghana's economy seems to be responding to these demands as the years go by but would have to contend with spatial inequalities that can only be surmounted by deliberate government policy intervention (World Development Report, 2006).

The size of Ghana's economy has grown over the years from about US\$ 5.7 billion in 1986, 6.9 billion in 1996, 10.7 billion in 2005, 12.9 billion in 2006 and about US \$16 billion in 2008. The size of the economy ought to have been increasing with transformation in the production structure of the economy, with the manufacturing and service sectors leading in the expanding economy. However the key sectors of Ghana's economy have not correspondingly responded in a transformational way. The agricultural sector's share of the economy has declined from 47.8 percent in 1986 to 39.0 percent in 1996 and further to 37.5 percent in 2005 and again marginally 37.2 percent in 2006. The manufacturing sector has equally grown marginally from 17.2 percent in 1986 to 23.6 percent in 1996 and from 25.1 percent in 2005 and to 25.4 percent in 2006. The service sector grew from 35.1 percent in 1986 to 37.5 in 1996 and from 37.4 percent in 2005 to 37.3 percent in 2006. The Gross Capital Formation as a ratio of GDP has grown from 9.4 percent in 1986 to 21.2 percent in 1996 and from 29.0 percent in 2005 to 32.2 percent in 2006 (GoG/World Bank, 2008).

The structure of Ghana's economy from the foregoing gives an indication of one that is yet dependent on primary production, principally on the agricultural sector without much transformation in the industrial and manufacturing sectors. The increasing size of the economy is much more attributable to significant growth in the mining and construction industries as well as telecommunication sectors which

rely heavily on foreign direct investments. Historically, the service sector in Ghana has often risen above all other sectors with a dominance of small-scale commerce often referred to as the “buying and selling” sector in Ghana, basically engaged in imported merchandise, and little agricultural produce.

The implications of the statistics associated with Ghana’s economy are that significant structural transformation is yet paramount. In addition, Ghana’s economy continues to face important growth constraints and risks which relate to infrastructure gaps; low agricultural productivity; a challenging investment climate as well as the need to sustain macroeconomic stability by improving public sector efficiency and maintaining prudent fiscal management (GoG, 2006). These are constricting factors to the much desired structural transformation in the agricultural and manufacturing sectors.

Poverty levels in Ghana have generally fallen from approximately 51.7 percent in 1991/92 to 39.5 percent in 1998/99 and to 28.5 percent in 2005/2006, putting the achievement of halving poverty (25.8 percent) within grasps (GLSS). Unfortunately there has been an increase in inequality as indicated by the Gini-coefficient, which increased from 0.353 to 0.394 over the 15-year-period of measuring poverty. Again, whilst poverty levels fell in all regions of the country, the pace of poverty reduction has been weakened in Northern Ghana, particularly the Upper West Region, which has been the poorest part in the 1990s till now (GSS, 2006).

The one short rainy season, followed by a long period of dry weather influenced by the dry hammattan winds from the Sahara desert is principally the cause of the persistent poverty in Northern Ghana.

As indicated by the Ghana Statistical Service, income inequality across regions has increased, and granted that inequalities are sources of political and social tensions particularly in the wake of periodic ethnic conflicts in the north, partially attributable to unemployment, there is the need to work towards bridging the inequality gaps in Ghana (World Bank, 2007). The situation of poverty and inequality exists because the natural resources of Northern Ghana have not been

fully harnessed, leaving an impression of a barren land and thus perpetuating an age-long colonial legacy of underdevelopment of the North.

Consequently, in spite of the current positive macro economic outlook, determinate social policies are necessary to improve the lives of the people. These require addressing regional inequalities through socio-economic policies that ensure a spatial redistribution of resources with the view to equalizing development in all parts of the country.

This study aims at exploring the economic, financial, commercial and social implications of developing the shea industry. The industry is currently treated as part of the informal sector, a reason for which it has been undeveloped and unattended to. The study again attempts to explore and establish the benefits of developing the shea industry by examining the shea value chain; appraise the duality of the shea tree stock to serve both as an economic crop and an ecological vegetative cover; examine the employment opportunities offered by the industry; consider the positive effects of the industry on livelihoods; delve into its potential contribution to Ghana's GDP; explore the potential for further growth of the Ghanaian economy if the industry is developed and examine issues of regional development with the shea industry as a strategy to contributing to bridging inequality gaps in the country.

### **1.1 The Problem Statement**

The shea tree is an economic tree occurring on the wild over almost the entire Northern Ghana, covering some 77, 670 square kilometers with some sparse shea tree cover in parts of Brong-Ahafo, Ashanti, Eastern, and Volta regions to the south of Ghana (CRIG, Bole).

Shea nuts and butter are obtained from shea trees and activities of the industry offer employment to approximately 85 percent of the people of Northern Ghana on a seasonal and part-time basis (Shea Dealers Association, 2008). The sale of shea products (nuts and butter) promises immense employment and revenue potentials for the people of Northern Ghana and the economy of Ghana as a whole.

However, the shea industry is informally organized, lending itself to a free-for-all character. Rural women and children of Northern Ghana who are the pickers of shea fruits and nuts from farms from which shea nuts and butter are obtained, risk losing their livelihood because of a new trend of demand for shea products where prices tend to be determined by the buyers at the expense of the supplier. The shea industry is thus growing steadily from a small-scale activity to a large scale commercial activity. The consequences are that the new scale of the industry is likely to diminish the role of small scale actors of the industry. Women and children constitute the majority of poor people in Northern Ghana with their survival inextricably linked to the shea industry (Shea Dealers Association, 2008).

The other dimension of the problem confronting the industry is the very survival of shea trees. There is an imminent threat of shea tree extinction to bush burning and indiscriminate tree felling in Northern Ghana for charcoal and fuel wood. This is closely linked to the clearing of shea trees to make way for other horticultural trees such as mangoes and cashew (CRIG, study questionnaire, 2008).

Besides the potential revenue being lost to the state as a result of lack of regulation of the shea industry, shea dealers are losing their main sources of livelihoods to bigger companies and private individuals with a better financial edge, whilst felling of shea trees is contributing to desertification in Northern Ghana and finally, formal employment opportunities are being lost in a potentially vibrant shea industry.

## **1.2 Research Questions**

This study sought to find answers to the following questions:

1. Can the shea tree be made a cultivar and cultivated as a cash crop?
2. What opportunities and potentials exist for the development shea as an export crop?
3. What are the likely benefits to Northern Ghana in particular, if the shea industry is developed as a cash crop?
4. What role can government play in developing the shea industry?

### **1.3 Research Objectives**

The specific objectives of the study include:

1. To investigate the opportunities for developing the shea tree as a cultivar;
2. To examine the opportunities and potentials for developing the shea as an export cash crop;
3. To assess the benefits Northern Ghana stands to derive if the shea industry is developed;
4. To assess the role of government and civil society in developing the shea industry; and
5. To make recommendations to inform policy.

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### **1.4 Justification for the Study**

The study takes inspiration from the Growth and Poverty Reduction Strategy (GPRS II, 2006-2009) which envisaged the private sector as the engine of growth. Meanwhile Ghana's economy is already led by the agricultural sector which accounts for about 37.3 percent of GDP and employs 56 percent of the labour force (GSS 2006) and therefore agro-based activities constitute one of the opportunities to developing the private sector. The study therefore viewed activities of the shea industry within the context of the GPRS II framework on the basis that the industry possesses what is required for the private sector- the agric business sector- to contribute significantly to the growth of the Ghanaian economy and to improve upon of the lives of people.

Besides cash crops such as cotton, cashew and mango, as well as cereals such as maize, guinea corn, soyabean and cowpea, the shea has largely been the mainstay of much of the rural economy of Northern Ghana (SARI, study questionnaire, 2008). It offers ready cash to those engaged in its business, majority of whom are rural women and children. It is also a source of household cooking oil and a raw material for soap-making, body ointment and many other traditional household uses. The study is founded on the believe that developing the shea nut and shea

butter industry in Ghana has the potential to accelerating economic growth and poverty reduction in Ghana, particularly in rural communities.

Existing studies on the shea industry have tended to concentrate on the immediate gains of the sector for both local and international traders without considering the sustainability of such gains or the well being of those who make shea products available. This study attempts to build upon studies already conducted on the shea industry especially that by the University of Ghana/CRIG, 2002, publication on shea research which constitutes one of the most detailed, and indeed came close to establishing the development link between the shea and its context.

### **1.5 Limitations of the Study**

First, volunteering information is key to the success of any research activity. However, the clandestine nature of activities of many key actors in the shea industry posed a huge information gap to this study. The study had intended to obtain detailed information from medium to large scale shea traders on the quantities of nuts and butter traded in annually to support the computation of viability analysis of the shea industry, but this was only made possible from small scale shea actors in communities and from shea trade agents. The Shea Dealers Association supported to fill in the much needed information from the more formal organized shea companies. But these fell short of what the research had expected to facilitate a viability analysis of the industry.

Second, the lack of culture of record-keeping of shea proceeds among small-scale shea dealers and the refusal of most medium to large-scale shea dealers to release data on their operations has been challenging in establishing the revenue and employment potentials of the shea industry. The study had to rely on detailed narrations on the costs and benefits of the shea industry, from mainly community shea dealers and some medium to large scale shea agents and exporters. These activities included the effort of processing and sale of shea products. What was obtained here again fell short of what the study had expected.

Third, the unorganized nature of the shea industry rendered near impossible, the tracking of shea activities to elicit relevant research information on quality and quantity of shea products and especially to enable the assessment of government role in the industry. Consequently, the study could not adequately track issues of quantity and quality of shea traded in by the various actors because the shea buying and processing companies provided very little information on their activities, besides what was obtained at the community level.

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## **CHAPTER TWO**

### **THE SHEA INDUSTRY AND DEVELOPMENT: THEORIES AND PRACTICES**

#### **2.0 Introduction**

This chapter analyses the meaning and theories of development and how they relate to the Less Developed Countries (LDCs) like Ghana with the view to establishing a link between the shea industry and the development implications on its actors and the national economy. The industry is examined from its historical evolution to its current situation.

Literature has been reviewed from articles in journals, published books, materials posted on the internet, as well as action constructive research reports such as feasibility studies on the shea industry.

#### **2.1 The Meaning and Theories of Development**

##### **2.1.1 Definition of development**

The concept of development is elusive and does not lend itself to any concise definition. This is because development has to be viewed within the realities of the different contexts of societal existence. However, in view of globalization and world geopolitics there has been the need for benchmarks with which to measure and ascertain what development ought to be and this has called for a global discourse of development over the years.

Development is today conceived and perceived as a multidimensional process involving major changes in social structures, popular attitudes, national institutions as well as the acceleration of economic growth, the reduction of inequality and the eradication of poverty. It means that development must be tailored to suit the diverse basic needs and desires of individuals and social groups within the social system (Todaro and Smith, 2003).

Consequently, the experience of developing countries like Ghana who embarked on rapid industrialization at independence, prior to the 1970s, was that they began recording their economic growth targets but the standards of living of the masses

of the people remained largely unchanged and even began to dwindle since the social structure could not support industrialization (Ninsin, 2007).

This resulted in an imminent shift from GDP and GNP growth assessment of development of the 1950s and 60s to considering poverty, inequality in income distribution and unemployment. This new shift in development consideration and discourse was shaped largely by Dudley Seers who posed the basic question about the meaning of development and asserted that:

*“The questions to ask about a country’s development are therefore: what has been happening to poverty? What has been happening to unemployment? What has been happening to inequality? If all three of these have declined from high levels, then beyond doubt this has been a period of development for the country concerned. If one or two of these central problems have been growing worse, especially if all three have, it would be strange to call the result ‘development’ even if per capita income doubled” (Todaro and Smith, 2003).*

From the foregoing review, the author views development as providing equal opportunities including the basic necessities of life for each one and every one to realize their full potential.

Nevertheless, the perspectives of development which rule the world today are those espoused in the 1970s. These gained impetus from the “Cocoyoc Declaration” of 1974 in Mexico where development was conceived in terms of human welfare rather than a state of the national economy. This development perspective was earlier expressed by Seers (1969) who underscored the purpose of development as reducing poverty, inequality and unemployment, and this was further corroborated by Sen (1999) who added that development involves reducing deprivation and broadening of life choices. These perspectives have been adopted by the UNDP concept of Human Development summed up as a process of enlargening peoples’ choices.

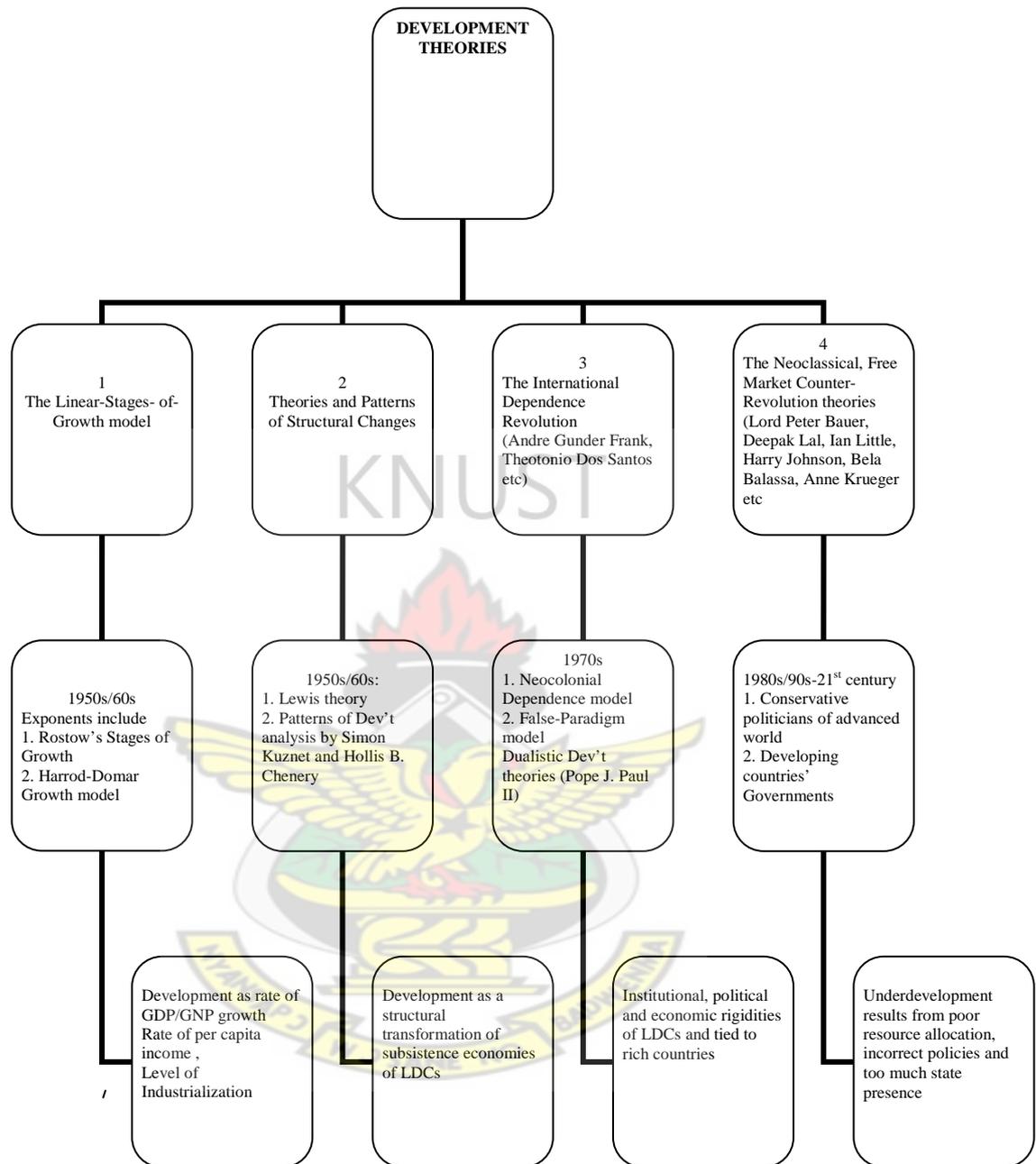
The aforementioned efforts at defining development resulted in the consideration of the following as the overall key indicators for measuring development:

1. Economic poverty and inequalities in the distribution of incomes and assets
2. Inequalities of power, prestige, self-esteem, status, gender parity, job satisfaction and conditions of work, degree of participation and freedom of choice
3. The welfare of society using life expectancy and access to social services indicators (health-children under-five mortality; education and literacy rate; access to safe drinking water) as a measure of development and wellbeing.
4. The definition of development by Paul P. Streeten (Former Director, World Development Institute) as follows: “Development must be redefined as an attack on the chief evils of the world today: malnutrition, disease, illiteracy, slums, unemployment and inequality. Measured in terms of aggregate growth rates, development has been a great success. But measured in terms of jobs, justice and the elimination of poverty, it has been a failure or only a partial success” (Todaro and Smith, 2003).

#### 2.1.2 Theories of Development

Several theories of development abound, but Todaro and Smith (2003) have classified them into four major categories: first, the Linear–Stages-of-Growth model; second, Theories and Patterns of Structural Change; third, the International-Dependence Revolution and fourth, the Neoclassical, Free market Counterrevolution theories. The flowchart in figure 2.1 below provides a categorization of development theories since post World War II.

**Figure 2.1: Categorization of Development Theories**



*Source: Author's Rearrangement of Development Theories, June 2008*

The flowchart in figure 2.1 above, from left to right, takes inspiration from development theories that have evolved over the years, following the classical economic theories of Adam Smith and others, through to the Keynesian era of the 1930s under the World Economic Depression, up to theories of the post World War II era in the 1950s and early 1960s, the epoch from which the flow chart takes departure (Todaro and Smith, 2003).

Greater interest was generated in the advanced world after World War II on how to approach the development of agrarian societies, and the Marshall Plan came handy as a logical starting point for the purpose. The Marshall Plan facilitated the transfer of massive US financial and technical assistance to the war-torn countries of Europe to rebuild and modernize their economies in a matter of few years after World War II. The first theorists of development decided to take a cue from the development experience of the advanced world (Todaro and Smith, 2003).

The first of these theories was the Linear-Stages-of-Growth model as well as the theories on the Patterns of Structural Changes. The Linear Stages Theories viewed development as getting the right quantity and mixture of savings, investment and foreign aid for countries to grow and develop. Proponents of the Linear-Stages-of-Growth included W.W. Rostow and his five stages of growth (traditional society, preconditions for take-off, take-off, maturity and mass consumption) and the Harrod-Domar growth models based on savings, investment and GDP growth rates (Todaro and Smith, 2003).

Second, the theories of Structural Change and Patterns of development evolved slowly alongside the Linear-Stages model in the mid 1950s and gained considerable patronage in the 1960s and 1970s. The Structural Change and Patterns of development theory largely disagreed with the Linear development theorists and used modern economic theory and statistical analysis in an attempt to portray the internal process of structural change that a “typical” developing country must undergo if it is to succeed in generating and sustaining a process of rapid economic growth. A classic example of structural change theories is the Fisher-Clark’s Economic Structural Change theory which postulated that an economy has three stages of production, which include the primary stage where raw materials are extracted from agriculture, mining, fishing and forestry; the secondary sector comprised industrial production through manufacturing and construction, and the tertiary stage of production mainly concerned with services such as education and tourism. This last sector, the theory assumes, is a sign of economic maturity in the development process.

A third theory of development was the International-Dependence Revolution which was much more radical and political in orientation. This school of

proponents included the Neocolonial Dependence model, the False-Paradigm model and the Dualistic Development thesis. They viewed underdevelopment in terms of international power imbalances and the needed fundamental economic, political and institutional reforms, both domestic and worldwide. The International-Dependence theorists rejected private ownership in favour of public asset ownership to lessen income inequalities. Emphasis was placed on the need for major new policies to eradicate poverty to provide more diversified employment opportunities and to reduce income inequalities. These and other egalitarian objectives were to be achieved within the context of a growing economy. Proponents of the international dependence revolution include Andre Gunder Frank, Theotonio Dos Santos and Pope John Paul II in his 1988 encyclical letter, (a formal, elaborate expression of papal teaching), “Sollicitudo rei Socialis” (the social concerns of the church) in which he declared (Todaro and Smith, 2003):

*One must denounce the existence of economic, financial, and social mechanisms which, although they are manipulated by people, often function almost automatically, thus accentuating the situation of wealth for some and poverty for the rest. These mechanisms, which are maneuvered directly, favour the interest of the people manipulating them. But in the end they suffocate or condition the economies of the less developed countries (Todaro and Smith, 2003)*

A fourth theory evolved through the 1970s into 1980s and early 1990s using a Neoliberal or Neoclassical, Free Market Counterrevolution approach to viewing development. The central argument of the neoclassical counterrevolution is that underdevelopment results from poor resource allocation due to incorrect pricing policies and too much state intervention by overly active development-nation governments. Proponents of the theory include Lord Peter Bauer, Deepak Lal, Ian Little, Harry Johnson, Bela Balassa, Jagdish Bhagwati and Anne Krueger (Todaro and Smith, 2003).

### 2.1.3 Approaches to Development in LDCs

According to Todaro and Smith, 2003, the best course of development for developing countries is to become less entangled with the developed countries and instead, pursue a policy of autarky, or inwardly directed development, or at most trade with other developing countries, i.e., place emphasis on south-south

cooperation and trade. They hold the view that the key to successful development performance is achieving a careful balance within what government can successfully accomplish, what the private market system can do, and what both can best do together. They are angling for Public-Private Partnership in its various forms with the welfare of the population as the key criterion in development interventions (Todaro and Smith, 2003).

In the 1950s and 1960s most newly independent developing countries were predisposed to pursuing Import-Substitution Industrialization (ISI) and Export-Led Development Strategies with the view to accelerating development. These approaches to development were basically state-driven and socialist in character, a development paradigm largely engineered by the then Soviet Union as part of the Cold War struggle. It was not long, when most developing countries began reverting to the western capitalist and Neo-Liberal economic policies and development strategies in order to survive the scare of economic downturn as most of the earlier development strategies showed signs of being counterproductive to their dream of accelerating economic and social development of people who desired an indication of their ability to survive without imperialist influences (Hutchful, 2002).

The process of rethinking approaches to development in developing countries after testing without much success, socialist-oriented policies of Import-Substitution Industrialization and Export-Led economies, most Least Developed Countries (LDCs) including Ghana, resorted to charting the path of Structural Change and Free Market approaches to development as advocated by Arthur Lewis, Hollis Chenery and others, and the Neoclassical, Free Market School, championed by Lord Peter Bauer, Deepak Lal, Ian Little and others (Hutchful, 2002).

There is a growing trend among LDCs today to pursue policies of free market, and a reduction of state ownership of the means of production and distribution. This is a great departure from policies pursued by the same countries in the 1950s, 60s and 70s up to the 1980s. Countries like Ghana, Kenya, Burundi, Nigeria, Senegal, among others are in this category. This new wind of change is informed by the neo-liberal policies of the advanced countries of North America and Western Europe championed by the IMF and World Bank who insist that the path to

prosperity is for the private sector to take centre stage in their development process (Hutchful, 2002).

## **2.2 The Shea Industry: Concept and Historical Perspective**

### 2.2.1 Description of the Shea Industry

“The shea is a golden tree: what cocoa can do the shea can also do but cocoa cannot do what the shea does, but little attention is given to the shea” (Julius Yeboah, Researcher of shea biology, CRIG Bole, 2008).

The shea industry comprises the picking of shea fruits and nuts; the processing of nuts into butter and the sale of both nuts and butter domestically and for export. Shea picking and processing on small-scale for household use as well as for sale is dominated by women and children. However the sale of shea nuts has become big business, requiring huge financial investment, and hence gradually slipping into the domain of men with the financial wherewithal. The transportation and haulage of both shea nuts and butter from Northern Ghana to the south, and for export to Europe and North America, has created job opportunities for haulage trucks as well as those who load the goods onto the trucks (Shea Dealers Association, 2008)

The shea industry is defined by its value chain which is rooted from picking to processing of nuts for sale directly or into butter. Studies on the value chains have enabled understanding of the pricing, extraction and the stakeholders (women, children, buyers, sellers, NGOs, international commercial agents etc) in the industry who ensure production and consumption of shea products (ACDEP, 2005).

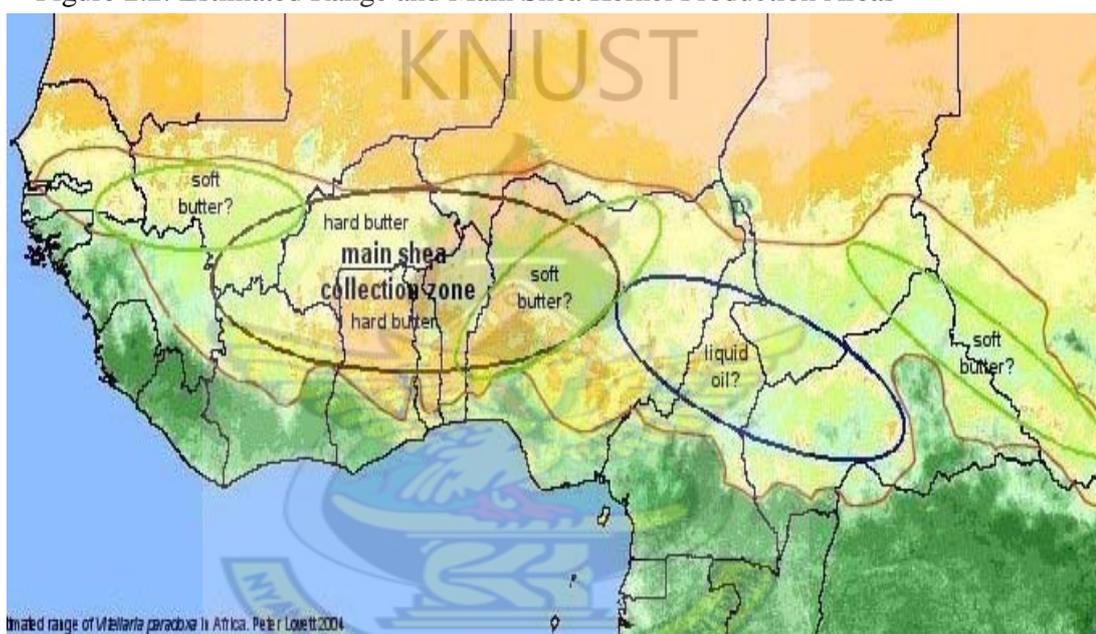
The shea tree usually grows to an average height of about 15m with profuse branches and a thick waxy and deeply fissured bark that makes it fire resistant. The fruits are round and green in colour and maintain the same colour when ripe, except that most ripe fruits are soft to touch (CRIG, 2002)

The shea tree, formerly *Butryospermum paradoxum*, is now called *Vitellaria paradoxa*. The oldest shea specimen for scientific examination was collected by Mungo Park on May 26, 1797, resulting in the eventual scientific name, *vitellaria paradoxa* given to shea (CRIG, 2002).

Many vernacular names are used for *Vitellaria*, which is a reflection of its extensive range of occurrence – nearly 5,000km from Senegal (West) to Sudan, Ethiopia, Uganda (East) and across the African Continent. The shea tree grows naturally in the wild, in the dry Savannah belt and semi-arid lands.

The 19 countries in which shea is found (predominantly Sub-Saharan) across the continent of Africa are Benin, Ghana, Chad, Burkina Faso, Cameroon, Central African Republic, Ethiopia, Guinea Bissau, Cote D'Ivoire, Mali, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Togo, Uganda, Zaire ( now Democratic Republic of Congo) and Guinea (CRIG, Bole, 2002).

Figure 2.2: Estimated Range and Main Shea Kernel Production Areas



Source: WATH Technical Report No. 2. Peter Lovett

Legend	
<span style="color: orange;">■</span>	Sahara Desert
<span style="color: yellow;">■</span>	Savanna Grassland (where shea Occurs)
<span style="color: green;">■</span>	Forest Zone

Figure 2.2 above provides a picture of the several cross-cutting shea producing countries in Africa ranging from Senegal across to Sudan and Ethiopia. The map zeros-in on the West Africa Sub-Region where the bulk of shea trees occur and where shea products can be found. The high shea production countries from figure 2.2 above are Ghana, Burkina Faso, Benin, Cote d'Ivoire, Nigeria, Mali and Togo. Northern Ghana is singled out as being one of the main sources of high quality shea products.

### 2.2.2 Evolution of the Shea Industry

“Shea is an indigenous tree of Ghana: the shea industry is as old in Ghana as Ghana” (study respondent, 2008).

The evolution of the shea industry begins with the academic works on the shea plant by Mungo Park, on May 26, 1797 in his travels between the Gambia River and River Niger. The earliest research work on the biology of the shea tree in Ghana was conducted in 1928 on the flowering and propagation pattern of shea. Subsequently, empirical applied scientific research comprising the biology (behaviour of the shea plant in its growth processes), the etymology (the origins and historical development of the shea tree), morphology, (genetic constitution and gestation of the shea plant), agronomy (environmental factors that affect the growth and development of the tree) and the ecology (the relationship between shea and other plants, animals, people and the environment in which the tree thrives) has been conducted on the shea at the CRIG station at Bole since the late 1980s (CRIG, 2002)

The importance of the shea tree and its products is underscored by the findings of Mungo Park, the 18<sup>th</sup> century Scottish/English traveler in the memoirs of his great travels as follows:

*“...The people were everywhere employed in collecting the fruit of the shea trees, from which they prepare the vegetable butter, mentioned in former parts of this work. These trees grow in great abundance all over this part of the Bambarra. They are not planted by the natives, but are found growing naturally in the woods; and in clearing woodland for cultivation, every tree is cut down but the shea. The tree itself very much resembles the American oak tree; and the fruit, from the kernel of which, being first dried in the sun, the butter is prepared by boiling the kernel in water, has somewhat the appearance of a Spanish Olive. The kernel is enveloped in a sweet pulp under a thin green rind; and the butter produced from it besides the advantage of its keeping the whole year without salt, it is whiter, firmer, and to my palate, of richer flavour than the best butter I ever tasted made from cow milk...”*

Source: (From the Memoirs of the Life and Travels of Mungo Park in Central Africa, Chapter XVI, Page 105, 2005)

Mungo Park's description of the shea and its qualities and the reverence with which people of the savannah land of Africa granted it by preserving it, tells of the importance of the plant and the extent to which the tree has been preserved.

Today the account of the preservation of the tree is different because subsistence from other sources particularly farming by rural people cannot suffice their livelihoods and hence the resort to cutting down shea trees for firewood and charcoal. The importance of the shea has also been downplayed by the growing importance of other horticultural plants like mangoes, cashew and other cash crops which are easily cultivated and the benefits reaped within one's life time (study respondent, 2008).

### 2.2.3 Benefits of the Shea Industry

“If you touch shea, you touch every household in Northern Ghana; it brings income and food to everyone; that is why it is the only tree that has traditional penalty in Northern Ghana” (Jeremiah, Jaksally Shea Dealers Youth Group, Bole, June, 2008).

The interrelated issues of income levels, poverty and well-being are linked to livelihood opportunities. The rural population of Ghana has limited opportunities for employment besides engaging in subsistence agricultural activities and other peripheral commercial activities of buying and selling. This situation is worse for the rural farming communities of Northern Ghana where the already erratic rainfall is limited to the months of May – September. Indeed the peak of the rainfall and farming season in Northern Ghana is June-August; a very brief period often associated with specific crop failure each year. This puts the people of the area in a perennially precarious situation, warranting very hazardous coping and survival mechanisms some of which are the recourse to charcoal burning, bush burning that accompany hunting, and cutting down trees for fuel wood (study respondents, 2008).

Developing the shea industry is as crucial as it is a strategy to contributing to the issues of livelihood options that shea picking is usually pursued as a matter of “life and death”. Indeed, some other economic activities in the rural economy come to a standstill at the peak of shea nut picking in Northern Ghana. There is usually a “big

hunt” for shea fruits in many rural communities mainly by children and women for direct consumption and for sale. The men who traditionally do not pick shea nuts, harvest shea fruits for lunch whilst on their farms (study respondents, 2008).

In recent times however, shea products have become indispensable in international trade. For instance, the butter is a substitute for cocoa butter in Europe but not in the USA and there is increasing demand for shea butter and nuts in Europe. There has been a documentation of best practices for the export of shea butter products to the US, Europe and other Western markets (WATH, 2005).

Table 2.1 below presents estimates of shea kernel production in tones in the six leading producers of shea in West Africa-, Mali, Nigeria, Ghana, Cote d’Ivoire, Burkina Faso and Benin.

**Table 2.1: Estimated Annual Shea Kernel Production and Utilization in tones**

Country	Est. Total Potential Production (tones)	Est. Actual Collection	% share of Actual Shea kernel production in WA	Est. Consumption	Total Exports	Exports as shea kernels	Export as Shea Butter
Mali	250,000	150,000	28.03	97,000	53,000	50,000	3,000
Nigeria	250,000	100,000	18.69	80,000	20,000	20,000	0
<b>Ghana</b>	<b>200,000</b>	<b>130,000</b>	<b>24.29</b>	<b>70,000</b>	<b>60,000</b>	<b>45,000</b>	<b>15,000</b>
Cote d’Ivoire	150,000	40,000	7.47	15,000	25,000	15,000	10,000
Burkina Faso	150,000	75,000	14.01	35,000	40,000	37,000	3,000
Benin	80,000	40,000	7.47	14,900	35,100	35,000	100
total	1, 130,000	535,000	100	321,900	263,100	217,000	46,100

Source: Reorganized data from WATH Technical Report No. 2, Nov. 2004

From table 2.1 above, Mali, Nigeria, Ghana, Cote d’Ivoire, Burkina Faso and Benin have been identified since 2004 by studies of the West Africa Trade Hub (WATH) to be the lead producers of shea products in West Africa. In terms of estimated total actual shea nut collected in the six (6) leading shea producing countries in West Africa (WA), Ghana has a 24.29% share only second to Mali with 28.03 percent. However Ghana has a superior comparative advantage compared with the six other countries with shea butter exports as direct industrial

inputs. This means that the value added to shea kernel or nuts could secure Ghana greater revenue in the form of export duty and direct income to shea dealers if the rest of the estimated uncollected 70,000 tonnes are collected, processed and exported. Other countries noted for shea production in the West Africa Sub-region include Gambia, Guinea-Conakry, Guinea-Bissau, Niger, Senegal, Sierra Leone, Cameroon and Chad.

With limited data on exact quantities of shea nuts collected, processed, consumed and exported in each country, table 2.1 generally represents the annual picture of the shea industry in Ghana and West Africa as a whole, albeit some minor fluctuations in shea yields and quantities of shea nuts collected on a year-by-year trend (WATH, 2004).

Research has also shown that the shea tree has great untapped capacity for producing copious amounts of sap that can constitute an important source of raw materials for the gum and rubber industries (UG/CRIG, 2002).

The new trend of high external demand for shea products is good for the industry but could completely cripple the rural shea industry if it continues to operate in an adhoc manner. Desperate-looking local and international shea agents are beginning to employ more sophisticated ways of picking shea nuts especially on the no-man's-land of the bushes, and thus outwit the poor rural women. This new trend is driven by the high shea product value on the international market (Shea Dealers Association, 2008).

The socio-economic restructuring of the north requires government role as key developer and employer. The commercial sector of buying and selling is largely patronized by women in Ghana and that has characterized the economy as being too dependent on small-scale commerce. The result is that real growth of the Ghanaian economy is rare. This character of the Ghanaian economy is aptly described by Tony Killick as follows:

*Ghana's economy has not grown much since the early 1960s. Indeed it slipped from being classified as a middle income country to a low income country....If the fit between structural change and economic growth were perfect, the prediction for a non-growing economy would be that the structure would also remain unchanged (Ninsin, 2007).*

#### 2.2.4 Issues Related to the Shea Industry

“Two-thirds of Ghana is covered by shea but only one-third of Ghana produces cocoa, yet whilst other countries are promoting shea, Ghana government is putting levies on shea products” (study respondent, 2008).

The study takes departure from other work on the shea and looks beyond the shea value chain and applied scientific research activities, to examining the relationship between the shea and the development of the local economy in which the tree occurs. Since “development is conceived as a state of human well-being rather than as the state of the national economy” (Conyers and Hills, 1984), securing the livelihood of people engaged in the shea business will improve the lot of the most susceptible category of poor people of Northern Ghana. Income levels of rural poor people are linked to their access to social services like education, health services, and water and sanitation services. Secured income implies increased access to these services.

The study again investigates the question of seasonal unemployment and North-South migration and what role the development of the shea industry can play in stemming the tide.

First, as one of the most predominant natural occurring economic crops in the poorest parts of Ghana, it is essential to study the culture of the shea and enhance its occurrence and output. The study further explores the biological and ecological possibilities of the shea tree as a cultivable crop. The aim is to ascertain the credibility of the shea as one that can really serve as the “cocoa” of Northern Ghana.

Second, as a cash crop occurring in an area where employment opportunities are limited, it is important to organize the shea industry to ensure that it serves as a hub for increased economic activity and secure livelihoods for particularly rural women and children. This is important since distance from utilities like water, electricity, good roads as well as ports and harbours are reasons for the absence of factories and other agricultural processing firms in Northern Ghana. The absence of industrial investments and poor or inadequate infrastructure (Social Overhead Capital) are sufficient reasons why land banks and free zones enclaves are limited with respect to Northern Ghana.

Third, the research seeks to explore the comparative advantages or otherwise of increasing shea production and locating shea processing plants that are linked to ready markets in Northern Ghana as an integral part of the process of planned development for Northern Ghana.

Fourth, the study again explores aspects of government policy that could take on board the organization of the shea industry. Incorporating the development of the shea industry in the District Medium Term Development Plans (DMTDP) as a part of rural industry to boost the rural/cottage industry agenda would stem rural-urban migration. Urban life often appears more attractive to rural dwellers because of its employment opportunities and the better social amenities it offers. People in deprived areas seek access to these opportunities as a form of relief.

Cultivation/propagation of shea trees is possible as immense research effort by CRIG into the ecology and biology of the shea tree reveals, with the aim of improving the yield. Research at the CRIG station has also been linked up to processing of shea nuts as an alternative or substitute to cocoa production, a major reason for the existence of CRIG research sub-station at Bole.

### **2.3 Current Knowledge on the Shea Industry in Ghana**

The shea has served as an informal cash crop for the people of Northern Ghana for many generations. The shea largely grows on the wild and occurs extensively in Northern Ghana with a potential to be “domesticated”. Traditionally, the business of shea actors including picking shea nuts is limited to rural women and children.

In this regard the shea industry is a source of seasonal income for many a poor family in Northern Ghana. Women are particularly engaged in various businesses offered by the industry as a way of life rather than real business meant to supplement farm produce. Incomes are obtained from the sale of shea products in the form of nuts or butter (CRIG, 2008).

This means that the small holder character or peasantry in the cocoa industry is similar to that of the shea industry, but the latter needs state intervention and support similar to the former to grow and flourish.

The key stakeholders of the shea industry as identified by this study are institutions and individuals at the community (micro) and district (meso) level comprising shea pickers in various households, shea processors, land owners, millers of shea and marketers of shea products. The most active of the shea stakeholders in the shea industry are Civil Society Groups comprising the Shea Dealers Associations in the three regions of Northern Ghana, individuals as well as NGOs such as SNV, a Dutch Development Organization, TechnoServe, a US-oriented food Security organization, the Association of Church Development Projects (ACDEP) and its subsidiary, Savanna Farmers Marketing Company, among others. These organizations, groups and individuals have conducted various studies and sensitization on the shea industry, and have organized and facilitated workshops for shea actors- pickers, processors, buyers and exporters but these have not crystallized into any systematized state intervention in the shea industry. The meetings and workshops have hardly produced any blueprint, communiqué, advocacy or policy brief on the way forward for state support for the shea industry.

ACDEP conducted action research to examine the market and value chains for shea nuts and butter. The study methodology focused on the stakeholders in the shea industry and their role in the processing and sale of both butter and nuts locally and internationally and makes recommendations for sustaining the shea trade with a reflection on the conservation and management of shea trees in farmer owned and common property area.

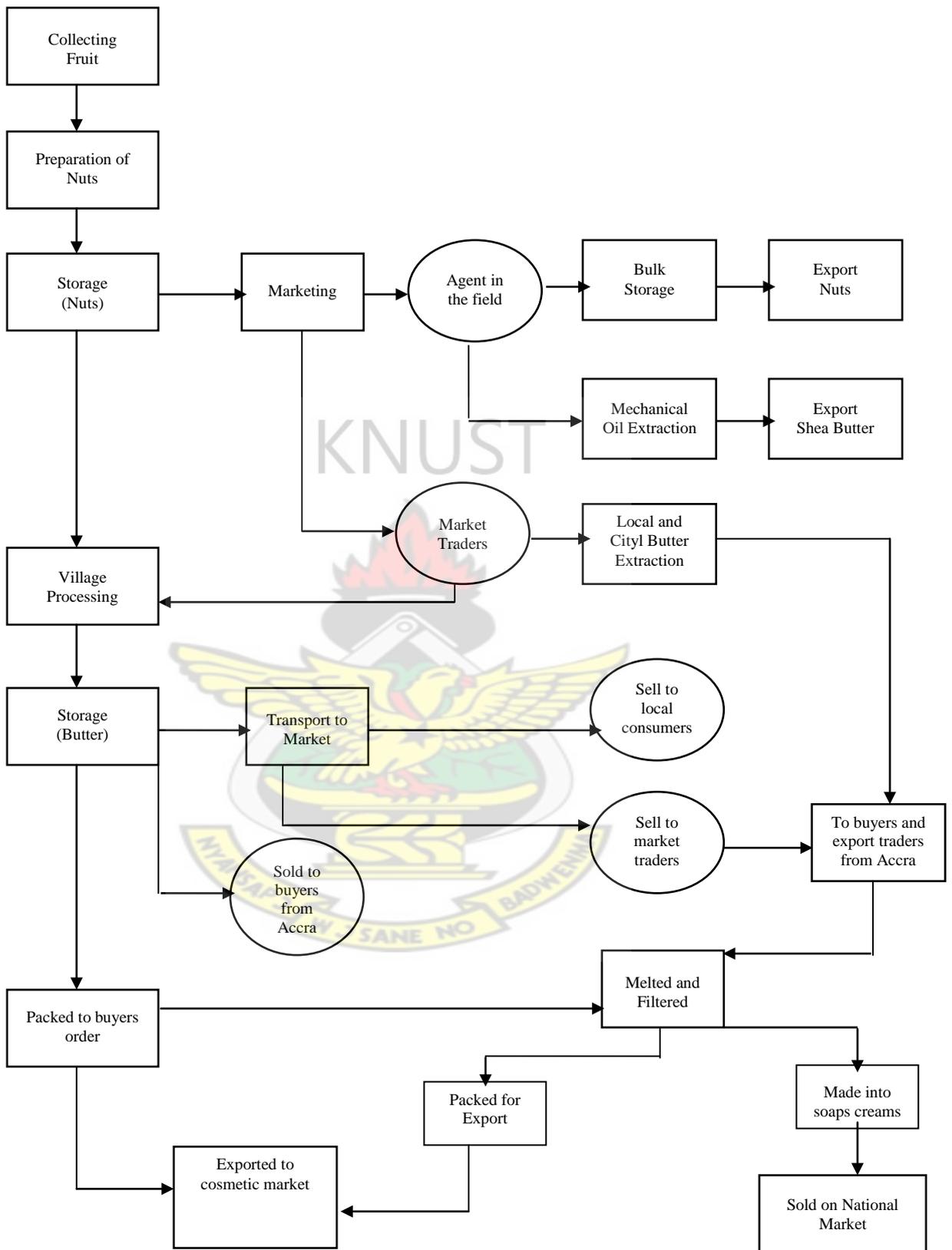
Modern Shea Value-Chain

Figure 2.3 below presents a Modern Shea Value-Chain where all the vital processes of shea picking through processing to marketing are observed. The figure shows the complex dimension the shea industry has assumed and goes on to give an indication of the challenges currently being confronted by the traditional actors of the industry- traditional women and their children.

Figure 2.3 shows the local processes of preparing and producing shea nuts and butter for sale and juxtaposes that with the more advanced, complex industrial mechanized processes of shea nut and butter extraction. It also shows the options available to small-scale local processing of nuts; they are either sold directly to buying companies or turned into butter for sale. In all of these processes there is a growing limitation to the small-scale shea nut or butter producer since big companies are now purchasing large quantities of shea nut and butter that they are unable to supply. Consequently “middlemen” (men and women) purchase shea products from the small-holder shea producers, stockpile and sell to the big companies at a huge profit, at the expense of the rural shea picker and shea producer.



**Figure 2.3: Shea Value Chain**



Source: ACDEP, 2005

Figure 2.3 above presents a comprehensive picture of the various shea value-chain processes involved in the extraction of shea butter from shea nuts. The long and tortuous process to obtain shea butter in the traditional sense begins from the shea picking stage. The process is an indication of the suffering, largely traditional women folk go through to make shea nuts and butter available on the market, yet in view of the unregulated nature of the industry they do not get value for their efforts.

The ACDEP study looks to the future by calling for further scientific research into traditional knowledge on plantlet selection as well as tree density and cultivation, for example grafting techniques to increase shea population. The study justifies the call for further research by stating the fact of international growing demand for shea resulting from an increasing worldwide demand for organic vegetable oils and fats but admits the technical and organizational limitations in relation to shea quality and quantity available for sale etc. The research concludes that the shea industry is economically extensive in Northern Ghana but functions in an adhoc manner.

Finally, the ACDEP study provides room for further exploration by the research in question. In spite of extensive work by the study in examining the complex value chains involved in the shea business, it is only for market purposes and no connection is made to government policy on economic and spatial issues for further research. There is little review of the biological life of the shea tree and how that is related to increased output or supply. There is also an issue with where shea is gathered; on whose land shea gathering takes place and what the resulting limitations are to the way shea gathering has been traditionally organized (ACDEP, 2005).

The WATH Technical Report No. 2, 2004, is based on a constructive and action-oriented research methodology meant to examine how the shea supply chains can be improved by examining the trading and marketing dynamics of the shea sector both locally and internationally. The study highlights the several initiatives within the shea sub-sector principally by agencies such as the USAID, Techno-Serve

among others. It also looks at the supply chain for shea; its wide stakeholders, ranging from village pickers, post-harvest processors to local buying agents and large scale exporters (WATH, 2004).

The study makes recommendations focusing on improving producer organization, access to quality kernel and quality assurance for shea products but with none to address the key constraint of increasing and sustaining shea output in relation to the socio-economic development of the local people who are engaged in the shea industry (WATH, 2004).

Again, in a study conducted by WATH, Technical Report No. 3, 2004, it was found, among other things, that Ghana is the leading export country of shea in West Africa. The study argues for further feasibility studies which should include supply chain analysis for the export promotion of both refined shea products and bulk shea butter to US markets. The study finds out the dynamics and implications of refining shea butter in terms of the economies of production and the economic potential and opportunities for commercial state-of-the art refining of shea butter within West Africa.

In assessing the shea industry in West Africa in relation to US markets, the WATH Technical Report No. 4, 2004 provides another technical report that gives information on US market expectations in terms of distribution, quality requirements, pricing, direction of current and projected demand and import channels, and identify potential buyers of West Africa shea butter in the US.

The study findings include among other things the fact that shea butter is used as a substitute for cocoa butter in Europe, citing that almost 95 percent of shea butter exports are destined for chocolate production in Belgium, France and Switzerland. This study was purposely meant to explore on one hand opportunities for shea imports into the US market which it estimates at 500 metric tones annually as of then, for personal care industries, and on the other hand seeks to secure ready markets for shea producers in West Africa, for which reason the study is dubbed “market reconnaissance”.

The study also brings to light the important fact that EU regulations permit the substitution of shea butter for cocoa butter (or any other Cocoa Equivalent for that matter) up to 5 percent of total cocoa butter used for making chocolate. The US on the other hand does not allow any substitute for cocoa butter for chocolate manufacturing (WATH Technical Report No. 4, 2004).

An export guide for shea industry produced by the WATH documents some of the best practices in shea production and sale based on the adhoc operations of shea actors as well as other businesses in Ghana. The guide is intended to be a benchmark for West Africa businesses to export shea butter to US, Europe and other Western markets. The documentation was thus related to issues around customs, shea butter certification for international trade, international Quality Standards and Labeling and Packaging (WATH, 2005).

The WATH 2005 study, like others reviewed above, largely focuses on the technical issues of marketing opportunities, but ignores the more long term issues of national legal and policy context for shea operations or even the issue of sustainability in shea supply through a better managed shea industry as an important cash crop.

The Cocoa Research Institute of Ghana sub-station at Bole was set up by the Ghana Cocoa Marketing Board (GCMB) in collaboration with CRIG in 1976. CRIG instituted a scientific research into the cultivation and processing of shea nuts since the 1970s and the ensuing statement sums up the essence of the researches undertaken then: “The importance of the shea tree in Ghana’s economy became even more significant with the need to find substitutes for cocoa in the confectionary and cocoa butter industry in the early 1970s” (UG/CRIG, 2002).

This study, similar to others that CRIG conducted in the past, examines the ecology and biology of the shea tree with the aim of improving its yield. The research describes the shea tree biology and its distribution in Africa; the environmental and ecological conditions under which shea tree thrives; a description of the morphology and physiognomy of the tree is given for those who

have never seen the tree; the collection of the nut and process of extraction of the butter in Ghana.

In sum, the research activities of CRIG, Bole have focused on increasing fruit yield per hectre of land. Studies in the early 1970s were geared towards the development of an export trade in shea nuts and hence concentrated on the logistics of distribution of the plant.

The three USAID supported studies by WATH are meant to be combined as components integrated into a single comprehensive analysis which serves as a reference to the West Africa shea butter industry and to technical assistance providers.

On the whole, most of the above studies are technical in nature and their outcomes are reports on shea value chains, marketing opportunities, shea uses etc. The studies reviewed say little about the supply of shea ranging from the tree to a systematic management of the industry for both spatial and socio-economic development of shea producing areas. The studies do not relate to the fundamental issues of a framework that regulates the shea industry; a policy framework within which the shea industry operates, and how the industry relates to the livelihood of people in the area in which shea is produced.

#### **2.4 Role of the Shea Industry in National Development**

One of the principal reasons for linking the shea industry to the development of Northern Ghana is to justify the view that development is spatial reorganization. According to Songsore (2003) Regional Development is “seen as a process by which the productive capacities of all regions are mobilized by linking them in both a structural and an organizational sense to the mainstream of the national economy”. Investing resources in the shea industry would be a two-pronged approach to achieving sustainable development in the sense of providing tree cover to the semi-arid land of Northern Ghana, and at the same time securing livelihoods for poor rural people, particularly women. Developing the shea industry is seen

largely, as part of the solution to the regional imbalances between Northern and Southern Ghana.

Space plays a significant role in national socio-economic development and that is why worldwide, regional planning is used as a tool for spatial organization to promote national development. However the way regional development has been pursued in Ghana since independence takes no much departure from the colonial legacy of a centre-periphery approach where the coastal and forest “resource regions” have been developed to comprehensively exploit the resources available at the expense of the “bare” regions of Northern Ghana, resulting in the existing yawning disparities between the South and North of Ghana.

The concentration of development in the south and middle belts of Ghana follow a rather logical sequence of the complex relationships which exist between decision-making or human actions or inactions and the consequent benefits which are meant to be derived by individuals, the firm, society and government. This human tendency in the use of space of Ghana has obscured the need to explore and develop the true potential of every part of it in a holistic and all-encompassing manner.

Meanwhile when deprivation is prolonged throughout the lifespan of individuals or groups, it can result in intergenerational transfer of poverty which in turn creates and perpetuates social exclusion. This is typical of the situations of chronic poverty in most parts of the three regions of the North of Ghana which have the highest incidence of poverty (GHDR, UNDP, 2007). The result is that existing generations are unable to provide better opportunities for the next generation.

Ghana is worth over 250,000 tones of shea nut worth 200 pounds per ton and the industry currently employs over 3000 people in the picking, processing and sale of shea nuts and butter within three regions of the North alone (Shea workshop, 2008). Since shea trees already cover a land area of over 77, 670 square kilometers beyond the three regions of the North, a conscious effort of shea plantations would

ensure better tree cover to save the fast depleting strands of trees in Northern Ghana.

Research by the America Shea Butter Institute has shown that shea butter has an exceptionally high healing fraction. It contains important nutrients, vitamins and other valuable phyto-nutrients required for healing. The healing fraction can be as high as 17 percent, and the larger the healing fraction, the better the chances are for a good quality shea butter. Other oils have a healing fraction of 1 percent or less. The unique healing properties of the shea tree have earned it the name, “karate” in Francophone countries, which means the “tree of life” (SNV and America Shea Butter Institute (ASBI), 2007).

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## **2.5 Summary and Conclusion**

The literature reviewed so far on the shea industry has to the barest minimum attempted a deliberate study of the links that exists between the shea industry and the social, economic and spatial development of shea occurring areas. This realization adds impetus to this study to consider a fusion of applied scientific research on shea growth and propagation, and the socio-economic implications of the shea tree in its occurring areas.

Current practices in the shea industry give credence to the fact that the positive gains of the industry for rural poor women, children and their households is being compromised as growing interest of individuals and companies (small and big) could soon exclude the key actors from the industry. This is of great concern in view of the constraints of crop cultivation in Northern Ghana (short rainy season- May to September) with inadequate alternative schemes for crop production resulting in total crop failure. The benefits of the shea industry thus risk falling to opportunistic demand and supply forces that are determined by financially capable individuals who care less about the poor rural people traditionally engaged in the shea industry as a way of life.

The literature reviewed for this research has been drawn extensively from collaborated studies of the West Africa Trade Hub and USAID that focus on shea

value chains with specific emphasis on production, transformation and marketing, shea refining opportunities as well as marketing options in the US and EU.

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## CHAPTER THREE

### RESEARCH APPROACH AND METHODOLOGY

#### 2.0 Introduction

This chapter looks at the geographical scope and national relevance of the study. The study is positioned within the national development framework, GPRS II and the implications for poverty reduction in the three regions of the north, and these have been discussed in this chapter. The research design and conceptual framework have also been outlined to show how the study was conducted.

#### 3.1 Choice of the Study Area

##### 3.1.1 Scope of the Research

###### Geographical Scope

The research made use of one district each from the three regions of Northern Ghana out of a total of thirty-eight (38) districts in the area. The choice was founded on possibilities of varying geological (physical, biological, environmental, ecological, and geographical) and social differences in the three regions in question. The case study was meant to establish how the shea industry thrives differently or similarly in the three regions as shown in figure 3.1 below. The approach was also meant to appreciate how differently or similarly government policy could support the shea industry in the entire Northern Ghana. There is also a deliberate choice of rural districts of the three regions to help give a clearer picture of the elements, human institutions and relationships prevailing within the shea industry.

The districts are Bole district in the Northern Region, Bongo in the Upper East region and Wa-West District in the Upper West region. Specific information was elicited on the extent to which the shea tree can become a dependable wild and propagated cash crop for the people of those areas and sought to understand:

- The specific activities of shea pickers
- Where shea nuts are picked from
- The activities involved in shea processing (manually and mechanically)

- The dynamics of marketing both shea nuts and butter
- The existing institutions that seek to support and regulate the shea industry (State, Civil Society, NGOs)
- The functional relationships that exists within the sector in order to establish how government intervention could create synergy within the sector to ensure harmony in activities of the sector.

#### Contextual and Time Scope

The study was conducted in June 2008. Within the period, the Growth and Poverty Reduction Strategy (GPRS II, 2006-2009) was implemented as Ghana's overall development framework. The GPRS II identified agriculture as the highest contributor to the GDP of Ghana, employing some 56 percent of the population. An appropriate development of the sector will ensure food security and contribute immensely to the health and wellbeing of the population and in view of the shortage of capital for investment in the country, the agricultural sector is seen as the quickest route to addressing unemployment, increased productivity, increased income levels and ultimately reduce poverty levels. The shea industry is capable of boosting the agricultural sector in Northern Ghana and constitutes a significant proportion of incomes for many a rural people in Northern Ghana.

Adherence to the GPRS II recommendation for agriculture justifies Todaro's view (Todaro, 4<sup>th</sup> edition: 290) that

Any attempt to modernize the economies of third world countries will be an exercise in futility if the modernization does not begin with the agricultural productivity of rural areas whereby access to land, improvement in agricultural productivity, marketing agricultural produce and delivery of social services in rural areas would provide a sound foundation for a take-off of the economy.

This study examined the development implications of the shea as a lead cash crop for the people of Northern Ghana against the background that the shea tree occurs extensively in the poorest regions of Ghana. In addition, the wild nature of the shea tree and the threat of extinction through human action or inaction are some of the reasons why attention is being drawn to the shea industry in Northern Ghana.

Table 3.1 below gives an indication of why Northern Ghana is being classified as comprising the poorest regions of Ghana.

**Table 3.1: Incidence of Poverty by Regions of Ghana**

REGION	POVERTY		EXTREME POVERTY	
	1998/99	2005/06	1998/99	2005/06
Western	27.3	18.4	13.6	7.9
Central	48.4	19.9	31.5	9.7
Greater Accra	15.2	11.8	2.4	6.2
Volta	37.7	31.4	20.4	15.2
Eastern	43.7	15.1	30.4	6.6
Ashanti	27.7	20.3	16.4	11.2
Brong Ahafo	35.8	29.5	18.8	14.9
<b>Northern</b>	<b>69.2</b>	<b>52.3</b>	<b>57.4</b>	<b>38.7</b>
<b>Upper East</b>	<b>88.2</b>	<b>70.4</b>	<b>79.6</b>	<b>60.1</b>
<b>Upper West</b>	<b>83.9</b>	<b>87.9</b>	<b>68.3</b>	<b>79.0</b>
All Average	39.5	28.5	26.8	18.2

Source: *Ghana Statistical Service, 2006*

Table 3.1 above is illustrative of the state of poverty in Ghana. Whilst average poverty for the entire country has reduced from 39.5 percent in 1998/99 to 28.5 percent in 2005/06, the average poverty levels for the three regions of the North have barely declined from 80.43 percent in 1998/99 to 70.2 percent in 2005/06. The GLSS poverty data (2006) also indicates that five (5) persons out of every ten (10) are poor in the Northern region of Ghana; seven (7) out of ten (10) are poor in the Upper East Region and eight (8) out of every ten (10) are poor in the Upper West Region.

In the Upper West Region poverty increased from about 84 percent in 1999 to about 88 percent in 2006. This statistic notwithstanding and granted that net migration for the Upper West region stands at - 332,000 whereas that for Greater Accra is +310,000 (GSS, 2006), it might well be that the poorest region (Upper West) receives more remittances than any other region and that, if analyzed further could offset the extent of poverty that has been portrayed in the GLSS survey for

the Upper West region. Majority of the poor in the three regions of the North are women, children and the physically disabled.

This implies that urgency is required to bring up Northern Ghana closer to the rest of the country in terms of poverty reduction, by exploring and developing all of its natural resources. Besides the untapped mineral resources of iron, gold, clinker, oil, among a long list, land for agricultural purposes remain the most abundant resource in Northern Ghana. Therefore alongside efforts at mango plantations, cashew, rice, and cotton, the shea industry with its multiplicity of relevance, coverage and opportunities offered, provides one of the highest comparative and competitive advantages for the economy of Ghana and Northern Ghana in particular, by virtue of the quality of shea products in the area and the potential to grow it on the vast stretches of land yearning for tree cover.

The research relied extensively on research institutions located in the three regions of Northern Ghana. The research institutions interviewed are the Cocoa Research Institute of Ghana (CRIG) at Bole, the Savannah Agricultural Research Institute (SARI) and its regional branches, and the University for Development Studies (UDS). The study sought to identify key stakeholders of the shea industry and how their activities impact on the socio-economic wellbeing of the people of the area.

## **3.2 Research Design**

### **3.2.1 Case Study Approach**

The use of a case study approach offered an empirical enquiry that allowed the researcher investigate and understand the dynamics of the shea industry. The strengths of this approach are that it makes it possible to investigate a contemporary phenomenon such as the shea industry which has multiple realities and yet saddled with difficulties accessing the desired information (Nachmias and Nachmias, 1987). The approach makes it possible to use the learning from this study to inform the theory and practice of policy formulation and planning around the shea industry.

In addition, the use of the case study approach affords active and constructive research findings that can be applied to industry. Both primary and secondary data sources have been made use of and the outcome is intended to produce new knowledge that is integrated into Ghana's development policy formulation and implementation processes at national and district levels, and provide basic information on the shea industry for further research into the socio-economic potential of the industry.

The weaknesses of the case study approach include the fact that since the researcher has little control over the phenomenon being investigated, the outcome might not necessarily be generalizable to the wider population. Again the differences in contexts of the social issue being investigated could limit applicability of the outcome from one location to another.

### 3.2.2 Sampling Design and Sample Size Determination

The research sought to generalize its findings to secure livelihoods and survival strategies of the people of Northern Ghana. It again sought to find out how the shea industry can be developed to Northern Ghana and the country as a whole.

The study adopted a non-probability sampling design and purposively sampled specific geographical areas, groups, individuals and institutions involved directly or indirectly with the shea and its products within each chosen case study area. It is for this reason the research process targeted research institutions, Civil Society groups in the shea industry, NGOs, traders (sellers and buyers of shea products), shea pickers, traditional authority and other community members.

District Coordinating Directors and Planning officers were sampled for interview at the District Assembly level to obtain both a planning and policy dimension of the shea industry; one community each of the three districts was selected for study based on the understanding that shea activities were similar among communities of each single district. The community most noted for shea activities was the one selected ahead of the others listed by each of the district assemblies. Individuals, particularly traditional leaders were targeted for interview based on their role in the industry. Shea processing groups were purposively selected and twenty (20)

persons, principally women were selected for interview. In addition to interviews, Focus Group Discussions (FGD) were used on separate women groups of ten (10) based on information obtained about the consistency of their formation and activities over the years and the intensity of their activities in the shea industry.

### 3.2.3 Data Sources and Instruments for Data Collection

Semi-structured questionnaires were largely administered for primary data, eliciting both qualitative and quantitative data on the shea value-chain of picking, processing, marketing and export as well as the cultural practices in relation to the shea tree, and how it economically impacts on the lives of the people, especially the rural economy of the districts in question.

A guide was developed from the semi-structured questionnaire and administered at Focus Group Discussions. The purpose of the Focus Group Discussions (FGDs) was to obtain more specific information from shea processing groups notably, the Asungtaba Women's Shea Butter Processing Association- Bongo-Soe, Upper East Region, the Mandari Women's Shea Processors Association-Bole District, Northern Region and the Buli Women's Group-Shea Butter Processing Centre, Wa-West District, Upper West Region and Jaksally Youth Group-women's group at Mandari. The research also made use of key informants of the shea industry notably the shea researchers at UDS, the Savannah Research Institute and the Cocoa Research Institute; NGOs- the Association of Church Development Projects (ACDEP) -Savanna Farmers Marketing Company, World Vision-Bongo, SNV-Tamale and Shea buying companies- West Africa Trade Hub-Accra, Ghana Specialty Fats Industries Ltd (free Zones Enterprise)- Wa, the umbrella organization of Shea Dealers Association and some private individual shea buying agents in Wa and Tamale.

### 3.2.4 Units of Enquiry and Data gathered

Table 3.2 below presents the units of enquiry and the corresponding information investigated by the study. The research considered the category of persons directly engaged in the shea business; those with the potential of influencing the industry and the processes of marketing shea products, the incomes generated from the

business, the question of land ownership (a crucial aspect of agricultural activities in Ghana).

**Table 3.2: Units of Enquiry and Data gathered**

<b>Unit of Enquiry</b>	<b>Data</b>
District Assemblies	<ul style="list-style-type: none"> <li>▪ Shea promotion through regulation and provision of marketing opportunities.</li> <li>▪ Small-scale shea business cooperatives as exemplified by shea women groups.</li> </ul>
Research Institutions	<ul style="list-style-type: none"> <li>▪ Research on shea propagation and cultivation.</li> <li>▪ The economic potential of the shea.</li> <li>▪ The estimated shea tree population.</li> </ul>
Shea Pickers/ Processors/ Millers of shea	<ul style="list-style-type: none"> <li>▪ Income generated from shea business activities</li> <li>▪ Employment opportunities offered by the shea industry.</li> <li>▪ The shea value-chain.</li> <li>▪ The actual and potential income offered by the shea industry.</li> <li>▪ The age brackets of those engaged in shea business and their occupation.</li> <li>▪ The amount of time spent in processing shea nuts into a commodity for sale or for further processing (full-time and or part-time basis).</li> <li>▪ The poverty levels of people engaged in the shea business.</li> <li>▪ The threat of desertification to the shea tree.</li> <li>▪ The relationship between migration and economic activities in Northern Ghana.</li> </ul>
Shea Traders and Buyers	<ul style="list-style-type: none"> <li>▪ Relationship between urban and rural shea actors</li> <li>▪ The value of shea products</li> <li>▪ Cost of doing business in the shea industry</li> </ul>
NGOs/Civil Society Groups in shea activities	<ul style="list-style-type: none"> <li>▪ Regulation of shea activities</li> <li>▪ Incomes from shea business</li> <li>▪ Employment from shea businesses</li> </ul>
Marketing shea products	<ul style="list-style-type: none"> <li>▪ prices and pricing of shea products (nuts, shea butter etc)</li> </ul>
Land owners	<ul style="list-style-type: none"> <li>▪ tree population and land ownership and use in relation to shea</li> </ul>

*Source: author's categorization of field data*

The units of enquiry and information gathered as presented in Table 3.2 above, supported the analysis of data in terms of the socio-economic relevance of the shea industry and the role of government in the development of the shea industry.

### 3.2.5 Data Collection and Preparation Process

The Bongo district, Bole District and Wa-West districts of the three regions of the North of Ghana were selected for case studies on activities in the shea industry and the development implications on the people. Shea picking and harvesting spans from April to August, and the entire field research was undertaken in June 2008, a period purposively chosen to coincide with shea picking and harvesting. It is also the crop planting season/period in Northern Ghana where farming seriously begins. This is when various cereals are planted and most families begin to experience extreme hunger and have to rely on shea fruits and the little foodstuff left for survival.

The study proceeded to purposively sample within the three chosen districts and regional capitals, organizations, groups, and individuals that either have an interest in the shea industry or are directly engaged in the shea business of buying, selling and supporting the empowerment of dealers in the shea industry.

### 3.2.6 Data Analysis and Presentation

The study has sought to categorize, describe and explain the units of enquiry and information related to the shea industry by considering the participation and role of male and female respondents in the shea sector in terms of ownership of shea trees, the existence and maintenance of shea trees; the pickers of shea nuts; processing of shea; marketing of shea nuts and butter; incomes obtained from shea and its utilization; the beneficiaries of shea business activities and the managers and regulators of shea business. Qualitative and quantitative analysis of data was meant to simplify data into various meaningful forms.

The qualitative data seeks to explain the multiple realities socially constructed about the shea- land ownership and cultural issues about the shea tree, the value attached to the trees, participants and practices in the shea business and taboos about the industry including the attitudes, beliefs, preferences and priorities of the industry.

The quantitative data and analysis tries to explain the objective fact that the shea, if developed into a lucrative industry will become a much more reliable cash crop, a source of employment and income to individuals and the country at large. This has been done through cost-benefit analysis of the proceeds from shea nuts and butter.

**Table 3.3: Research Respondents**

No	Respondent category	Process Description
1.	Shea pickers	<ul style="list-style-type: none"> <li>Twenty (20) respondents in one (1) shea picking community in each of the three districts were chosen: a total of 60 shea pickers/processors were interviewed in the three districts, most of them women, the major actors of the shea industry.</li> </ul>
2.	Shea Traders and Buyers	<ul style="list-style-type: none"> <li>Ten (10) respondents made up of shea traders and buyers comprising groups and individuals (both local and international) were targeted and interviewed. The researcher participated in a Northern Ghana Shea Dealers Association Workshop in Wa, capital of the Upper West Region where it was possible to interact with many actors in the shea industry, such as the West Africa Trade Hub, Ghana Specialty Fats Industries LTD (a Free Zone Enterprise), Olam Ghana, and other shea dealers and agents on June 30, 2008. The National Association of Sheanut Farmers, Processors and Buyers has a membership of over 2000, comprising 1200 women and 800 men, working to further bring all shea dealers under one umbrella to promote their own welfare.</li> </ul>
3.	NGOs/Civil Society Groups in shea activities	<ul style="list-style-type: none"> <li>Eight (8) key NGOs and CSOs in the shea sector were interviewed: Jaksally Youth Group-Bole, World Vision International-Bongo, Bongo Trade Centre, SNV Tamale, ACDEP Secretariat-Tamale, a Faith-Based Organization in Wa-West District, the Buli Shea Butter Processors Association and the National Shea Dealers Association.</li> </ul>
4.	District Assemblies	<ul style="list-style-type: none"> <li>District Planners and Coordinating Directors of the three (3) District Assemblies- Bongo, Wa-West and Bole districts were interviewed – one district planner (Bole) and one Coordinating Director each for Wa-West and Bongo districts were interviewed.</li> </ul>
5.	Research Institutions	<ul style="list-style-type: none"> <li>Three (3) Research institutions in Northern Ghana: the Cocoa Research Institute- Bole, the Savanna Agricultural Research Institute- Nyankpala and the University for Development Studies, Horticulture Department were interviewed.</li> </ul>

*Source: author's categorization field data*

Table 3.3 above organizes the various data sources of the study into their institutional and geographical categories and the physical number of respondents interviewed. The table also gives an overall picture of the range of stakeholders consulted in the research process in view of their roles in the shea industry.

Whereas district assemblies and research institutions are classified on the supply side of the shea industry, civil society groups, shea traders (pickers and buyers) are on the demand side of the industry. This classification is informed by the fact that the state institutions are expected to provide the enabling environment within which the shea industry is expected to function; whilst the traders and civil society groups are actors within the industry.

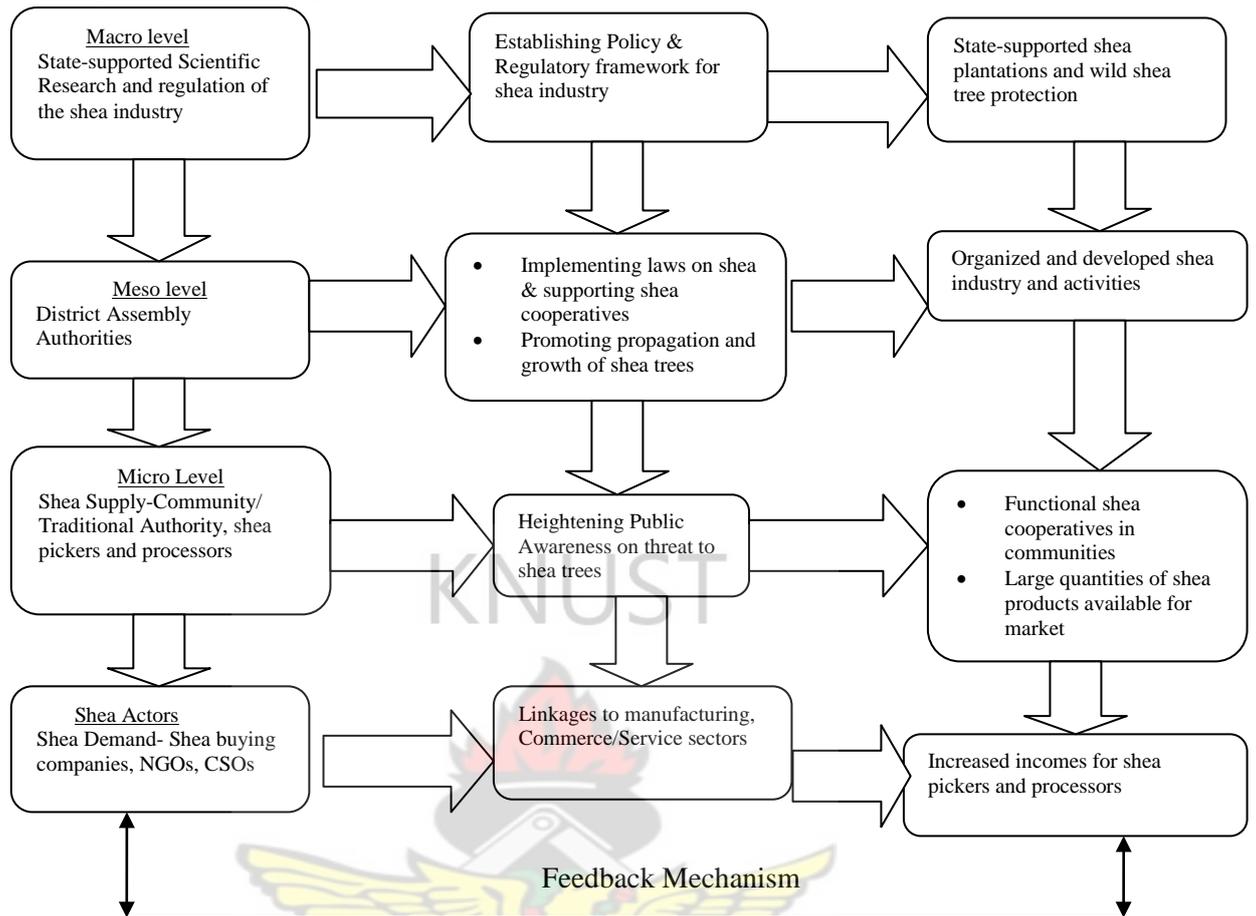
### **3.3 Conceptual Framework of the Study**

Issues investigated by the study include the socio-economic value of shea and its products, the threat of extinction of shea trees due to social and income coping mechanisms of rural people of Northern Ghana such as felling shea trees for fuel wood and charcoal, as well as for the construction of houses, state intervention to regulate and support the industry to flourish and to understand the relationship between shea trees and the question of land in shea occurring areas. The research was keen on establishing the possibilities for the promotion and propagation of shea trees by making available, evidence-based empirical applied scientific research.

The study further seeks to establish the basis for hypothesizing that the shea tree and its products are a catalyst to the development of Northern Ghana by providing evidence of how the shea industry ensures enhanced household income, increased access to social services: health, education and improved quality of life for a majority of rural dwellers of Northern Ghana.

The flowchart in Figure 3.2 below attempts a graphical picture of an input-process-output model of the research, and also gives an indication of the implications of developing the shea industry as one of the development paths of Northern Ghana through planned horticulture.

**Figure 3.1: Conceptual Framework of the Study**



Source: Author's own concept, June, 2008

The Conceptual Framework of the study in Figure 3.2 above depicts three scenarios of the shea industry in an input-process-output framework. First, the input branch to the left of the chart indicates what is required to drive the shea industry from its current adhoc state, to a well developed, organized and functional sub-sector within the agricultural sector in Ghana. The research therefore investigates the role, efforts, activities and level of influence of the key institutions and structures within the shea industry from the macro to the micro level of the industry and the value chains within it.

The second branch of the chart spells out the processes that are required to develop the industry from the promotion and propagation of shea trees, the policy framework under which the industry should thrive and the linkages that should exist between the shea industry and other sectors of the economy. The research investigates the existence or otherwise of these process indicators for the functionality of the shea industry.

The third branch of the chart above (figure 3.2) indicates what the research seeks to establish as its output. This includes the desire to protect wild shea trees, cultivate shea plantations in occurring areas, organize the shea industry into a much more formalized structure and system to increase rural incomes and increase revenue for both district assemblies and the economy of Ghana as a whole. Table 3.4 gives expression to the Conceptual Framework of the Study in figure 3.2.

**Table 3.4 Operational Conceptual Framework of the Study**

Input	Process	Output
<p><u>National Level</u> State and private sector-initiated and supported scientific research on the shea plant</p> <p>State promulgation of laws to regulate activities of the shea industry as pertains in the Ghana Cocoa Board Law, 1984, (PNDC. L.81)</p>	<p>Operationalizing government-initiated policy on shea research and collaborating with appropriate agencies to disseminate findings for implementation.</p>	<p>Set up shea plantations and protect wild shea trees particularly from bush fires and tree felling for fuel wood and charcoal.</p>
<p><u>District Level</u> District Assembly Authorities oversee shea activities in their respective districts by implementing state laws on the shea and further promulgating bye-laws to regulate the industry</p>	<p>Dissemination of shea growth strategies with linkages to the Food and Agriculture Ministry and Forestry Commission to promote and propagate the growth of shea trees in shea occurring areas.</p>	<p>A functional and well organized shea industry at district level.</p>
<p><u>Community level</u> Traditional Authorities, shea pickers and processors intensify implementation of traditional bye-laws on the protection of shea trees</p>	<p>Awareness raising on the increasing <i>threat</i> to the survival of shea trees</p>	<p>Setting up shea cooperatives in communities to protect wild shea trees and also supply large quantities of shea products.</p>
<p><u>Stakeholders of shea business</u> – Shea buying companies, NGOs, CSOs</p>	<p>Linkages to manufacturing sector- agro-based industry and service sector, notably financial institutions.</p>	<p>Increased incomes for shea pickers and processors.</p>

Source: Author's own concept, June, 2008

### 3.4 Application of Project Analysis and Appraisal Tools

The study sought to employ the cost-benefit analysis tool to explain the value of shea products in order to justify the need for resource allocation and policy intervention. Financial viability analysis of shea products (Refer to Appendix 1) used average proceeds from sale of nuts and shea butter by some small to medium scale shea processors. A financial viability analysis of the shea industry was meant

to give an indication of the value of shea products to justify investment into its activities by both state and private entities.

A viability analysis generally seeks to establish whether or not a commodity or project's contribution to society is high enough to justify the allocation of resources. The study therefore sought to establish whether or not the shea industry merits any intervention by the state.

Financial Analysis (Refer to Appendix 1.1 and 1.2)

Financial analysis uses present market prices to compare future gross receipts and expenditure, and examine how much beneficiaries of the project will earn/gain from a project through compensation for their labour, returns on capital investment, operating cost etc.

Key Assumptions underlying Financial Viability Analysis of shea products

Duration of business venture

- Twenty-year duration has been used to determine the viability of an investment in the shea industry. The basis of this assumption is that shea nuts are harvested once in every year and therefore it will take approximately twenty years for an investment in the industry to yield the right dividends with returns to both capital and operational cost.

Fixed costs

- The physical cost of housing and machinery for processing shea nuts and butter has also been estimated at current cost of items.

Variable costs

- The minimum wage in Ghana is used to estimate the wages that would have been earned by shea pickers if they were formally employed (part of variable cost)
- Cost of inputs- shea nuts have been used as the basic raw material

Discount Factor

- an average interest rate of 20 percent has been used as discount rate to come close to the base rates and interest rates in Ghana ( the Bank of Ghana Current Base/Prime rate stands at 17 percent, June, 2008)

Benefits of shea products

- Cash income for many homes that also serve as a stop-gap measure at a time when there is no food in many homes of Northern Ghana
- Organic nature of shea products and hence its superior health implications

### Terminologies in Cost-Benefit Analysis

Net Benefits: the value of the investment/project after taking out the cost.

Net Present Value: an indication of whether the value of revenue or benefits of the investment is greater than the cost of the investment.

Financial viability: when direct market prices of the investment product guarantees profits for the investment.

The market price (financial value) of the shea and its products takes actual current prices of shea products into consideration and analyses whether or not there is profit in doing business in the shea industry as in appendix 1.1 and 1.2.

### **3.5 Summary and Conclusion**

The data collected on the shea industry impinges on scientific research on the biology of the shea plant and the related socio-economic issues within the industry. The results are aimed at fusing the outcome of applied scientific research and socio-economic activities in the shea industry to establish a relationship between shea research, propagation and growth of shea trees and the effect on quality of lives of the people of Northern Ghana.

Consequently, the research seeks to draw from the data and experiences of applied scientific studies on the biological and genetic life of the shea tree and the value-chain processes of picking, processing and sale of nuts and butter, and concludes on the basis that a relationship exists between the two levels: applied research and production of shea nuts and butter, and seek to further draw a relationship between the role of government policy intervention and the two levels of activities in the shea industry- research and production. This conclusion is necessary because there is little information about the shea as a cultivable crop as well as the impact of the shea value-chain on the economy of Northern Ghana and the country as a whole.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.0 Introduction**

This chapter presents inferences drawn from field data on the shea industry. The inferences are meant to deepen understanding of the complex social, economic and human factors within the shea industry that may be visible but not clearly understood by actors and other players of the industry. Ultimately, the research data attempts to establish the shea tree as a cultivar and the opportunities for making it an export crop for Northern Ghana on a large scale.

#### **4.1 Shea Value-Chain and Implications**

##### **4.1.1 Shea nut Picking and Processing**

###### **Shea Picking**

The study identified women and children (boys and girls) as the main pickers of shea nuts who wake up as early as 4:00am to get onto farms and bushes to pick shea nuts which are usually windfalls from shea trees. The windfalls are ripe fruits from tree tops and nuts after birds have eaten up the fruit pulps. The age brackets of shea pickers range from as young as 6-year olds to as old as 60 year old women and beyond. It was observed that men do not traditionally pick shea nuts or process shea butter, but might support their wives and children on the farm to pick nuts.

The study found that shea picking is often done by people on their own farm lands, that is, owner-land or land leased out for farming purposes. The study found out that shea trees on cultivated farms have higher yields than those on uncultivated land. Meanwhile shea picking is so widely and freely pursued on both cultivated and uncultivated lands that pickers sometimes clash with farm owners and land owners who have absolute rights over shea trees on their respective lands.

###### **Shea Processing**

The study realized that shea processing is done by individual shea pickers in their communities. The new trend however is that women, the main actors in the shea

industry, now organize themselves into groups to attract support from NGOs, small, medium to large scale commercial shea traders and philanthropists, to acquire machines to process shea nuts. The aim of such shea processing groups is to ensure a mutually-reinforcing support for each other. Others form groups in order to produce shea nuts and butter in large quantities that are usually purchased in bulk by shea buying companies.

#### Marketing Shea Products

The study revealed that shea nuts and butter are generally sold in all markets throughout Northern Ghana. The new trend however is that local and foreign companies work through local/community agents to purchase shea nuts and butter in rural areas at their own determined prices. The ruthlessness reported of these agents is perhaps an indication of the negotiated “commission” offered them by medium to large scale shea companies whose reward are often higher than what the small scale shea dealers can afford.

Some large scale shea processing mills found by the study in Ghana included, the Juaben mills, West African Mills, the Pure Company, Ed Oils, Bosbel Oil Processing and Sheggu Oil Mills in Savelugu in the Northern Region. This means that there is value-addition for shea products and this could be further strengthened if the industry is better organized.

#### 4.1.2 Key Shea Stakeholders

##### Research Institutions

The study revealed that the Cocoa Research Institute of Ghana (CRIG), Bole and J.A Yidana of the UDS Horticulture Department were the ones found to have conducted elaborate research and continue to do so, on shea propagation. CRIG is the only state mandated institution responsible for researching on the shea with the view to establishing it as cash crop. Research works at the UDS horticulture department are mainly motivated by the individual effort of Yidana and could stall in his absence. The study found that SARI did not have the mandate to research into the shea as a cash crop.

### District Assemblies

The three study District Assemblies in the three regions of the North were found not to have direct plans of developing the shea industry but recognized its potential by citing shea in their District Medium Term Development Plans as a potential strategy for poverty reduction. The DMETDPs of the three districts did not however have any specific strategies to develop the shea industry but welcomed any insights that would provide information on how they could be of support to the shea industry, especially the provision of storage facilities as a way of supporting susceptible rural shea dealers against unscrupulous middlemen (men and women).

### NGOs/Civil Society Groups

The study realized that Non-Governmental Organizations (NGOs) and Civil Society actors in the shea industry include the Shea Dealers Associations, NGOs such as World Vision, SNV, VSO, ACDEP and other Faith-Based Organizations (FBOs) who identify the shea industry as a strategy for poverty reduction in Northern Ghana. Most of these organizations are indeed supporting farmer-based groups, particularly women groups to process shea nuts for sale at profitable prices.

### Shea buyers: Local and International Companies

The study found Shea nuts and butter to be purchased on small scale by households for their own consumption. The new trend however is that large scale companies are beginning to demand shea nuts and butter in large quantities and this is beginning to erode local consumption in favour of large scale buyers.

**Table 4.1: Stakeholder Support for Shea as lead Cash Crop-Micro level**

Respondents	Number	Establishing Shea as a cash crop			
		Supportive	%	Not-supportive	%
Shea pickers	60	57	95	3	5
Shea Buyers/traders	10	8	80	2	20
Total	70	65		3	5

From table 4.1 above, even though shea pickers and traders did not have the resources to support the cultivation of shea as cash crop, they indicated their preparedness to support the cultivation of shea within their various areas of influence. Only 5 percent of individual shea pickers did not indicate their support for cultivating shea as a cash crop.

**Table 4.2: Stakeholder Support of Shea as lead Cash Crop-Meso and Macro level**

Respondents	Number	Establishing Shea as a cash crop			
		Supportive	%	Not-supportive	%
Research Institutions	3	3	100	0	0
District Assemblies	3	3	100	0	0
NGOs/Civil society Groups	8	7	87.5	1	12.5
Total	14	13		1	

From table 4.2 above, research institutions, district assemblies and NGOs/civil society groups largely support the cultivation of shea as lead cash crop. A small proportion of NGOs and civil society actors (12.5 percent) were not in support of shea cultivation to serve as cash crop for Northern Ghana in view of perceived challenges associated with such investment.

Tables 4.1 and 4.2 represent the two broad categories of shea stakeholders that were studied. Whilst table 4.1 examined 70 of the 84 stakeholders at the micro level, table 4.2 dealt with 14 stakeholders at the meso and macro level.

#### Stakeholder Assessment of Shea Value

All respondents interviewed were very much associated with the shea and its products. All categories of the study respondents indicated that the shea does have huge financial value that can be tapped to further provide better incomes for all its actors.

Whereas shea pickers saw shea as a means to earning alternative income besides their farming activities, the District Assemblies identify shea as a tool for poverty

reduction if given the needed attention. One of the District Assemblies, Wa-West, was prepared to immediately set money aside to begin supporting rural shea dealers as a poverty reduction mechanism. Civil Society groups also identified themselves with the fact that the shea industry can be better organized to ensure maximum benefits for rural people in view of current interventions and the dividends derived so far for particularly rural women shea dealers.

#### 4.1.3 Variables Investigated and Observations

##### i. Prices of Shea Nuts

The price of shea nut varies considerably in the three districts of Northern Ghana and between rural and urban areas. For instance in the peak shea season, the price of a standard jutsack often referred to as “cocoa sack” is sold at about GH ₵28.00 in urban areas like Tamale, and GH ₵20.00 in rural districts like Bole. This price could rise to GH ₵50.00 in the lean shea season of purchases as happened in 2007. These price fluctuations are a result of the lack of regulation and standard setting in the industry. Shea products are thus sold cheaply during peak seasons and only attract value for money when shea supply declines.

##### ii. Incomes from shea butter

Sellers of large quantity butter weigh it differently in different places. This again varies from rural to urban areas. A 28 Kg weight of shea butter is sold at GH ₵39.2 in urban areas like Bolgatanga but the price could get to as low as Gh ₵25.00 in rural districts like Bongo for the same weight. The small-scale butter sellers sell three-small round balls of shea butter at an average of Gh ₵0.5p in rural markets.

##### iii. Preparing Shea Nuts for the Market

Shea that is picked from the field is usually in the form of fruits or nuts with pulps removed by birds. The pulp (the green part of shea that is eaten) is usually removed and the brown nuts dried. The dried nuts are then parboiled and dried again, and cracked to remove the shells from the actual nut/seed before being packaged for sale or for further processing into butter.

iv. Processing Shea Nuts into Butter

To obtain shea butter, the dried, cracked nuts/seeds are crushed by a miller into pebbles before being fried. The fried pebbles are then further completely milled into a soft-brown molten paste that is processed into shea butter.

v. Poverty levels of people in shea Producing Areas

Generally the three sampled districts (Bole, Bongo and Wa-West) of the three regions of the North are located within the area with the highest incidence of poverty in Ghana. The incidence of poverty as of 2005/2006 was an average of 70.20 percent for the three regions as against a national average of 28.5 percent. In specific rural communities of Northern Ghana, apart from the limited livelihood opportunities, there is acute lack of drinking water, electricity, sanitation and health facilities which together combine to further compound their poverty situation.

vi. Relationship between Rural and Urban Shea dealers

It was clear from the survey that most rural shea dealers are robbed of their profits by urban business people. In Mandari community of the Bole district however, there seem to exist some equal relationship between rural and urban shea dealers because the community has about eight (8) organized women shea groups who have been sensitized by a Civil Society Organization (CSO) on the pricing of their shea nuts and butter at commercial rates. The women groups have been supported by the CSO to establish a shea processing plant which is unable to function, due to lack of water.

vii. Desertification and the Role of Shea Trees

Community members admitted that until recently they were no longer paying attention to shea trees in spite of the existence of traditional bye-laws in Northern Ghana protecting shea trees. Much attention has been diverted to cashew and recently to mango as a result of sensitization in favour of those cash crops. There is therefore an unproven believe that cashew and mango fetch better prices on the market than shea. It is however believed that the said sensitization was meant to satisfy the specific interest of some NGOs, Civil Society groups and business people who directly invested in their chosen

crops. There is however a new wind of high demand for shea products both locally and internationally which tends to pose a challenge to the fast depleting shea tree population due to lack of attention for its preservation over the years.

viii. Migration in Shea occurring areas

Out-migration of the youth of Northern Ghana is in excess of 600,000 every year (GSS estimates, 2006). Most of such migrants move out seasonally to the south of Ghana to work for some income in place of the joblessness created by the long dry season of Northern Ghana. Not all such migrants return to their homes at the end of the dry season.

It was generally observed at the time of data collection that in the Upper West (Wa-West) and Upper East (Bongo) regions seasonal migration is a real problem, and as of June some youth were yet returning from the South of Ghana where they have seasonally migrated to engage in menial jobs to earn an income during the long dry and lean season of Northern Ghana. Meanwhile the issue of seasonal migration was not really a problem in some parts of the Bole district. In the Mandari area the existence of a good cassava industry that engages people all-year round in economic activities has helped to stem youth out-migration in the area.

ix. Employment generated by the Shea Industry

Shea picking is an unorganized and a voluntary process that does not directly offer paid employment to anybody so far. However, as soon as shea is brought home in large quantities, it becomes an economic activity. The value chain process starts with incomes obtained by the sellers of nuts or butter, loaders of freight vehicles, owners/managers of those vehicles up to the bigger shea processing factories and exporters. However the wild nature of shea trees and the lack of formal attention given it have reduced the potential benefits to especially its production source, rural communities. Shea nuts are bagged for sale depending on the quantities involved. Rural women also begin processing shea into butter as soon as the nuts are dried for sale to satisfy their immediate family and personal needs.

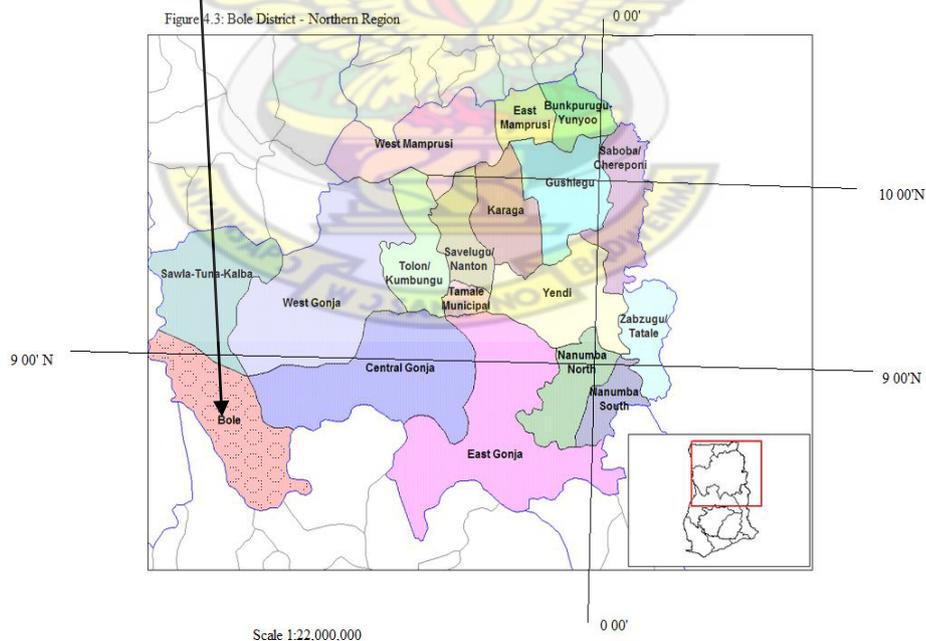
x. Shea Tree Population and Land Ownership

As of 2007, J. A. Yidana, an accomplished researcher on the shea industry since the 1990s estimated the shea tree population in Ghana at 94 million trees. This was based on his research experience of the biology of the shea tree. However given the high rate of tree felling in Northern Ghana in recent times for construction, fuel wood and charcoal, the tree population could be much less now. Communities visited by the research admitted felling shea trees out of absolute necessity. Some of it out of ignorance, with the assumption that the shea trees can always regenerate themselves.

xi. The indiscriminate felling of trees resulting in rapid desertification is attributable to the notion of farmers that they can do whatever they wish to the trees that are found on their farms, including felling for charcoal and fuel wood.

## 4.2 Response of Study Area to the Shea Industry

**Figure 4.1: Bole District-Northern Region**



Source: Adopted from [www.ghana-net.com](http://www.ghana-net.com) (posted by MLGRD, 2007-2009)

### *Demographic Characteristics*

Bole is the capital of the Bole district and is located to the extreme western part of the Northern Region of Ghana, and bordered to the North by the Sawla-Tuna-Kalba district, to the West by Cote D'Ivoire, to the East by the West Gonja District and to the South by the Wenchi and Kintampo districts of the Brong Ahafo regions. The Bole district covers a land area of 4,800 sq Km with an estimated population of 75,151 (2000 Population and Housing Census) (DMTDP, 2006-2009).

### *Vegetation and Local Economy of Bole*

The Bole district has mainly savannah wood land vegetation with natural, and yet economic occurring trees such as shea trees, dawadawa, teak, kapok and mango. The shea tree cover within the district constitutes one of the most predominant trees of the district. This is reflected in the volume of activities on the shea industry in terms of shea butter processing centres and the storage and haulage of shea nuts from the district.

However, much of the natural vegetation of the district is fast disappearing due to persistent cultivation of the land, over grazing and the felling of trees for fuel wood and charcoal. There is also the annual ritual of bush burning during the dry season resulting in a gradual and yet threatening desertification in the area. Shea trees are not exception to this threat. This notwithstanding, the Bole district still enjoys considerable shea tree population and with a huge potential for shea cultivation as a cash crop.

### *Key development challenges in Bole district*

- Low agricultural productivity and output due to over dependence on rainfall  
Rainfall begins in May and ends in September. The peak of the rainy season is June, July and August.
- High post-harvest losses due to low value addition to farm products
- Lack of storage facilities for farm products
- Bushfires, charcoal burning, fuel wood as coping strategies have had dire environmental consequences on the tree cover in the area.

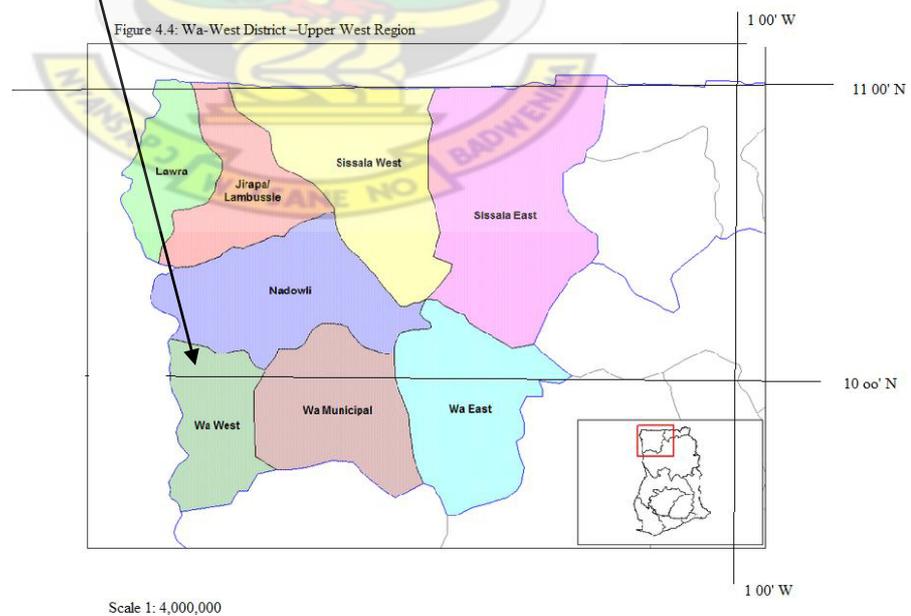
### *The Shea Industry in the Bole district*

The DMTDP, 2006-2009 of the Bole district mentions the shea tree as an economic tree in the district that offers employment to many people and with the potential to be developed but did not outline any strategies to develop or support the industry. Cassava and shea processing were identified as major economic activities of the people of the district as well. What the study observed was that the people of Bole district rely heavily on both cassava and shea nut processing as alternative livelihoods to their subsistence farming and these together support their cash income sources and also stem out-migration in the district.

The Bole district is host to the only shea research institution in Ghana. This study however observed a very little relationship between the shea research station and the socio-economic activities of the people of the district. The station however offers employment to the people of the area in the harvesting and processing of shea nuts and cashew.

### Wa-West District

**Figure 4.2: Wa-West District –Upper West Region**



Source: Adopted from [www.ghana-net.com](http://www.ghana-net.com) (posted by MLGRD, 2007-2009)

### *Demographic Characteristics*

The Wa-West District is a relatively new district of the Upper West Region, created in 2005. A projection of the 2000 Population and Housing Census puts the population of the Wa-West district at 77,377. The district is predominantly rural, and out-migration of the youth of the district to the south of the country is a major development issue. The trend now is that more females migrate to the south of Ghana to serve 'as "kayayo" or "tavama". Male migration is often seasonal, occurring during the dry season, when there is no work on the farm. The male population constitutes 52 percent whilst female population constitutes 48 percent of the total population. This is one of the few districts in Northern Ghana with a dominant male population.

### *The Vegetation and Local Economy of Wa-West District*

The district is drained by the Black Volta which also creates a huge tourist attraction with hippopotamus in the Black Volta near the District Capital, Wichau. The vegetation is savannah grassland as the rest of Northern Ghana, with up to 70 percent shea tree population. It is important to underscore the fact that the area has a relatively better tree cover than most parts of Northern Ghana.

### *Key development challenges in Wa-West District*

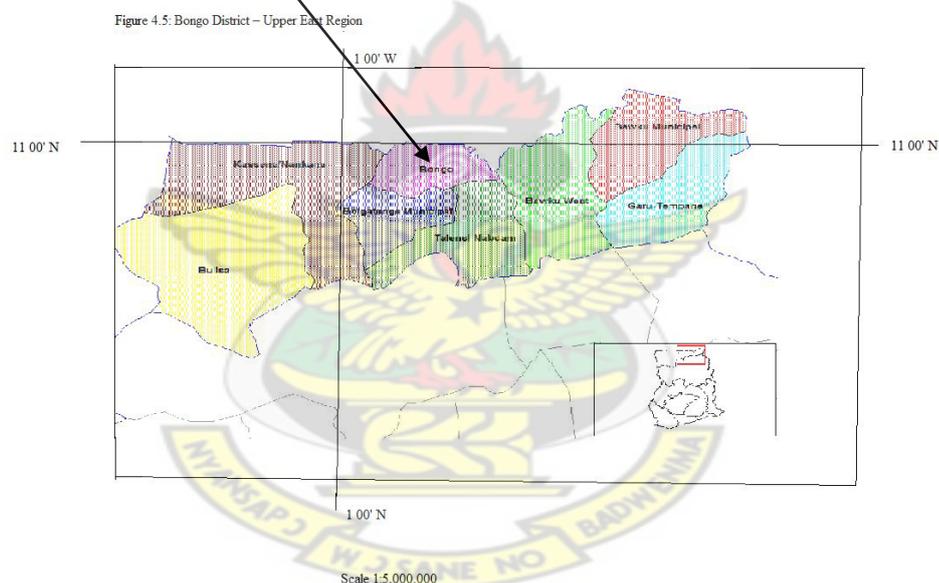
- The district has a short rainy season and a long dry season as the rest of Northern Ghana.
- There are no irrigation schemes to compensate for the short rainy season
- There are limited employment opportunities besides farming, resulting in a heavy out-migration every year.
- The area also experience heavy post-harvest losses in view of its remoteness and poor road infrastructure

### *The Shea Industry in Wa-West district*

- The entire Wa-West district enjoys considerable shea tree cover with several shea processing women groups in the district. There are also several shea nut purchasing agents who come to the district during the shea season, April to August to purchase shea nuts.

- The district has moist and loamy soils with a potential for shea cultivation.
- The existence of several women groups in the area gives it an opportunity for the formation of shea cooperatives at both community and district levels.
- The district assembly recognizes the shea industry as one of the lead agribusinesses in the district and is willing to support the setting up of shea buffer stocks to help secure better marketing opportunities for local shea dealers in the district.
- The district is also prepared to support the formation of shea cooperatives in the district.

**Figure 4.3: Bongo District – Upper East Region**



Source: Adopted from [www.ghana-net.com](http://www.ghana-net.com) (posted by MLGRD, 2007-2009)

#### *Demographic Characteristics*

The Bongo district is one of the eight districts of the Upper East Region and shares boundaries with Burkina Faso to the North and East, Kassena-Nankana to the West and Bolgatanga Municipality to the south. The 2000 population and Housing census projections puts the population of the district at 91, 949 in (2006) with a growth rate of about 2.8 percent. The male projected population for 2006 was 42,848 which represents 46.7 percent of the total population whereas the female

projected population was 49,100 representing 53.3 percent of the entire district's population. The average annual household income is GH¢368.60 and annual income per head is GH¢40.06, thus presenting Bongo as about the poorest single district in Ghana (Bongo DMTDP, 2006-2009).

#### *The Vegetation and Local Economy of Bongo District*

Bongo has savannah vegetation like other parts of Northern Ghana with economic trees such as dawadawa, shea trees and baobab. The major economic activities in Bongo are the cultivation of food crops such as millet, sorghum, guinea corn, groundnuts and rice. Cattle, goat, sheep, poultry particularly guinea fowls are reared. Millet, sorghum and rice are produced in the valley zone where the Vea irrigation project is located. In addition, tomatoes, rice and leafy vegetables are produced during the off-season under irrigation. Bongo could actually become food secure if the available resources are further developed and taken advantage of by the people.

#### Key development challenges of Bongo district

- Bongo has a short rainy season and long dry season as in other parts of Northern Ghana.
- The district suffers rampant bush fires during the dry season as well as indiscriminate felling of trees for fuel wood, charcoal, and other uses for income.
- Migration is a routine activity in the Bongo district and every family of that society engages in it. Migration is practiced as a survival or coping strategy in view of the natural geographic limitations in the use of space in the area for agricultural activities.
- Again, about 40 percent of the land surface has been covered with rocks which makes farming and other activities very difficult. Child Labour/Working Children is widespread in Bongo District. According to the 2000 Population and Housing Census, about 60.3 percent of children of school going age are engaged in agricultural related activities (Bongo DMTDP, 2006-2009).

#### The Shea Industry in Bongo district

- The Bongo district enjoys some shea tree cover and has moist and loamy soils that support shea tree cultivation.
- The district has a high water table but with high salinity in most of its ground water sources.
- Shea processing is a major agro-business activity of the district.
- The district assembly is prepared to support shea dealers in the district to optimize the benefits of their trade, but would need some technical support to accomplish that.

### **4.3 Shea Production Potential of Case Study Area**

The three sample districts generally share similar geographical characteristics in terms of a short rainy season, savanna vegetation, the existence of water bodies for irrigation and available arable land for agricultural activities. Economically the three districts together have an average of 70 percent shea tree cover with evidence of shea processing being an integral part of agro-business as highlighted in all three DMTDPs. The shea plant is thus registered as a part of the very survival of the people of the three districts, and developing the industry will be at the cutting-edge of poverty reduction efforts in the districts.

#### 4.3.1 The Economy of Shea Producing areas

Average poverty levels in the three regions of the North together is 70.2 percent of the population, where an adult averagely earns GH ¢288.47 per year against GH ¢370.89 for much of the rest of Ghana (GSS, 2006). Again whereas on the average 60 percent of Ghana's population depends on the agricultural sector for a livelihood, about 80 percent of the population of the three regions of the North of Ghana relies heavily on agricultural activities for survival. Cereals like maize, groundnuts, beans, bambara groundnuts, rice, millet, guinea corn and roots and tubers like yam and cassava. Animals such as cattle, goats, sheep, and poultry are also kept alongside the food crop cultivation (SARI, 2008).

The Savanna Agricultural Research Institute (SARI) was established with the mandate of providing small-scale farmers of Northern Ghana with appropriate

innovations/options/ technologies to increase their food production based on a sustainable production system, which maintains and increases soil fertility. The research mandate of SARI has thus been limited to providing the appropriate cropping systems of food crops such as maize, rice, sorghum, millet, soybean, cowpea, groundnuts, bambara groundnuts, cotton and vegetable crops so they can be adapted to the needs of farmers the in the different ecologies of Northern Ghana and to improve their cultivation and yields in the area. She tree propagation is not part of the mandate of SARI.

#### **4.4 Applied Research on Shea Growth and Propagation**

In exploring the development and economic implications of developing the shea industry in Northern Ghana, the research investigated past and present research initiatives geared towards making the shea plant cultivable on a large scale. The shea plant species have proven to be very difficult to “domesticate” and establish as a cultivar and as such long consistent periods are required to conduct research on shea biology. The natural wild shea plant takes almost a generation (30 years) to mature into a full tree and bear fruits for harvest (CRIG, Bole, June 2008).

Research intervention into the biology of the shea tree is a logical response to the long periods of shea regeneration and replenishment. To this end, the Cocoa Research Institute of Ghana (CRIG) was established at Tafo (Akim Abuakwa) in June 1938 as the Central Cocoa Research Station for cocoa in Ghana which later established three sub-stations at Afosu to research into coffee and kola, one at Bunso to research into cocoa, kola and coffee and the one at Bole in the Northern Region set up in 1976 to research into the cultivation and processing of shea nuts as an alternative to cocoa products.

CRIG, Bole, since its establishment has conducted research into the mating system of shea; the mechanism of mating and out-crossing; pollination processes- at what stage to pollinate; determining when pollen can be used to pollinate; the flower structure of shea and maturity phases has also been studied. Furthermore, vegetative propagation of shea in the form of grafting, stem-cutting and air layering or macotting was tested and proven to be positive. The root system of shea has been studied to determine what soils would support shea tree growth. Scientific

research has established that shea grows faster to maturity on loamy and moist soils, especially at the early maturation stages.

Studies into how to grow shea trees using seedlings were done and the outcome was positive as well. It was realized that shea can be grown in poly bags for three years before transplanting and experience shows that the seed grows rapidly, taking between 4-5 years to grow significantly into full trees. Other researches examined the effects of particular insect pests on shea trees and the entire pathology of the shea tree has also been examined. There has also been a study on the photosynthesis process of the shea plant.

Most of the aforementioned research works are continuous and on going in order to obtain the best shea propagation method possible. Different options to grow and propagate shea have been adopted in various researches in order to settle on the most appropriate medium for shea growth and propagation. A significant number of these researches happened under the research tutelage of now J. A Yidana who was posted to CRIG, Bole, in 1989 as first research grade officer at the Research institute and served from 1989-1994 when he moved to the University for Development Studies in 1994 to join the Horticulture Department, now the head of that Department, where he still leads shea research.

The CRIG research station at Bole has made efforts to cultivate shea plants and at the same time protect natural occurring shea trees within its premises to grow. Some effort was also made in the early years of the Savanana Agricultural Research Institute to cultivate shea and as a result a small forest of shea trees was developed at its station at Nyamkpala to study different shea species with the view to expanding the tree population, but this was never continued after those who started the process left the research institute.

The study found that in all three districts (Bongo, Wa-West and Bole), some individuals attempted cultivating shea trees but on a very small scale, and with long years of success.

Plate 4.1: Samples of Applied Scientific Research on Shea Cultivation, CRIG, Bole



A Newly grafted Shea Plant  
(Vegetative propagation of shea)



A nine-month grafted shea plant  
(Vegetative propagation of shea)



Shea nursery (Upper Culture)



Alternative shea nursery in polybags  
(Upper Culture)

*Source: author's field data, June 2008*

Evidence of ongoing research at the CRIG research station at Bole in figure 4.6 above, indicates the different approaches being adopted to establish a shea cultivar. The different approaches are also indications of the need for resources and support to achieve such a national cultivar within the shortest possible time.

#### 4.4.1 Applied Research Outcomes

##### *Positive Cultural Practices on Shea Tree Growth*

According to the head of research on shea at CRIG in Bole, research so far at the station has examined the yielding pattern of shea; how much butter can be obtained from shea induced to grow through planting or vegetative propagation and the

natural shea tree in relation to leave shape and outlook of fresh fruits. The researches conducted so far have come to the conclusion that cultivated shea trees and protected wild shea trees tend to yield more shea fruits than wild shea trees.

The research station has further sought to find out what kind of tree species of shea can be improved over others. They found out that there could be shea plantations through natural regeneration. This could be done by weeding out all grasses and other weeds from where shea trees grow so the shea is left alone to grow; it was also found out that intercropping with food crops helps shea seedlings grow better. The findings on shea intercropping with food crops has reinforced the fact that shea trees fruit better on cultivated lands than those in the wild.

The research station revealed that cattle grazing was found to be effective in taking away weeds to enable shea trees grow and at the same time manure the soil for the enhanced growth of shea trees. Cattle grazing can be done before shea trees start fruiting, but the cattle will eat up fruits when they begin ripening and hence the need to practice rotational grazing (respondents of applied research on shea, 2008).

#### *Processing Shea Nuts*

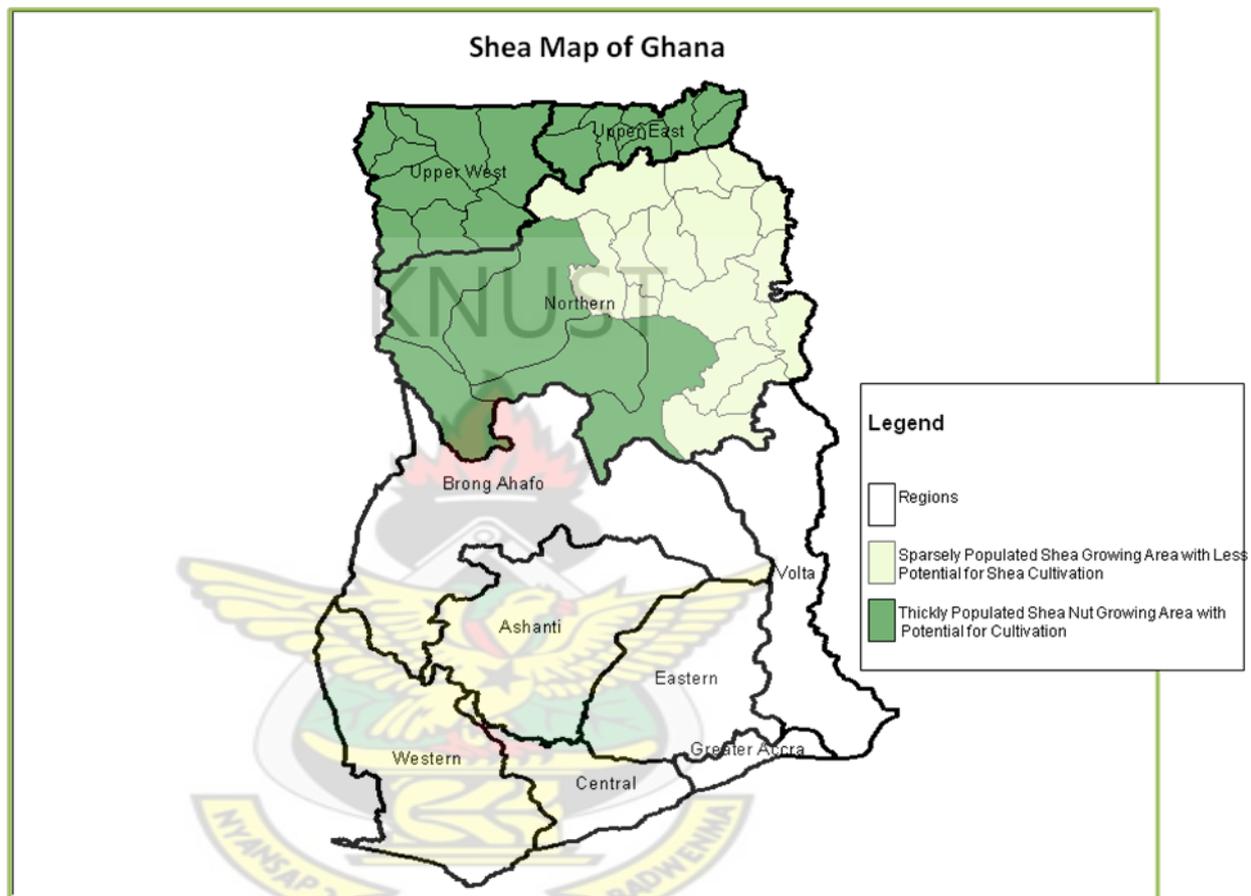
This study found that traditionally, shea kernel is dried and boiled after the fruit pulp is separated from the nut. Research has been conducted on solar drying of shea kernel with the intention of relieving women during the rainy season when they have to convey shea kernel whenever it is raining. The solar dryer is made up of a wooden structure with polythene to serve as a roof and a cover for the sides. The structure accommodates sunlight and heat, which continuously dries up the kernel, whether “rain or shine” without any possibility of water getting into the kernel. It is in the form of a box.

#### 4.4.2 Where Shea can be Cultivated

The researches conducted show that it is easier to cultivate shea in the Western part of Northern region and considerable portions of the Upper West and East Regions than the rest of Northern Ghana. This is because the Upper West and Upper East Regions of Northern Ghana as well as the Western part of Northern Region have a higher water table than the rest of Northern Region. These favourable parts are

able to supply water to shea trees to grow faster than that in Central and the South Eastern parts of the Northern Region. This means that shea plantations can easily be developed in the parts of Northern Ghana that have a higher water table. In figure 4.5 below, the shea growing area is shown within the three Regions of the North.

**Figure 4.4: Shea Map of Ghana**



Source: author's initiative from study

#### 4.4.3 Opportunities for Shea Research

The study revealed that there is ongoing collaborative research on the Shea industry. These include shea research in the UDS Horticulture Department, until a recent partnership with five (5) EU countries- UK, Sweden, Germany, France and the Netherlands and five (5) African countries- Ghana, Mali, Senegal, Burkina Faso and Uganda- has basically been a replication process of researches already conducted at CRIG, Bole. Meanwhile within UDS, vegetative propagation of shea has been done, and for other medicinal plants. The Shea tree bark, sap and leaves have been found to be medicinal and could be used to cure various ailments.

The study further found that the collaborative shea researches stated above have been engineered by the passion of individuals rather than a planned collective national effort that would be sufficiently systemic to deal with all the allied issues of shea propagation and growth. The research processes are thus slow and could easily be confined to the corridors and shelves of the concerned individuals and institutions in question, without public view.

#### 4.5 Structural and Institutional Arrangements in the Shea Industry

The study found that 80 per cent of respondents said the shea industry had immense potentials for the people in its occurring areas but is grossly unorganized and adhoc, to say the least. The technical and organizational issues that confront the shea industry include the regulation of shea nut and butter pricing and purchases by business people. An observation of current happenings in shea pricing and purchases reveals first of all, the desperate sales of shea nuts and butter by pickers to marauding shea nut and butter agents who get to their door steps and virtually heckle them to sell out their shea products at abysmally low prices. Such practices, if unchecked cannot provide optimum benefits to the numerous women who are currently at the receiving end of the shea business.

The study further found out that there are quality assurance issues in the shea industry. The lack of regulation in the shea industry has rendered near impossible the determination of bad or good shea nut and butter. The free-for-all practice that currently prevails in the shea industry is hurting the international trade image of

Ghana as some shea products have been exported out of Ghana only to be tested as bad shea butter, when the fact remains by research findings that Ghana has the best shea quality, just as cocoa, among its peers. Such bad shea butter or nut quality is attributed to first of all, nuts from immature shea fruits; second, poorly/inadequately dried nuts before being processed into butter or sold out as nuts; and third, old shea nuts processed into butter or sold out as nuts.

The study revealed efforts by Shea Dealers in the three regions of the North to constitute themselves into Organized Groups/ Associations for welfare reasons, to promote their individual and collective interest. Even though registered and recognized in Ghana, the study realized that these organized groupings are unable to control the supply and demand of shea products nor are they able to influence the price of shea products. Individual shea dealers fall prey to marauding shea buyers who rush on them at the peak of the shea season to virtually compel them to sell their hard earned products at give-away prices. Most of these companies and shea agents resell the shea nuts or butter to other processing and export companies at well negotiated prices to their advantage.

#### 4.5.1 Small-Scale Shea Processing

The pictures in figure 4.8 below shows how shea products are processed from the fruit to the nut and subsequently into shea butter as arranged from pictures/ steps 1 to 6.

Plate 4.2: Pictures of shea fruits and various stages of manual shea nut and butter processing

1



Source: author's field data, June 2008

2



The process of parboiling dried nuts before second drying phase and cracking

3



Parboiled nuts dried according to variety and further processing into butter cracking process, before sale or milling for

4



Stirring milled shea nuts to obtain butter

5



The process of separating raw shea butter from brown molten shea paste

6



Final phase of obtaining shea butter for further heating into shea oil which solidifies into shea butter

7



*Shea butter displayed for sale*

*Source: author's field data, June 2008*

In figure 4.8 the stages are that when the pulp is removed from shea fruits, the kernel/nuts are dried. They are parboiled as in stage 2 and again dried as in stage 3 before the brown shell is removed. The nuts are again dried before they can be further processed. The brown nuts are then crashed into pebbles either manually or mechanically before being roasted. The half-milled-pebble brown nuts are roasted before being milled completely into a thick brown molten-looking paste as in stage 4. Another process of stirring of the paste takes place to obtain shea butter in stage 6.

#### **4.6 The Shea Industry and Government Policy**

##### **Shea Trees and Desertification in Northern Ghana:**

The study revealed that afforestation is hardly made everyone's responsibility in Northern Ghana, even if there exists a policy on greening Ghana. But it is common knowledge that Northern Ghana is under threat of desertification, largely attributable to the livelihood coping mechanisms and survival strategies adopted by rural people of Northern Ghana to supplement their farming activities. The coping and survival strategies include bush burning for hunting purposes, burning for farm clearing, fuel wood, charcoal burning and construction works (roads, housing etc). Additionally, in recent times, shea trees are sometimes cut down to make way for mango plantations, cashew and other horticultural crops. These further worsen the bad situation of shea trees under threat of extinction.

### *Marketing Shea products*

The study revealed that there is no government policy direction on the shea industry, to the extent that government has not considered the possibility of evaluating the industry for revenue purposes. The study further found out that the industry is regulated and driven by Shea Producers' Associations, private business people, Civil Society groups and NGOs who do not have the authority to control each other's activities. The power and authority of these shea actors is limited to attempting to protect their collective welfare. Indeed, some shea business concerns are hatching plans of organizing mass shea collection instead of the current picking of shea, by employing women and equipping them to effectively collect shea nuts, but at what reward to the poor rural women and children?

The study realized that there is a lot to be gained if the shea industry is regulated by the Food and Drugs Board and the Ghana Standards Board in terms of testing and certification of shea products, but this is not the case, instead testing and certification is done by Societe General (SGS), a French-oriented laboratory for shea products as revealed by this study.

In spite of the admission in the GPRS II document that "For agriculture to lead growth in the short term, the economy must diversify into other crops apart from the traditional cocoa, especially cereals and other cash crops..." the shea is yet to be officially chosen as an option for diversification of export cash crops in Ghana.

The study again realized that the mandate of the Ministry of Food and Agriculture does not have any responsibility for the shea industry in view of the informal nature of shea activities and also because the shea industry does not directly fall under any of the targeted food crops and or even export crops of the country. It is for the same reason that the Savanna Agricultural Research Institute has its mandate limited to food crops including the cotton industry and not the shea industry but whose advantages far outweigh cotton in terms of income, vegetative and soil regeneration possibilities (SARI, 2008).

#### **4.7 Socio-Economic Potential of the Shea Industry**

##### *The Social and Economic Value of Shea products*

The economic and social potentials of the shea industry are examined within the purview of development opportunities available in Northern Ghana. Evidence of appreciation of the Shea Industry as a potential source of an economic turn-around for Northern Ghana is given by Oquaye (2007) who estimates that poverty in Northern Ghana can be reduced by 60 percent using shea butter:

*“shea butter is used for all manner of cosmetics and it is required of us as a country to identify the areas through research, add flavour to it, package it well and also make sure it is given equal attention as cocoa, then we can lead the international market”.*  
(*Ghanaian Chronicle, 2007*).

Shea is exclusively an organic plant and its products remain completely organic and thus a preferred option to similar products on the international market. Shea is an alternative source of energy; the oils from shea can be used as fuel for the auto industry. It is also a good source of Vitamin B because of its healing qualities. The brown waste molten paste that is left after butter is extracted is good for preventing soil erosion. It is also used for plastering local houses to withstand wearing on walls of buildings. According to the America Shea Butter Institute, “shea butter is the skin’s best friend”. Consequently 100 percent pure natural shea butter is an all-natural vitamin A as a moisturizer with exceptional healing properties. Such Pure Natural Shea Butter can address the following skin conditions:

Dry skin; skin rash; skin peeling, after tanning; blemishes and wrinkles; itching skin; sunburn; shaving cream for a smooth silky shave; small skin wounds; skin cracks; tough or rough skin (on feet); cold weather; frost bites; stretch mark prevention during pregnancy; insect bites; healthy skin; muscle fatigue, aches and tension; for before and after strenuous exercise; skin allergies such as poison ivy or poison oak; Eczema; Dermatitis; skin damage from heat (hot grease while cooking, radiation treatment for certain medical problems etc.)

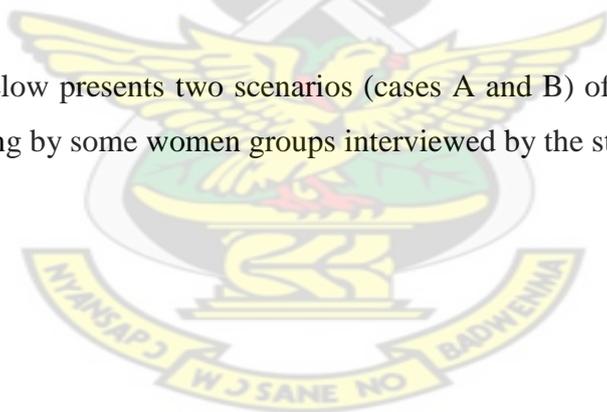
The shea industry can be said to be a cross-cutting one. In the Food industry Shea butter is used for the manufacture of margarine, chocolate etc; liquid shea oils are

used for the manufacture of vegetable oils for household consumption. Second, in the Cosmetic Industry Shea Butter is used for the manufacture of body lotions. Third, in the Pharmaceutical industry the Shea tree bark as well as shea butter has healing properties that can further be explored. Fourth, in the Rubber industry the whitish liquid substance from the bark of shea trees which solidifies into gum/rubber could be a good source of rubber.

#### *The Challenges of Shea Production and Marketing*

Generally demand and supply forces determine the value of a commodity but in the case of shea products, demand is considerably high but does not automatically translate into high prices for shea products. For instance studies in the US markets show a growth in demand for shea products at 9 percent per annum whilst similar products are growing at only about 1 percent (Yidana, June 2008). The new positive trend in demand for shea is because consumers are beginning to discover the unique qualities of shea products. The shea market is a buyers market and shea producers in Ghana are price takers.

Table 4.3 below presents two scenarios (cases A and B) of shea butter processing and marketing by some women groups interviewed by the study.



**Table 4.3 Cases of Variations in Shea Marketing**

<i>Case A</i>	<i>Case B</i>
<p>Women take loans from rural banks and micro credit institutions to purchase shea nuts to process for sale:</p> <p><i>Inputs to process one jut sack of nuts into butter</i></p> <p>Loan= GH ¢28.00 from bank @48percent (interest on loan = GH ¢13.44) Purchase of nuts = GH ¢28.00 Water = GH ¢5.00 Fire wood = Gh ¢6.00 Milling = Gh ¢5.00 Total direct cost = <b>GH ¢57.44</b></p> <p><i>Output</i> An approximate quantity of 28kg of butter is obtained from a jut sack of nuts</p> <p>Sales: the 28kg is sold for GH ¢39.2 Cost/ Benefit = B-C 39.2 – 57.44 = Gh ¢-18.24</p>	<p>Women pick shea nuts themselves to process for sale with the support of an NGO:</p> <p><i>Inputs to process one jut sack of nuts into butter</i></p> <p>Cash support from NGO Water is fetched freely from a borehole Milling = GH ¢6.00 Firewood =GH ¢5.00 Estimated cost of shea picking = GH¢15.40 (based on 7-day minimum wage of GH ¢2.20 per day to collect one jut sack of shea nuts) Total Cost = <b>GH ¢26.4</b></p> <p><i>Output</i> 25kg of butter is obtained from a jut sack of nuts</p> <p>Sales: the 25kg is sold for GH ¢46.5 Cost/ benefit = B-C 46.5 – 26.4 = Gh ¢20.10</p>

*Source: Author's Analysis of field data, June, 2008*

From Table 4.3 above, case 'A' presents a huge loss of GH ¢18.24 which goes unnoticed by the shea processors because they redeem their loans weekly and so do not feel the effect of the loss. They only resort to more loans to get-around with their businesses. This arises because the small-scale shea processors do not document their activities. They commit their activities to memory but are unable to keep track of what exactly is invested and what profits accrue from their activities.

The reasons for the huge loss in A are principally the credit interest rate and the selling price of shea butter, and these constitute the biggest challenges of the industry for poor rural women who intend to be commercial with shea products.

From same table 4.3 above, the benefit or profit margin of GH ₵20.10 is not a bad outcome. The social cost and personal effort in shea picking could however be much higher. The free Credit and available water was also a huge bonus/subsidy. However this implies that in the absence of support for rural shea processors they will not make any meaningful profit, given the rather tortuous process against the low prices offered for their products.

All groups of women interviewed had ever received one support or the other to enable them process shea into butter in the form of machinery for crushing and milling nuts, credit to purchase nuts for processing, among other support from NGOs, faith-based organizations and shea companies. The biggest challenge found by the study had to do with the price of the final product of the local shea processor.

#### *The Social Implications of the Shea Industry*

Major transformations are required to stem North-South migration in Ghana. This study finds the shea industry to possess a major economic solution to out-migration in Northern Ghana.

The study found variations in the intensity of migration of youth from the various parts of Northern Ghana to the South of Ghana. From the Upper East Region, the youth (boys and girls) migrate to the Northern Region and beyond in search of jobs. Most youth from the Upper West Region migrate seasonally down-south for farming purposes. Whilst those from the Northern Region mainly migrate to work in the cities as head porters. Most of such migrants have the intention of acquiring some property and cash to return home, but most of the time never succeed in keeping to their schedule for return. The reasons are not far fetched as their hope of an easy life in the city through employment opportunities turn out to be much more difficult (Study respondents, June 2008).

#### 4.7.1 Shea as a Source of Direct Cash Income

Since women are the majority of poor people (constituting about 52 percent of the population 2000 Census) in Northern Ghana, the shea value- chain-picking, processing and sale would increase their incomes and make access to education,

health, food and other social services much more within reach. The social challenges of maternal mortality and infant mortality which are most likely caused by inadequate financial resources will be addressed.

The proceeds from shea are used for household food, health cost, education fees, personal effects like clothing etc. For instance even though the people of Mandari are deeply involved in gari processing, it is very difficult for the women to store shea nuts for sale later in the lean season when they can get a better price, in view of the challenges they face of having to single-handedly manage their homes: providing ingredients for cooking, providing school needs of their children etc. Women virtually run the home during the lean season of the year when men no longer have any more farm produce to sell for cash incomes. The study found out that generally men are not very helpful in taking care of their children, especially in education, clothing and other minor needs in the rural areas.

During the lean season when food is scarce in many parts of Northern Ghana, there is a routine barter trade between the shea and other food stuffs like rice, beans, maize etc. The shea does become a dependable source of survival for many a household. In fact, whenever shea output drops some communities' experience the severest form of hunger in the year. The average cost of shea nuts within the bumper shea season between April and September is Gh  $\phi$ 0.60 an "olonka" (local measure) but rises to Gh  $\phi$ 1.5 of the same "olonka" bowl in the lean shea season. Forty-four (44) measures of the bowl fills one jut sack where at Gh $\phi$  .060 a bowl = Gh $\phi$ 26.00 a jut sack, whereas GH $\phi$  1.5 =  $\phi$ 66.00 a jut sack. These price variations are an indication of the extent of sharp losses made by rural shea dealers during the shea bumper season as against the lean season, and how this could be averted to their benefit with a regulation of the industry.

Meanwhile women in the shea business testify that shea butter proceeds are better than proceeds from sale of shea nuts and hence the passionate appeals for government support so they can secure the full benefits of the shea industry through a ready market for shea products.

Whereas traditionally men do not care much about the shea industry, women rely on the shea for supplementary income. However in recent times men have become part of the shea value-chain in the loading, transportation and marketing processes. Again, some men buy shea nuts and butter from women and store to re-sell in order to take advantage of higher prices.

#### **4.7.2 The Shea and Cocoa Industries Compared**

There is not much documentation on shea value in quantitative terms to prove that the shea is of a higher value than others like mango and cashew or even cotton and cocoa. Shea products have not been valued as other crops largely because the tree grows on the wild. The women as well as organized traders involved in the sale of shea nuts and butter do not make public, their earnings from the sector. Little government interest also accounts for the low information on shea earnings. Table 4.4 presents an indication of what value the shea possesses compared with cocoa, the most treasured and supported cash crop in Ghana.



**Table 4.4: the Shea and Cocoa Industries Compared**

Shea industry	Cocoa industry
<ul style="list-style-type: none"> <li>• The shea industry is not regulated by the state</li> <li>• Shea has no known substitutes but can rather stand in for several other products including cocoa. Shea is a substitute for cocoa in the production of chocolate and body lotions</li> <li>• Ghana is located in the high quality shea producing zone and has the best quality in shea products among the high quality shea producing countries of West Africa- Burkina Faso, Togo, Benin and Mali</li> <li>• Besides the 19 countries in Africa that produce shea, there are not known parts in the world where shea can be obtained</li> <li>• Shea is mainly an organic crop</li> <li>• A fully matured shea tree produces shea nuts for up to 200 years after maturity (Wikipedia free encyclopedia, 2008)</li> <li>• Shea is currently not cultivated but nuts are picked and processed by small-scale women groups and individuals for both household and commercial purposes</li> <li>• Shea has not been programmed within the national scheme of development to generate revenue for the state.</li> <li>• A jut sack of shea nut in the lean season is locally priced at Gh ₵50.00</li> <li>• There is little information on shea cultivation besides what obtains in the research institutions and individual effort in growth and propagation</li> <li>▪ There is no certainty of buyers for shea products because of the unregulated nature of the industry</li> <li>▪ The buyers of shea products who show up determine the prices of both nuts and butter to favour themselves at the expense of the sellers, who are mostly helpless rural women. In recent times most of these buyers are retailers of shea nuts to giant processing companies in Savelugu, Tamale, Accra, Tema, Juaben and others, and the butter exported directly abroad or to exporting firms. In all of the transactions the additional profits made are neither made available to the defenseless rural shea picker nor to government as taxes. The evidence of this has been the refusal of most of the shea buying companies to release information on their dealings in shea, and the share of rural women in the business.</li> </ul>	<ul style="list-style-type: none"> <li>• Cocoa purchase, market and export in Ghana is regulated by PNDC Law 81, 1984</li> <li>• Cocoa has synthetic substitutes including shea butter but cocoa cannot be a substitute for shea products in any form</li> <li>• Of the approximately 8 countries (Cote d’ivoire, Ghana, Indonesia, Cameroun, Nigeria, Brazil, Ecuador and Malaysia) producing 90 percent of the World’s cocoa (source: UNCTAD and ICCO, 2008), Ghana is the second largest producer of cocoa, second to Cote d’ivoire</li> <li>• Cocoa is increasingly an inorganic crop by virtue of chemicals such as fertilizers and insecticides used in its production</li> <li>• A fully matured cocoa tree takes a maximum of 50 years to produce good cocoa</li> <li>• Cocoa is cultivated mostly by small-scale farmers</li> <li>• Cocoa is the lead revenue earner for Ghana at the moment from exports</li> <li>• Cocoa purchases are institutionalized to the extent that government secures loans for cocoa purchases in each season.</li> <li>• International market prices determine cocoa prices world-wide but government determines prices for farmers that are good enough to meet their cost and ensure profits for their investment, e.g about 614,000 metric tones was obtained in the 2007/2008 cocoa season and this is expected to increase to 650,000 tonnes in the 2008/09 season with a price of US\$ 1,632 per metric tonne ( an increase of 36 percent over the previous season), an equivalent of Gh ₵102.00 per 64kg jut sack, an increase from Gh ₵75.00 from the previous cocoa season.</li> </ul>

*Source: Author’s assessment of shea potential, 2008*

The comparative analysis between the shea industry and that of cocoa in Table 4.4 above is meant to pitch the two cash crops against each other in order to bring out the comparative advantages involved in developing the shea industry. From table 4.4 and following from earlier analysis, it is evident that both cocoa and shea industries can fetch considerable amounts of income for the economy of Ghana. For instance the two commodities from the above analysis can fetch the same GH¢50.00 per jut sack in a normal marketing season. What is however special about the shea industry is the fact that it has not been supported and regulated by any state agency to obtain the right price at both local and international markets.

#### **4.8 Viability Analysis of Shea Products**

##### *Financial Viability Analysis*

Reference Appendix 1.1 on the Financial Viability analysis of Small-Scale Commercial Shea Processing Project, the Net Present Value of 1,686,328 in the analysis is an indication that Shea Butter Processing in commercial terms is financially viable. However, most shea butter processing is on micro-small-scale by rural women, who use their energy and time in shea picking; draw water for processing the nuts, fetch fuel wood for roasting the crushed nuts, and either mill manually or mechanically at the grinding mill. The end product of butter and the price eventually obtained for it are usually not compatible. Rural Women Shea Butter Processing Groups would require some financial and technical support if their operations are to be deemed financially viable.

From Financial Viability Analysis of Small-Scale sale of shea nuts in appendix 1.2 the Net Present Value of 992.25 is indication that the sale of shea nuts in commercial quantities and prices is a viable project, particularly for small-scale operators. At the rural level, small-scale operators of shea nut sale consists of women groups who either collectively contract credit from financial institutions or pull their resources together to engage in the shea business. The analysis above shows that it is possible to make profits in the sale of shea nuts if given the needed business guidance.

### Intangible benefits of the Shea Industry

- The proceeds from shea products, particularly butter for household consumption is a stop-gap measure to the pangs of extreme poverty in many rural areas of Northern Ghana. At the household level the little sales of shea nuts and butter are used to pay for school fees of children, to purchase food for the family, to pay for the direct health needs of families, to pay for premiums of National Health Insurance, to purchase personal needs, among others. Cash from activities of the shea industry usually comes handy when other potential sources of cash are limited in Northern Ghana.

### 4.9 Challenges to the Growth of the Shea Industry

#### Barriers to Scientific Shea Research

The Cocoa Research Institute of Ghana (CRIG), Bole is the only state research institution devoted to shea research in Ghana, and is poorly funded and thus unable to conduct in-depth research into shea growth and propagation for adoption.

Again, the state agency responsible for the growth and development of the shea industry is the Ghana Cocoa Board whose attention is basically on cocoa; the board is also far removed from the shea industry, where shea research activities should take place and hence the presumably lack of urgency in its approach to research in the shea industry.

There is currently no specific infrastructure in place in support of the shea industry since the CRIG sub-station at Bole established for that purpose has since diversified efforts into cashew with reduced research attention on the shea, except the shea research being pursued by passionate individuals within and outside the station. Consequently there is currently little ongoing research that attempts to analyze previous applied research on shea and its findings on shea propagation as well as shea products in terms of butter quality, kernel quality, shea certification etc.

#### 4.9.1 Limited Market: Uncertain Buyers of Shea Products

The market for shea products is challenged by a string of factors ranging from poor road network the limited financial credit to organized women groups to little or no access to financial management capacity of small-scale shea processors to financially manage their activities in the shea industry. The result of all these challenges is the exploitation of shea producers in the form of dictated prices by buyers. In addition, buyers usually promise to purchase certain quantities of shea products, but most of the time the women producers wait in vain. In instances where they do eventually come, they bid very low prices for shea butter or nuts, rendering the women helpless. From these bad experiences some shea dealers now virtually sell their shea nuts in piece-meal that fetch very low prices in an attempt to escape disappointment from unscrupulous buyers. In this regard, some shea women groups have admitted that “we do not know our buyers”, and this does not augur well for mutually beneficial negotiations on shea dealings.

An indication of the extent to which the absence of regulation of the shea industry has affected shea proceeds is the way joint ventureship of external/foreign shea buyers and local Ghanaian agents operate. In the absence of pricing and quantity/quality standards, shea producers are exploited by both foreign buyers and Ghanaian agents, or by one of them, mostly the Ghanaian agents, who claim knowledge of shea pricing and other quality standards which is usually at variance with the knowledge of the producer. Some of the shea buying concerns/groups and individuals make promises to shea processing groups of women to install machines to enable them process more shea nuts and butter for their own purchase without any feasibility studies. Consequently some of such promises are fulfilled but saddled with difficulties in the use of the machines due to factors such as lack of water or some other handicap such as electricity.

**Table 4.5: SWOT Analysis of the Shea Industry**

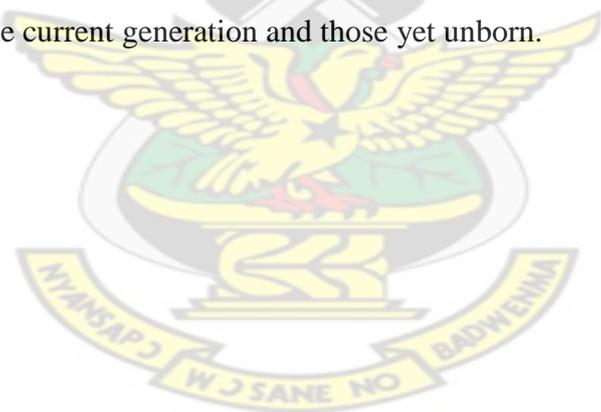
Strengths	Weaknesses	Opportunities	Threats
<ul style="list-style-type: none"> <li>• There is some considerable applied scientific research outcomes and ongoing research on shea propagation and growth to draw from, for the advancement of the shea industry.</li> <li>• On the average, the various researches have shown that Shea plants can be cultivated to mature and fruit between seven (7) to ten (10) years; there are efforts through cutting to reduce the shea gestation and maturation periods much further.</li> <li>• Shea trees do not require much water to grow as soon as they are up to a year old, and can thus be easily grown on plantations, largely in the western parts of Northern Ghana</li> <li>• The shea industry mainly exists in the poorest parts of Ghana where poverty prevalence is on average, 70.2% of the population (GSS, 2005/06). The shea industry thus has the propensity to benefit its occurring areas more.</li> </ul>	<ul style="list-style-type: none"> <li>• Shea trees will only do better on averagely moist soils and as such developing shea plantations ought to be selective of soil type.</li> <li>• Further vigorous research is required to reduce the maturation period for shea growth from an average of between seven (7) and ten (10) to about five (5) years just as cocoa and mango.</li> <li>• Information on the shea industry is very limited to research institutions and shea dealers. The reason for this rest on the absence of interest by state agencies to support the growth of the industry.</li> </ul>	<ul style="list-style-type: none"> <li>• The existing Cocoa Research Institute of Ghana (CRIG) in Bole and its founding research findings are enough bases for further in-depth shea research, taking departure from what has already been done.</li> <li>• Shea and its products provide an <i>organic</i> source of food, medicine and cosmetic products, and are increasingly preferred on the international market to many similar products.</li> <li>• Shea oils constitute a major source of raw material for many industries- food, pharmaceutical, Beverage, rubber etc.</li> <li>• In Ghana today shea receives immense value addition with major shea mills in Juaben, Tema, Savelugu and many more springing up</li> </ul>	<ul style="list-style-type: none"> <li>• The shea industry is being transformed from a small-scale industrial activity of principally women actors to one for big investment capital injection, as being pursued by large-scale local and foreign companies with considerable sophistication. The small-scale women are gradually losing out of the shea industry.</li> <li>• The World Trade Organization limits the amount of vegetable oil that can be put on the international market by a single country. The export market for direct shea oils is thus limited (Yidana, 2008)</li> <li>• There is more research in other African countries on the shea industry than Ghana. Therefore the overall knowledge of the shea industry tends to be limited as compared with other countries. These countries have focused government policy on the shea sector that has helped to improve incomes from the shea industry and the general knowledge level of the industry.</li> </ul>

*Source: Author's analysis of field data, June 2008*

The SWOT Analysis of the Shea Industry in Table 4.5 above is meant to reinforce what is possible and what is not, regarding promoting the shea industry with the view to advising policy formulation towards the shea industry. The challenges observed by the study have been subjected to SWOT analysis in order to further process and validate information from the field.

#### **4.10 Summary and Conclusion**

The outcome of this study of a fusion of applied scientific research and related socio-economic activities in the shea industry has revealed a strong relationship between the two. The findings of scientific research are complementary to shea industrial activities that are geared towards the wellbeing of people. Since the shea tree has for several generations been harvested as a wild cash crop, which has also unfortunately suffered a process of extinction through human activities, examining the possibility of cultivating the shea tree and yet raising awareness on the need to protect the existing wild trees, is appropriate in keeping the industry alive for the benefits of the current generation and those yet unborn.



## CHAPTER FIVE

### KEY FINDINGS, RECOMMENDATIONS AND CONCLUSION

#### 5.0 Introduction

This study has attempted a fusion of shea growth and propagation and its socio-economic implications. It considers the shea value-chain as a key factor in the search for livelihood opportunities for the people of Northern Ghana and the need to promote the survival of the shea tree. This chapter presents the relationship between the data gathered on the shea industry and the research questions and objectives of the study.

#### 5.1 Summary of Key Findings and Development Implications

##### 5.1.1 Opportunities for developing the shea tree as a cultivar.

###### I. Applied Research

According to the research station at Bole applied scientific research into the biology of the shea tree began in the 1970s. Research findings at the Cocoa Research Institute at Bole have concluded that it is possible to establish shea plantations in Northern Ghana and this can be enhanced by hydrological studies on the various soils in the three regions to establish the most suitable soils for large scale shea plantations. A summary of the results of applied research so far, are that:

- Young shea trees sprout from existing old stumps which can be used for grafting to achieve early maturation of shea trees, producing fruits within less than 7 years instead of the normal 12 to 15 years.
- The method of transplanting shea seedlings from polythene bags has been found to increase productivity through increased growth rate and a shortened length of period between germination and transplanting.
- To hasten maturity and improve yield, the optimum spacing of shea trees should be 10 X 10 metres, representing an equivalent plant population of 100 trees per hectare or 4 trees per acre.
- The station has also adopted a biozyme that stimulates vegetative growth and promotes early maturation. It has also tested a surrogate grafting

method, resulting in the production of new varieties of early and high yielding trees.

- Bush burning affects shea trees and tend to yield less fruits than those that are protected from fire and weeds.
- Loamy and moist soils facilitate a faster growth of shea trees.

## II. Traditional Protection of the Shea Industry

From the study traditional bye-laws exist to regulate the cutting down of shea trees and this could be combined with the results of applied science to promote shea tree growth. However people still go far into the bush to cut shea trees for charcoal and fuel wood in some parts of Northern Ghana. Rituals are performed traditionally, with contributions from women, each time shea trees do not fruit adequately, an indication of the spiritual vitality of the shea industry to the rural people of Northern Ghana. The traditional pacification for low shea productivity is also an indication of the reliance of the people on the shea industry.

### 5.1.2 Developing the Shea as an Export Cash Crop: Opportunities and Potentials

#### I. Shea products on the international market

Study revealed that the World Trade Organization (WTO) regulations and international trade protocols limits the amount of vegetable oils that can be traded on the world market, and since the shea basically produces oils, the quality that can be put on the world market is usually limited. This constitutes a major challenge in the shea industry and becomes one of the most urgent reasons why the state must intervene to support and regulate the shea industry. Meanwhile Ghana's shea has a high stirring content and when fractionated, the shea liquid is an excellent raw material for vegetable oil whilst the hard part of it is used for cosmetics.

#### II. Supply and Demand for Shea Products

The study found that a recent trend of increasing demand for industrial purposes both locally and internationally, the shea industry has predominantly been a women's industry with a small-scale character. Composite supply of shea products has been low because of the small-holder nature of the shea industry. Women and their children pick-up shea nuts and process into butter for sale or sell the nuts or

butter for the immediate cash income needs of their families. The role of women within the industry has been the major reason why shea has been contributing immensely to poverty reduction in the three regions of the North.

However the increased local and international demand for shea products requires a corresponding increase in supply. However this new trend of shea demand and the increasing sophistication it brings, has the propensity to rob the sector of the small-scale actors (the women) who engage in shea business activities to directly support their immediate family needs.

### III. Shea: a source of income

The study established that shea picking is currently an ad hoc process which does not, in itself, constitute employment. However the increasing demand for shea nuts and butter on the international market necessitates a reorganization of the industry as a potential source of gainful employment for poor rural women. For instance besides demand for shea by EU countries and the US, the Chinese have become interested in products of shea and granted the marketing opportunities which China can potentially offer, the shea industry could provide significant incomes for the people of Northern Ghana and serve as an additional dependable cash crop for Ghana.

#### 5.1.3 Benefits of the shea industry to Northern Ghana

##### I. The Shea Industry: a strategy for food security

The study found that in the extreme Northern parts of the North of Ghana where districts like Bongo are found, the land is not very fertile, but supports shea tree growth to some extent, since it has some loamy soils and a reasonably high water table. The study found that in much of Northern Ghana and particularly places like Bongo, there is the need to explore multiple options for sustainable livelihoods. The trade of basket weaving is being tapped in Bongo, but granted the limited yield from farming; the shea industry could contribute significantly to the rural economy of the area.

## II. A Strategy for stemming north-south migration

The study established that the shea industry is a potential strategy for halting North-South migration. Youth from the Northern part of Ghana migrate down-south in search of non-existing jobs but the shea industry provides jobs, income and food to rural people who engage in its activities. Seasonal migration of young men and women from the Upper West and East Regions stands in excess of 551,000 to the Greater Accra region alone (GSS, 2007). This migration trend is confirmed by a synthesis of figures provided by District Medium Term Development Plans at least of the three sampled districts- Bole, Wa-West and Bongo districts.

The practice is that on a yearly basis when food crops are harvested in Northern Ghana in the months of September and October, there begins a long rain drought and economic inactivity that puts people totally out of any kind of employment up until the month of April the following year when they begin to revisit their farms to prepare for the rains. It is again from the month of April onwards that women and children resume their shea nut picking exercises. Logically, within the drought period, most young men and women of Northern Ghana prefer to be underemployed in the South and yet earn something they can showcase when they get back to their homes.

## III. Shea industry: an alternative source of livelihood

From the study shea is a huge source of food, directly and indirectly from vegetable cooking oil and cash incomes obtained from the sale of nuts and butter. Shea pickers generally survive on shea products and if there were other sources of food, shea nuts could be stored to be more profitable, but is unfortunately often given away desperately for survival during the lean season of drought and famine.

The shea industry serves as a significant stop-gap measure to rural poverty in Northern Ghana. However rural women and children increasingly toil in vain as they benefit very little from the shea business due to its uncontrolled and unregulated nature.

#### IV. Environmental Sustainability

The study revealed that the common farm practice of shifting cultivation in Northern Ghana affects the existence of shea trees as trees are destroyed year-in and year-out in the process of moving from one farm land to clearing another fallow land for cultivation. In recent times some chiefs have not been very helpful in enforcing traditional bye-laws that curb tree felling and charcoal burning using shea trees because the practice conflicts with their interest of benefiting from land leases. Land for cultivating shea trees on a large scale is possible in view of the fact that the current practice of shea nut picking is related directly to lands on which people farm.

##### 5.1.4 The Shea Industry: Role of Government

###### I. Control and regulation in the industry

There is no specific government policy intervention in the shea industry beyond efforts made in the 1970s with the establishment of the CRIG research station at Bole to focus on shea research. There are therefore issues of indiscriminate felling of shea trees and the production and marketing activities of the shea industry being manipulated by those with the wherewithal at the expense of local actors of the shea industry, women and children.

###### II. The shea industry: a source of government revenue:

No government effort has gone into assessing the revenue potentials of the shea industry in Ghana. The result therefore is the little tax knowledge within the shea industry. The study found that much of the shea butter and nuts that are sold out are from rural communities and these are often not taxed because the trade is very informal. Even when large quantities of nuts and butter are traded by local and international companies, some of the shea products are exported through unapproved channels and these likely evade being taxed. This means that government has not explored well enough, the possibility of widening the tax net in the agro-based sector, and a continuous lack of knowledge of the shea industry will deny the state huge sums of tax revenue that would have been obtained to

offset both the exploitation of rural shea pickers and the deprivation of the shea occurring areas.

## **5.2 RECOMMENDATIONS**

### **5.2.1 Public Education on the Protection and Cultivation of Shea trees**

Indiscriminate felling of trees including shea trees for fuel wood to make way for other economic trees such as mango, charcoal burning, as well as bush fires have had major negative effect on shea tree population and subsequently dealt negatively on the shea industry in Northern Ghana. The basis of the negative attitude of people towards shea trees has been the non- enforcement of laws regarding the depletion of the forest, as well as a failure to provide alternative livelihoods for people. In addition, the absence of alternative sources of household energy has accounted for the over reliance on fuel wood and charcoal for energy. The challenges in the management of Ghana's forest could be pursued at various fronts.

Protecting and promoting the cultivation of shea trees would ensure a linkage between shea researchers who would provide shea seedlings to farmers to inter-crop with their food crops, and to ensure that the relevant cultural practices are observed on the farm to ensure the survival of shea trees. Such an approach would help farmers own shea trees from which they can harvest more shea nuts, and also help combat desertification which is currently a huge challenge to the ecology of Northern Ghana.

Table 5.1 below provides a framework for utilizing public education for the protection and cultivation of Shea trees in shea occurring areas.

**Table 5.1: Public Education to Protect and Cultivate Shea trees**

	<b>Expected Outcome</b>
<b>Goal</b>	Grow and protect shea trees on a large scale.
<b>Objectives</b>	<p>use the appropriate state institutions and linkages to embark on public education on:</p> <ul style="list-style-type: none"> <li>▪ protecting wild shea trees on farms and bushes</li> <li>▪ cultivate more trees to combat desertification</li> <li>▪ promote shea products</li> </ul>
<b>Strategies</b>	<ul style="list-style-type: none"> <li>▪ Provide alternative livelihoods to rural people to take their attention away from surviving on tree felling and charcoal burning.</li> <li>▪ Make bush fire prevention an integral part of the Ghana National Fire service mandate to consciously work in collaboration with traditional rulers.</li> <li>▪ Enforce laws on environmental management using the mandatory state agencies.</li> <li>▪ Attach a public education unit to the Environmental Protection Agency (EPA).</li> <li>▪ Assign the National Commission for Civic Education (NCCE) to educate rural people on sustainable forest management as well as enforce laws that seek to protect the forest.</li> <li>▪ Make the Ghana Forestry Commission the key state custodian of guiding people as to what trees to plant and how and when to fell such trees when that has to be done.</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Set up irrigation schemes in all rural communities.</li> <li>▪ Enforce laws that debar people from tree felling and bush burning using the relevant state agencies- a collaboration of SARI, MOFA, Irrigation Authority and Forestry Commission to set up shea tree plantations.</li> <li>▪ Prevent indiscriminate felling of trees and bush burning through the enforcement of laws that debar people from engaging in such acts.</li> <li>▪ Engage traditional rulers to revisit the enforcement of traditional bye-laws that prohibit the felling of shea trees.</li> <li>▪ support District Assemblies to scan and explore communities in their districts to identify what economic activities can be developed for the people; strengthen the Rural Enterprises Project (REP), the National Board for Small-Scale industries (NBSSI) and other such projects to be more proactive in researching into potentials of rural communities and come out with viable livelihood options for the people.</li> </ul>
<b>Relevant key stakeholders</b>	<ul style="list-style-type: none"> <li>▪ All relevant state agencies: the District Assemblies, the regional houses of chiefs, the EPA, the Ghana National Fire Service, the NBSSI, REP, SARI, MOFA, FC Irrigation Authority</li> <li>▪ Shea Dealers Associations</li> <li>▪ Youth Groups in rural communities</li> <li>▪ Women’s Groups</li> <li>▪ Traditional authorities</li> </ul>
<b>Beneficiaries</b>	<ul style="list-style-type: none"> <li>▪ The state would benefit immensely from a widening of its tax net and increased revenue if the shea industry is well protected and developed.</li> <li>▪ The poor rural households of Northern Ghana, made up of men, women and children will become much more empowered to live better lives.</li> </ul>

<b>Interest/influence</b>	<ul style="list-style-type: none"> <li>▪ All state agencies have the ability to discharge their responsibilities backed by the appropriate resources and monitoring. Effort should be made to identify alternative livelihoods for people as well as preventing environmental degradation to safeguard the shea industry.</li> <li>▪ In spite of a decline in authority of some traditional rulers by contemporary administration through decentralization, traditional authorities remain the mouthpieces of development in rural areas and are thus capable of working to achieve afforestation using shea plantations.</li> <li>▪ Women Groups and Youth Groups in general are the most powerful tools for social mobilization in any jurisdiction in Ghana, and therefore tapping into the energy, drive and interest of such groups will undoubtedly bring about the success of developing the shea industry and promoting the idea of growing trees in Northern Ghana.</li> </ul>
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Source: *Author's own concept, June 2008*

### 5.2.2 Establishing a Regulatory Framework for the Shea Industry

A regulatory framework for the Shea Industry is premised on the fact that the shea industry is currently a free-for-all venture for rural, urban business folk and foreign business concerns alike. The result is the prevailing survival-of-the-fittest practices in the industry with the poor rural shea pickers at the receiving end. In addition, business people with the wherewithal are beginning to invest in the shea industry thanks to recent knowledge of shea profitability, but are evading the much needed taxes for government revenue. The little or no decentralization in the activities of the existing regulatory bodies in Ghana contribute to the flouting of business ethics, particularly within the shea industry.

Ideally, the shea industry ought to remain small-scale in order for it to be a tool for poverty reduction since it is the trade of most rural women in Northern Ghana. If the shea sector turns out to be a heavily invested industry, most rural poor women will not find the money to invest in it. What this means is that in view of the existing income gap between men and women in Ghana, it is likely that men will take over the shea industry and dominate it, and thus erode the gains that women are making in the industry with their small-scale activities.

**Table 5.2: Establishing a Regulatory Framework for the Shea Industry**

	<b>Expected Outcome</b>
<b>Goals</b>	Regulate and coordinate to ensure sanity in the shea industry.
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• optimize the benefits of the shea industry</li> <li>• guarantee revenue for the state from shea activities</li> <li>• protect the interest of small-scale shea actors</li> </ul>
<b>Strategies</b>	<ul style="list-style-type: none"> <li>• Institute laws to regulate the shea industry.</li> <li>• Link shea quality control issues to the Food and Drugs Board, Ghana Standards Board.</li> <li>• Provide farmer cooperative groups with credit on a yearly basis to make judicious use of water and irrigated lands.</li> <li>• In addition to a regulatory board, the Food and Drugs Board and the Ghana Standards Board could be decentralized to play their normal role of testing and certifying shea products for both the local and international market.</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ Setting up a Shea Products Board (SPB) as in the cocoa industry, to regulate the activities of the shea industry.</li> <li>▪ Charge district assemblies to support the regulation of shea business activities; both small-scale and large scale shea actors.</li> </ul>
<b>Relevant key stakeholders</b>	<ul style="list-style-type: none"> <li>▪ The state agencies: MOFA, Irrigation Authority and the Ghana Forestry Commission.</li> <li>▪ The District Assemblies</li> <li>▪ Rural farmers and shea dealers</li> <li>▪ The state regulatory bodies: the Food and Drugs Board, the Ghana Standards Board and the Shea Products Board would add to ensuring that state revenue is protected.</li> <li>▪ The various Shea Dealers Associations</li> <li>▪ The various companies and individuals engaged in the shea business</li> </ul>
<b>Beneficiaries</b>	<ul style="list-style-type: none"> <li>▪ The state would achieve drastic poverty reduction within a very short time using a reliable and a most sustainable approach-the shea industry.</li> <li>▪ Rural farmers of Northern Ghana will be most empowered and have their livelihoods enhanced.</li> <li>▪ Business people within the shea industry will be most assured for generations to come of a reliable supply of shea nuts and shea products.</li> <li>▪ Shea pickers will be better organized and protected to do their business.</li> <li>▪ The general public will benefit from wholesome shea products through the certification of shea products.</li> <li>▪ Shea processors will be much careful and mindful of the quality of products they put on the market.</li> </ul>
<b>Interest/influence</b>	<ul style="list-style-type: none"> <li>• The state has the ultimate authority of empowering the key agencies, MOFA, Irrigation Authority and Forestry Commission with technical and financial support to discharge their duties.</li> <li>• Rural farmers, when properly sensitized will provide communal support that would make such initiatives succeed and be</li> </ul>

	<p>sustainable.</p> <ul style="list-style-type: none"> <li>• Shea dealers would respond by investing in such initiatives and protecting them to ensure that they derive the maximum benefits from the initiatives.</li> <li>• A Shea Products Board, the Food and Drugs Board and the Ghana Standards Board, as legally mandated, would ensure that the general public and the state benefit from the shea industry.</li> </ul>
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Source: *Author's own concept, June 2008*

As stated in table 5.2 above, expanding the mandate of the Ministry of Food and Agriculture (MOFA) and empowering the Forestry Commission (FC) to be responsible for the shea industry could make a great difference. The mandate of the agricultural sector in Ghana is currently limited to promoting crop development; modernizing livestock development; improving access to mechanized agriculture; accelerating the provision of irrigation infrastructure; increasing access to extension services; enhancing access to credit and input for agriculture among others.

Currently the Ministry of Food and Agriculture has no links with the shea industry in any formal way. However given the technical know-how of that ministry, there is the need to move the shea sector closer to the ministry by setting up a unit within MOFA to specially provide support to farmers to intercrop food crops with shea trees and also educate farmers on the need to stop cutting down economic trees such as the shea during land clearing for farming.

### 5.2.3 Establishing Shea Cooperatives to Coordinate Local Shea Business

The average price of Gh ₵50.00 for a 64kg jut sack weight of cocoa beans in the recent good price for cocoa is no different from the same Gh ₵50.00 for a jut sack of shea nuts in the shea lean season. Yet the country has relied solely on the cocoa industry for the much needed foreign exchange to develop nationally, to the extent that syndicated loans are arranged every year to purchase cocoa beans for export. It is possible to develop the shea industry with fewer resources as has been done for the cocoa industry, and the two industries could easily serve as complementary comparative advantage products for Ghana on the world market.

Consequently the state, individuals and companies engaged in the shea industry have not derived the optimum economic, financial, commercial and social benefits from the shea industry, which means that Ghana's GDP could have been much higher than it is today.

Since women and children are the ones basically engaged in the picking of shea nuts as well as its processing and marketing, supporting the growth of the industry so they can obtain the maximum benefits in terms of incomes from shea business, will undoubtedly contribute to reducing the overall poverty levels of the people in Northern Ghana.

A Shea Dealers Cooperative Union at the local level would control supply and price of shea nuts and butter and bring to an end, the buyers market that characterizes the shea industry currently. Such cooperatives could be replicated at the national level to serve as an advocacy group to further the cause of all other shea cooperatives in the country.



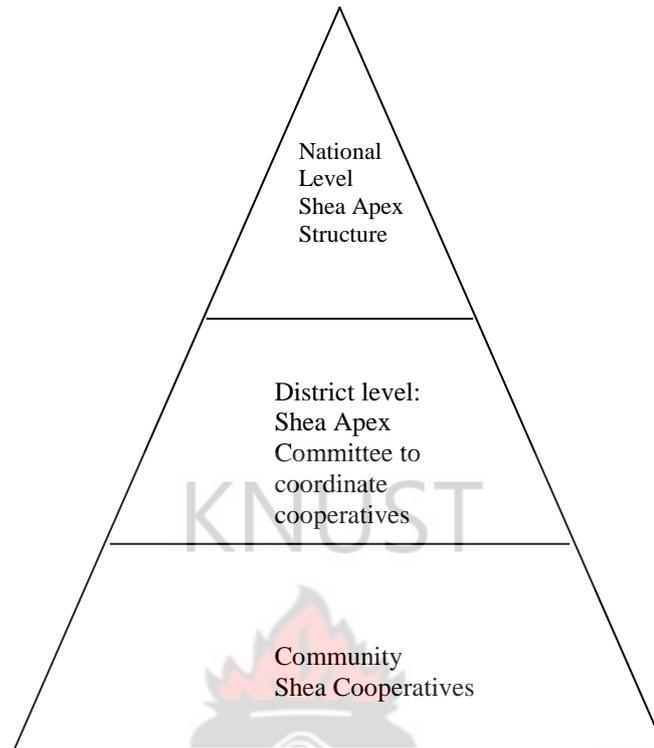
**Table 5.3: Establishing Shea Cooperatives to Coordinate Local Shea Business**

	<b>Expected Outcome</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>▪ Shea industry developed on a small-holder cooperative system.</li> </ul>
<b>Objectives</b>	<ul style="list-style-type: none"> <li>▪ Institutionalize a national apex body to coordinate the shea industry.</li> <li>▪ Set up District level shea coordinating institutions.</li> <li>▪ Set up Community level shea coordinating structures.</li> </ul>
<b>Strategies</b>	<ul style="list-style-type: none"> <li>▪ District Assemblies to provide funds within the purview of their poverty reduction efforts and rural cottage industry promotion, for the development of the shea industry by creating buffer stocks for shea nuts during the peak season.</li> <li>▪ Shea Produce Buying Companies could also be licensed as is done in the cocoa industry to purchase shea nuts directly from the shea cooperatives at the district level at prices that have been set out nationally to ensure synergy and harmony in the industry.</li> <li>▪ Revamp the Department of Cooperatives to play its befitting role of supporting set-up cooperatives for all small scale agro-businesses that are basically pursued by small-scale poor rural women. These businesses such as that of shea nuts and butter often serve as the basis for the livelihoods of poor rural people and therefore a key strategy to poverty reduction.</li> </ul>
<b>Activities</b>	<ul style="list-style-type: none"> <li>▪ set up and resource district level apex body to coordinate and regulate proposed shea cooperatives.</li> <li>▪ allocate District Assembly funds to support bulk storage and marketing of shea products during shea seasons.</li> </ul>
<b>Relevant key stakeholders</b>	<ul style="list-style-type: none"> <li>▪ District Assemblies, NGOs, Faith-Based Organizations (FBOs), shea pickers and processors, Shea Purchasing Companies and their agents.</li> </ul>
<b>Beneficiaries</b>	<ul style="list-style-type: none"> <li>▪ The state is the ultimate beneficiary of a shea cooperative since its poor rural citizens would benefit from empowering support that would reduce poverty within the shortest possible time.</li> <li>▪ Rural women, children and their families will be ‘insured’ against poverty as their key source of livelihood is greatly protected so they can derive the maximum benefits.</li> <li>▪ The cooperative structure would equally benefit shea buyers as the structure would seek to stem the practice of out-doing or undoing each other within the shea business of buying and selling.</li> </ul>
<b>Interest/influence</b>	<ul style="list-style-type: none"> <li>▪ The Department of Cooperatives and the District Assemblies have the ultimate power and responsibility to legislate for the institution of mandatory cooperatives in all agro-business ventures with the sole aim of protecting the most susceptible actors of the industry.</li> </ul>

Source: Author's own concept, June 2008

Recommended Shea Cooperative Structure Below:

**Figure 5.1: Shea Cooperative structure**



The rationale for the suggested shea cooperative structure in figure 5.1 above is based on the need to protect the “small-scaleness” of the shea industry with the view to addressing cash poverty challenges among rural women and children in Northern Ghana. There is an imminent danger of pushing out rural women from the shea industry by wealthy men and other business concerns who have the funds to invest heavily in purchasing nuts and butter at the community level during peak shea seasons, a time that rural women are helpless to negotiate prices in view of famine in the home, and lack of cash income between June and August as stated above. Government could then determine shea prices through its regulatory body, the Shea Products Board, just as has been done for the cocoa industry. District Assemblies could be directed by government to intervene in supporting groups within specific agro-businesses such as those in the shea business to help provide bulk storage for shea products during the peak season.

This study has established that buying shea to store and resell in bulk is much more profitable and can be better done through cooperative groups of small-holder shea businesses. A savings and loans scheme could be set up for those that decide to

process shea nuts into butter for immediate sale so they can be guaranteed financial support, collateral security and the ability to secure good prices for shea produce. This would undoubtedly boost the market value of shea products. In addition to such a savings and loans scheme, a milling machine for shea nuts would help reduce the difficulties women go through processing shea nuts into butter, only to sell at a loss. Management of such a machine by the group could be through the suggested savings and loans scheme. Money could then be saved to repair the machine.

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## CONCLUSION

This study on developing the shea industry as a lead cash crop for Northern Ghana is of the view that the state must show the way in bridging spatial inequalities among the regions of Ghana (Songsore, 2003).

The study establishes that the shea industry has significant impact on the space economy and socio-cultural lives of the people of the three regions of the North of Ghana but has not attracted the desired attention from the government of Ghana. The industry has operated for generations in an adhoc manner to the detriment of key actors, poor rural women and their families. Notwithstanding this weakness, the industry has consistently served as a reliable source of livelihood to many people and granted the generally limited employment and livelihood opportunities in Northern Ghana, developing the shea industry provides an opportunity to expand the space economy of the area.

It has also been established by the study that existing shea trees can be managed through keeping weeds off, and that shea trees can be cultivated using seed and seedlings as well as vegetative propagation (cutting and grafting). This means that with government support to the appropriate research institutions responsible for researching into the biology of the shea tree, and with the right linkage between these research institutions and the Agricultural Ministry, the Forestry Commission, and Irrigation Authority on one hand and with rural farmers and shea dealers on the other, the full potentials of the shea industry can be better tapped.

Whereas there is no known strategy by the government of Ghana for the shea industry, in comparison, the Prokarite project in Mali, Benin and Burkina Faso has established a set of quality standards for shea butter to facilitate the marketing and quality assurance of shea products from that region. Certification of shea kernel and butter has become increasingly important to markets, and since January 1, 2005 the EU demands that all agricultural products, including shea nuts, are traceable from source (Edwardson, 2005).

What is the Government of Ghana doing to promote shea production and certification?

Besides contributing a great deal to poverty reduction efforts in Northern Ghana, the research has shown that promoting the shea industry would also contribute to addressing the problems of desertification through the institution of a legal framework and embarking on advocacy in rural communities of Northern Ghana.

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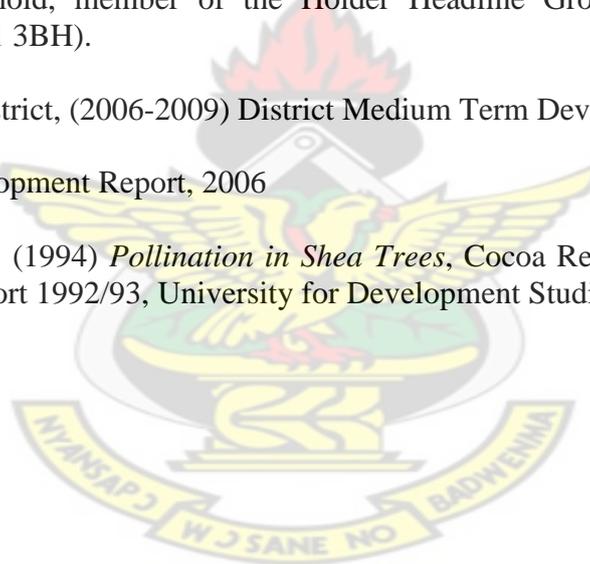
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## APPENDICES

### Appendix 1.0: Financial Viability Analysis of a Small-Scale Commercial Shea Butter Processing Project

Year	Fixed Cost	Variable Cost	Total Cost	Total Benefit	Net Benefits	<u>D.F@</u> <u>20%</u>	NPV
0	10,000	2,000	12,000	0	(12,000)	1	(9,996)
1	9,500	2,000	11,500	0	(11,500)	0.833	(7,981)
2	9,000	2,000	11,000	500,000	489,000	0.694	283,131
3	8,500	2,000	10,500	500,000	489,500	0.579	235,939
4	8,000	2,000	10,000	500,000	490,000	0.482	196,980
5	7,500	2,000	9,500	500,000	490,500	0.402	164,318
6	7,000	2,000	9,000	500,000	491,000	0.335	136,989
7	6,500	2,000	8,500	500,000	491,500	0.279	114,520
8	6,000	2,000	8,000	500,000	492,000	0.233	95,448
9	5,500	2,000	7,500	500,000	492,500	0.194	79,785
10	5,000	2,000	7,000	500,000	493,000	0.162	66,555
11	4,500	2,000	6,500	500,000	493,500	0.135	55,272
12	4,000	2,000	6,000	500,000	494,000	0.112	45,942
13	3,500	2,000	5,500	500,000	494,500	0.093	38,021
14	3,000	2,000	5,000	500,000	495,000	0.178	32,175
15	2,500	2,000	4,500	500,000	495,500	0.065	26,757
16	2,000	2,000	4,000	500,000	496,000	0.054	22,320
17	1,500	2,000	3,500	500,000	496,500	0.045	18,867
18	1,000	2,000	3,000	500,000	497,000	0.038	15,407
19	500	2,000	2,500	500,000	497,500	0.031	12,935
20	100	2,000	2,100	500,000	497,900	0.026	12,945
<b>Total</b>							<b>1,686,328</b>

**Key:**

D.F= Discount  
Factor

NPV= Net Present Value

## Appendix 1.1: Financial Viability Analysis of Small-Scale Sale of Shea nuts

Year	Fixed Cost	Variable Cost	Total cost	Total Benefit	Net Benefit	<u>D.F@ 20%</u>	NPV
0	500	200	700	0	-700	1	-700
1	500	200	700	0	-700	0.833	-583.1
2	500	200	700	1250	550	0.694	381.7
3	500	200	700	1250	550	0.579	318.45
4	500	200	700	1250	550	0.482	265.1
5	500	200	700	1250	550	0.402	221.1
6	500	200	700	1250	550	0.335	184.25
7	500	200	700	1250	550	0.279	153.45
8	500	200	700	1250	550	0.233	128.15
9	500	200	700	1250	550	0.194	106.7
10	500	200	700	1250	550	0.162	89.1
11	500	200	700	1250	550	0.135	74.25
12	500	200	700	1250	550	0.112	61.6
13	500	200	700	1250	550	0.093	51.15
14	500	200	700	1250	550	0.178	97.9
15	500	200	700	1250	550	0.065	35.75
16	500	200	700	1250	550	0.054	29.7
17	500	200	700	1250	550	0.045	24.75
18	500	200	700	1250	550	0.038	20.9
19	500	200	700	1250	550	0.031	17.05
20	500	200	700	1250	550	0.026	14.3
<b>Total</b>							<b>992.25</b>

Estimates:

Source/Farmhouse price of shea= GH¢20 per jut sack

Cost of 25 bags= 500

Cost of Transport, warehousing= GH¢200

Retail price of jut sack of shea nut= GH¢50

Profit of 25\*50= GH¢1,250.00

## Appendix 2.0: Research Questions

<p style="text-align: center;"><b>Development implication of the <i>shea</i> industry as a lead cash crop for Northern Ghana: case studies in Bole, Wa-West and Bongo Districts</b></p>
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### A. QUESTIONNAIRE FOR SHEANUT PICKERS/PROCESSORS AT THE COMMUNITY/LOCAL LEVEL

Demographic information

Age.....

Sex....

Marital status: (a) Single (b) Married-no. of children.....

How many of your children are in school?

Occupation (a) farmer (b) marketer of commodities (c) other

#### Assessing livelihoods/ Income levels in the community

1. Accommodation Description-(a) Mud house (b) brick house (c) block house

Ownership – (a) self-owned (b) rented (c) state-owned (d) other (specify).....

Closeness to:

- School- a) less than 5km b) more than 5km c) none
- Health facility- a) less than 5km b) more than 5km c) None
- Water a) less than 5km b) more than 5km c) None
- Toilet- (a) within house (b)KVIP, less than 1 km away (c) more than 1km away (d)other ( specify).....

2. What work do you do for a living?

a) Formal sector (specify)..... (b) Informal sector-specify:  
trader, farmer etc.....

- Is it a part-time employment or full time?
- How long have you been in this employment?

b) What is the major occupation of the people in this community

- c) Are they able to subsist on this occupation all-year round? If not, why?
- d) Do people periodically (seasonally) leave this community to other places?
- If yes, where? And what do they go there to do?
- e) Do you have shea trees in this community? If yes,
- Who owns shea trees and how does ownership of the trees affect the shea business?
  - What category of people is engaged in the shea business-picking nuts, processing into nuts and butter?
7. Is your/ their engagement in this business a full time or part-time job?
8. What is the estimated poverty level of the people in this area?
9. How will you classify those engaged in the shea business? (tick one)
- a) Very poor
  - b) Averagely poor
  - c) Middle income category
  - d) Wealthy or rich
10. On average how much (in cedis) do you get from selling shea (nuts/butter) in a season?
11. What is the relationship between those of you who pick shea nuts in the village and those who come from the urban centres or towns to buy from you?

Relationship is based on:

- (a) Extortionist (cheating) tendencies from urban traders
- (b) Based on partnership and equality
- (c) Just cordial and friendly
- (d) Other (specify)

As community members, how do you find the availability of shea trees now, compared to some years back?

(tick one)

- (a) Adequate/ enough trees
- (b) Fewer trees now
- (c) Uncertain
- (d) Still same trees

12. If trees are fewer now than before what accounts for this, and how will this situation affect your shea business?

14. What do you think can be done to reverse the situation (following from Qtn 10 on income from the shea business)?

Any other comments about the shea industry and this research.....



**B. QUESTIONNAIRE FOR ORGANISED SHEA TRADERS; BOTH LOCAL AND INTERNATIONAL SHEA TRADERS-BUYERS/ EXPORTERS OF SHEANUTS / BUTTER**

1. Name of organization:
  
2. Ownership of the organization:
  
3. Origins of the organization:
  
4. Start date of organization's engagement in the shea industry:
  
5. Motivation for involvement in the shea industry:
  
6. Proceeds from shea business:
  - (a) Seasonal proceeds.....
  - (b) Monthly proceeds.....
  - (c) Annual proceeds.....
  
7. Cost of doing business in the shea industry
  - (a) Seasonal costs.....
  - (b) Monthly costs.....
  - (c) Annual costs.....
  
8. How adequate are the shea nuts or butter acquired and traded?
  
9. How can shea quantities be increased to enhance the shea business?
  
10. Is it possible to grow shea plantations in Ghana? If yes, how?
  
11. What value does the organization place on the shea business?

12. In your opinion how does the shea business benefit the indigenous people, the women and children mostly engaged in its business?.....

.....  
.....

13. Do you believe the shea industry/sector can make any significant impact on the Ghanaian economy?

Any other comments about the shea industry and this research.....

**C. QUESTIONNAIRE FOR SHEA RESEARCH INSTITUTIONS/NGOs, INDIVIDUALS ENGAGED IN SHEA RESEARCH**

Name of Research institution.....

Location of institution.....

1. Core business of the institution (Vision/Mission).....

2. What are the kinds of research activities engaged in?

3. Is the institution interested in research into the shea: propagation and growth of shea trees? If yes,

- What work has gone into the effort of cultivating the shea tree? Any evidence?

4. Are there any available findings on shea cultivation in the research institution?

Any evidence?

5. Are there any challenges in shea research?

- What are they, and how can they be dealt with?

6. Is the research institution aware of any research efforts elsewhere in Africa into cultivating the shea tree? If so, what are plans for collaboration and learning from such external experiences?

Any other comments about the shea industry and further research into the shea sector.....

**D. QUESTIONNAIRE FOR NGOs/ CIVIL SOCIETY ORGANISATIONS WORKING IN THE SHEA INDUSTRY**

Name of the organization:.....

Location of institution.....

Core business of the institution (Vision/Mission).....

- a. Is the organization working in the shea industry?
- b. If so, in what way is it working in the shea industry?

(a) Supporting (tick where applicable):

- Shea pickers (and in what way)?
- Shea processors (and in what way)?
- Shea marketing (and in what way)?
- Involved directly with sale of sheabutter or nuts

1. In the view of the organization, how much value can be placed on the shea (nuts and butter)?
2. How does the shea industry contribute to poverty reduction efforts in the region, district or community (s) in which it works?
3. What can be done to further enhance the shea industry in terms of efforts by the:

(a) The state (including district assemblies etc)

.....

(b) Local and international buyers, processors and exporters of shea.....

.....

(c) Shea pickers and local processors of shea

.....

Any other comments about the shea industry and this research.....

**E. QUESTIONNAIRE FOR POLICY LEVEL AND ADMINISTRATORS OF DEVELOPMENT- CIVIL AND PUBLIC SERVANTS AT REGIONAL/ DISTRICT ASSEMBLY LEVEL**

Name of institution/office:

Core business of institution (vision and mission):

1. What is your view of the shea industry?
  - The actors in that industry
  - The current status of the industry
  - The future of the industry
2. Who, in your view regulates the activities of actors (pickers, processing, marketing/exporting) of the industry?
3. What is government policy direction/plan towards the shea industry in northern Ghana?
4. Where does the industry belong, in terms of sectors of the economy?
5. What, in your view is the estimated potential (in terms of value) of the shea industry to the development of northern Ghana?
6. What positive likely effects will such potential of the shea industry have on:
  - (a) The incomes of rural people.....

- (b) Poverty reduction efforts.....
- (c) Employments generation.....
- (d) Rural-urban migration/ North-South migration etc.....

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

Any other comments about the shea industry and this research.....

**Appendix 3.0: List of individuals/groups and institutions interviewed**

Mr. Martin Dassah, District Coordinating Director, Wa-West District, Upper West Region

Mr. Robert Kwasi Owusu, Scientific Research Officer, SARI, Nyamkpala, Northern Region

Madam Janet Okara, Bongo Trade Centre, Upper East Region

Mr. Agene Nyaapika Victor, Research officer, CRIG Bole, Northern Region

Mr. Julius Yeboah, Research Officer, CRIG Bole, Northern Region

Mr. Adigun Akanpatulsi, Bole District Planning Officer, Northern Region

Alhaji Mohammed, Deputy Coordinating Director, Bongo District Assembly, Upper East Region

Madam Janet Chigabatia Adama, Savanna Farmers Association, ACDEP, Tamale  
Jeremiah, Jaksally Youth Group, Bole

Asungtaba Women’s Shea Butter Processing Association, Bongo-Soe, Upper East Region

Mandari Women’s Shea Processors Association, Bole District, Northern Region

Buli Women’s Group, Shea Butter Processing Centre, Wa-West District, Upper West Region

Upper East Shea Dealers Association

Upper West Shea Dealers Association

Northern Region Shea Dealers Association

SNV, Netherlands Development Organization

VSO, Bolgatanga, Upper East Region