



Graduate School of Development Studies

**SUSTAINABLE COMMERCIALIZATION OF NON TIMBER  
FOREST PRODUCTS: THE CASE OF GHANA**

A Research Paper presented by:

***Eugene Apea Owiredu***

(Ghana)

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Members of the examining committee:

Dr David Dunham (Supervisor)

Dr Lorenzo Pellegrini (Reader)

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***Inquiries:***

Postal address:           Institute of Social Studies  
                                  P.O. Box 29776  
                                  2502 LT The Hague  
                                  The Netherlands

Location:                 Kortenaerkade 12  
                                  2518 AX The Hague  
                                  The Netherlands

Telephone:               +31 70 426 0460

Fax:                       +31 70 426 0799

## **Dedication**

This work is first and foremost dedicated to God almighty for His immense and unfathomable blessings. He lifted me from the mud and established my feet on a solid rock. Great is His faithfulness!

It is also dedicated specially to my mum, Beatrice for all her sacrifices without which I couldn't have come this far. It is dedicated to my uncle Eugene and his wife, Ernestina who have been my mentors in life and source of inspiration. It also goes to my father, Joseph for being there as a father all this while and my Auntie, Anna for her invaluable contribution to my academic development. I also dedicate this work to Sandra, who has shown me so much love-Thanks Sweetheart! I wish to also dedicate it to my pastor and boss, George Opare Kwapong for showing interest in my personal development – Thank you Papa!

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## List of Acronyms

CSIR	Council for Scientific and Industrial Research
FAO	Food and Agriculture Organization
GRATIS	Ghana Regional Appropriate Technological Industrial Service
ITTO	International Timber Trade Organization
IFAD	International Food and Agricultural Development
MFP	Minor Forest Products NTFP
NTFP	Non Timber Forest Product
NWFP	Non Wood Forest Product
ODA	Overseas Development Assistance
TICAD	Tokyo International Conference on African Development
UNDP	United Nations Development Programme
USAID	United States Aid for International Development
UNIFEM	United Nations Fund for Women



## Abstract

It is estimated that up to one billion people depend on NTFPs at least for part of their income and that about 80 percent of people in the developing world directly use resources from the environment for either food or medicine. In Ghana, much work, ranging from the socio-cultural importance of NTFPs to the inventorization of NTFP species to the contribution of cash incomes from NTFPs have been explored

Their commercialization contributes in diverse ways to the incomes of different categories of both urban and rural communities. However trade liberalization and economic development tend to present both opportunities and challenges. It is important therefore, to ask if this can be worthwhile, at the same time, being concerned about the sustainability of their resource base.

The paper uses the frameworks of sustainable development and global value chains to respectively analyze extraction of the NTFPs and their commercialization.

It reveals that lack of public sector participation to build capacity of local processors of these NTFPs, especially shea, to take advantage of its booming potential in the global market may mean a missed opportunity for the reduction of poverty. It also reveals that trade in *Tetrapleura Tetraptera* has potential, but it is expanding at a slow pace whilst that of *Marantaceae* leaves is fast collapsing.

Just as cocoa has served to enhance the livelihoods of many local people in the south, effective government attention to shea could do same for those in the north, especially women. Proper development of the shea can be a good starting point for the development of other commercial forest products like *prekese*.

## Keywords

Non-Timber Forest Products, Sustainable Commercialization, Institutions, Global Value Chains

# 1. INTRODUCTION

This paper explores sustainability of the commercialization of NTFPs by focusing on the extraction and commercialization of shea nuts/butter, *Tetrapleura Tetraptera* and *Marantaceae* leaves in Ghana within the context of socio-political, ecological and economic and market considerations. It reveals that lack of public sector participation to build capacity of local processors of these NTFPs, especially shea, to take advantage of its booming potential in the global market may mean a missed opportunity for the reduction of poverty. It also reveals that trade in *Tetrapleura Tetraptera* has potential, but it is expanding at a slow pace whilst that of *Marantaceae* leaves is fast collapsing.

The paper uses the frameworks of sustainable development and global value chains to respectively analyze extraction of the NTFPs and their commercialization.

## 1.1 Background

Three-quarters of the world's poor live in rural areas (IFAD 2001: 7). Much of these areas coincide geographically with tropical rainforests and dry savannah vegetations where the poor depend to a large extent on these resources for their livelihoods. Their lives are therefore said to be intrinsically integrated with these resources (Thomas et al. 2005,Wunder 2005). It is often asserted that in such areas “the fate of the forest” and “the fate of the poor” are linked in an interdependent and harmonious manner’ (Wunder 2005). The adage that says that when the last tree dies the last man dies is true for them.

To this effect, some argue that since the poor depend that much on the environment, especially on rainforest and savannah resources for their survival, their actions trigger environmental degradation, which deepens their poverty, the consequence of which is a further degradation of the environment (Bank 1996,Brundtland 1987: 28,Tolba 1987,UNEP 2000). Poverty and environmental degradation are therefore said to occur in a vicious cycle. This has however been challenged. It has been argued that the rural poor may not be as ‘insensitive’ to the environment as they are sometimes portrayed, but that they sometimes have limited alternative choices by which to maintain their livelihoods(Forsyth and Leach 1998). According to Neumann and Hirsch (2000: 36), this phenomenon may be attributed to their remoteness from the centre of policy-making and governance as a result of which they tend to be marginalized in the distribution of national economic wealth; their incapacity to contend with ‘powerful people’ who exploit to the poor’s detriment the resources that they depend so much on. However, the question of who benefits most from these resources differs to a large extent according to the kind of product and where it is located.

Recognition is also given to the argument that in safeguarding the further collapse of the world’s vegetation and biodiversity, making these resources economically beneficial to local communities whilst ensuring their sustainability is imperative. This follows the assumption that when rural communities derive

meaningful economic value from the natural environment, they are more committed to pursuing sustainable conservation and management regimes, (Assies 1997: 1,FAO 1995a,Neumann and Hirsch 2000: 1,Richards 1993) in addition to whatever conservation skills they may have already adopted over time. It is in this context that the extraction of non timber forest products (NTFPs) has become important in the conservation discourse. It is argued that sustainable exploitation and commercialization of NTFPs have the potential to play a vital role in conservation strategies of rainforests, savannah vegetations and the general biological diversity than other land uses.

### **Significance of NTFPs**

It is estimated that up to one billion people depend on NTFPs at least for part of their incomes and that about 80 percent of people in the developing world directly use resources from the environment for either food or medicine (FAO 1997). Some 150 or more species of NTFPs are involved in international trade (WWF 2007).

In Ghana, the livelihoods of many rural and urban folk depend on the collection and trade of NTFPs. According to Falconer (1990), they are particularly important to communities that live close to forests in Ghana and shows that these products give a wide array of support to the livelihoods of these communities – filling income gaps during times of economic hardship and not only as sources of food and medicine, but also for handicrafts, as construction materials and materials for making farm implements. Agyeman (1996) reports that monthly contribution of the trade in *Marantaceae* leaves to the Ashanti regional economy of Ghana was about £43,600 in 1990. Most of the peri-urban and rural non-farm sectors are NTFP oriented. They usually involve the collection, processing and trade of these NTFPs.

For the purposes of our study NTFPs are defined as ‘biological resources of plant...origin, harvested from natural forests...wooded land and trees outside forest’ (FAO 1999)

## **1.2 The Problem**

The importance of NTFPs in terms of their commercialization and their contribution to sustainability of livelihoods and biodiversity has increasingly occupied centre stage in academic research. Their commercialization is said to contribute in diverse ways to the incomes of different categories of rural communities. It either supplements the incomes of many rural people who use this means to fill income gaps, especially during the lean season of agriculture or bust periods of other non-farm business ventures, or it is their main income source. In some rural areas, those who are involved in NTFP commercialization as their main source of income are the poor. In others, it is an important economic venture. Some urban dwellers make their livelihoods from the sale of forest related products like chewing sticks, raffia baskets and mats, bamboo furniture, etc. (Agyemang 1996,Blay 2004,Falconer 1990: 48,Neumann and Hirsch 2000: 17,Wunder 2005). Additionally, there are organizations and indi-

viduals who specialize in the commercialization of NTFPs either for exports or for processing.

The situation is no different in Ghana. Falconer (1994) reported that in Kwapanin, a village in a forest zone in Ghana, about a third of the women engaged in the collection and sale of *Marantaceae* leaves. The author estimated that there was demand for about one million bundles of *Marantaceae* a month and that this fetched income to the tune of £47, 000. However a few years later, Bih (2006: 3) revealed that the uses of the leaves had fast been replaced by plastic wrapping materials and that its market was fast collapsing. Meanwhile, market for shea has been expanding enormously with a great potential for the future.

The difference is that with trade liberalization, the Ghanaian economy provides opportunities to some of these products to thrive; whilst others lack the competitive edge to withstand the competition from imported substitutes. For example, it has made it possible for shea nut/butter and similar local products to be exported, in the process stimulating collection and enhancing their economic competitiveness. At the same time, it often leaves other products that have in the past been economically valuable with almost no value. Today in Ghana, chewing stick, for example, has been largely replaced by tooth pastes, local sponges by synthetic ones and raffia mats by foam mattresses. This is not surprising. In general, in trade liberalizing economies like Ghana, when local products fail to meet the standards of imported commodities, they cannot survive the competition of the global market. Furthermore, as societies such as Ghana's develop, changes occur in the industrial base and tastes of their citizenry. The latter expect to consume higher quality products and they are reluctant to make do with same goods as in the past, especially if their quality is considered inferior and below expectations.

Against this backdrop, it becomes legitimate to question the future of the commercialization of forest products. It becomes necessary to give critical consideration to the reliability of their commercialization and to assess whether they can withstand the emerging shocks of development, trade liberalization and the continuing insertion of the Ghanaian economy into the global economy. It is also important to ask if this can be worthwhile, at the same time, being concerned about the sustainability of their resource base. This paper explores these issues by focusing on the extraction and commercialization of *Tetrapleura Tetraptera*, *Marantaceae* leaves and Shea nuts in Ghana.

Shea butter is used as raw material for the production of cooking oil, margarine, soaps, detergents and candles. It has also become an important substitute for cocoa butter in the confectionary and chocolate industries (RAISE 2002, Yinug 2008) and increasingly gaining recognition in the cosmetic and body-product industries (Lovett et al. 2003). The shea tree, scientifically named *Vitellaria Paradoxa*, is found in the semi-arid parklands of Sub-Saharan Africa. In Ghana the tree does well in the semi-arid zone, especially in the three northern regions of the country (Lovett 2000: i). According to Olukoya (2008), about 600,000 women are involved in the shea trade in the Northern region of Ghana alone.

Fruit of the *Tetrapleura Tetraptera* has both local and international markets. It is used predominantly by the Ashantis in Ghana as a spice in food. It also has rich medicinal properties. Its international market, though small, is com-

posed solely of Ghanaians in the Diaspora. The fruit is greenish but becomes brownish when ripe. According to Irvine (1930), the *Tetrapleura Tetraptera* tree, locally called *prekese*, is found in deciduous and fringing forests.

*Marantaceae* leaves on the other hand come from an herbaceous plant that is usually found as undergrowth on forest floors. They thrive mostly in disturbed forest sites but are also found abundantly in some forest reserves. The leaves have been found to have been very important in the NTFP business in Ghana. It has a local (national) market base only. They are commonly collected by women and sold predominantly for the wrapping of food, meat, kola and other products (Agyemang 1996).

### **1.3. Relevance of the Study**

Research has shown conclusively that NTFPs are important to both the rural and urban economies, providing sources of food, income, cultural identity and medicine. While appreciating the classic works that have been done so far, systematic exploration of sustainable commercialization of the NTFPs, looking at the opportunities and problems associated with their commercialization, can help shape policies for rural poverty reduction and conservation of forest and savannah resources, especially in Ghana.

Knowledge of the opportunities and problems associated with the commercialization of NTFPs that have been selected, their ability to withstand the test of time and where they are located, is important for informing rural economic policy decisions.

The work will also add to the body of knowledge on NTFPs and fill gaps in the Ghanaian context. It may also give impetus for developing a framework for assessing the potentialities of sustainable commercialization of NTFPs.

Though the three NTFPs that have been selected are not the only major NTFPs in the Ghanaian context, they are indicative of various elements for the assessment of their potentials. The shea nut/butter is chosen because of its current significance as an export commodity with its relatively promising future in international markets. *Tetrapleura Tetraptera* is chosen because of its cultural significance which has gained it an international market mainly for certain tribal groupings from Ghana who are in the Diaspora. *Marantaceae* leaves are chosen because they are limited to the local market and they have been the focus of many studies.

### **1.4. Objective of the Study**

The study explores the possibilities of sustained commercialization of the above NTFPs within the context of ecological, socio-political, and economic and market considerations.

### **1.5. Research Question**

This research seeks to explore the following questions:

- What institutions mediate access to and control over the resource base of the NTFPs and how do these affect their sustainability?
- How do the physical characteristics of the NTFPs, availability of technology and substitutes influence their economic value?
- What markets are available for these NTFPs, how do their market chains affect the distribution of benefits and what institutions regulate these markets?

## 1.6. Methods of Data collection

Data for the study was collected from primary and secondary sources. Primary data collection was through the use of semi-structured interviews in three main extraction sites, each representing an important harvest site for the NTFPs under consideration. The harvest sites were West Mamprusi district in the Northern Region of Ghana and Sekyere West and Ofinso South districts in Ashanti region.

West Mamprusi district is selected for its importance in the extraction of Shea nuts and processing. Recently, UNIFEM donated and installed Shea butter extraction machines for women cooperatives in the area and this made the site a suitable choice for our study. It was also interesting among other things to find the difference the availability of modern machines makes in their business and how cooperatives have strengthened their bargaining power.

Sekyere West is known for the extraction and commercialization of the fruits of *Tetrapleura Tetraptera* and Ofinso has villages like Kwapanin, which are important sites for the extraction and sale of Marantaceae leaves. Many studies have been carried out on the Marantaceae leaves in this place (Falconer, 1990; Agyemang, 1996).

The activities that are involved in the extraction, processing and commercialization of these products in each of the sites are almost homogeneous and we did not observe large variability. As a result, purposive sampling was adopted to select the people in these places for interviewing. The interviews aimed to get information along the lines of our research questions. Our target population was mainly women as no man was found to be involved in these businesses. According to Falconer (1990) and Agyemang (1996), women are the main players in both extraction and sale of most of the NTFPs in Ghana, especially in those which form the basis of our study.

Some selected middlemen, both individuals and organizations that work with the local people were also interviewed. This enabled us to obtain information on how they enter into contracts with local people, how the contracts are enforced and the general market conditions of the trades. We also interviewed government officials to ascertain the availability or otherwise of public institutional arrangements to guide the commercial sector of NTFPs.

Secondary data involved reviewing the literature on NTFPs. Analysis is mainly qualitative with the introductions of a few quantitative measures.

## **1.7. Limitations of the Study**

It was not possible to obtain in-depth information from selected buyer companies as they were not ready to disclose their business operations. Some of them did not give audience at all. This made it difficult to cross check some information obtained from interviewees. Additionally some important information was not obtained. Less literature was available for *Tetrapleaura Tetraptera*. These problems have to some extent meant that our work lacks some concrete qualitative evidence and have affected the rigor with which some arguments could be made.

Selection of three products has not allowed for detailed study of the subject. This work does not claim therefore to cover all pertinent issues on the products chosen.

## **1.8. Structure of Paper**

The paper contains five chapters. The second discusses the conceptualization of sustainable commercialization of NTFPs within the frameworks of sustainable development and global value chains. These are used for a theoretical discussion of the case in chapter four. Chapter three provides on-the-ground account of the NTFPs from socio-political issues that affect their extraction to economic and market issues that affect their commercialization. Chapter five gives a conclusion of the study.

## 2. ANALYTICAL FRAMEWORK

There are no systemized frameworks within which data on NTFPs can be analyzed, (Pérez and Arnold 1996). However use can be made of the frameworks of Sustainable Development and Global Value Chains. Before we proceed to discuss the frameworks for our analysis, we shall first attempt to explain what is meant by *Sustainable Commercialization* as it is used in our context.

### 2.1. Sustainable Commercialization

According to the Brundtland Report (1987), among other things, ‘development involves a progressive transformation of [the] economy.....’ However, to ensure that it does not lead to the squandering of resources which should be available for both now and the future, ‘development policies [must] pay attention to such considerations as changes in access to resources and in the distribution of costs and benefits.’ Economic development partly involves the commoditization of the natural resource base. This is because ‘economic growth and development obviously involves changes in the physical ecosystem’ (*ibid*), as the physical environment is used as a tool to achieve the required economic development. Sustainable commercialisation, as used in this paper, is based on the spirit and letter of the argument that economic development should take place in harmony with nature.

Commercialization has been severally defined, though with similar and related meanings. It is defined for example as ‘the process of developing markets and producing and delivering products for sale (whether by the originating party or by others)’ (Servo 2007). Lyons (2007) further defines it as ‘the act of structuring and managing a commercial venture on a business basis for profit, including the sequence of actions necessary to add value and to achieve market competitiveness of new and existing technologies, products, services and processes.’ Sustainability on the other hand is defined by Wikipedia as “capacity to maintain certain process or state indefinitely” whilst the Rainforest Foundation of US (2007) defines it as “the using of products of nature in a way that will not permanently destroy them for future use.” Based on the above definitions and for the purposes of this study, *sustainable commercialization* will be interpreted as the ability to maintain a NTFP on the market over the medium-long term whilst ensuring that its natural resource base is perpetuated for future use. In other words, it implies sustainable extraction of a commercial NTFP whilst at the same time maintaining its competitive edge in the market.

### 2.2. Politics of NTFP Extraction

Analysis of the extraction (harvesting) of NTFPs will be carried out in the framework of Sustainable Development (Barbier 1987). Sustainable development is viewed by Barbier within three core pillars - the biological



resource system, the economic system and the socio-political system. These three systems are said to be intrinsically intertwined and mutually reinforced. To ensure that the development process inures optimal benefits to mankind; it is assumed that all three systems should work optimally. The concept however has a weakness - it may not be possible always to achieve maximum benefits concurrently in all three systems. Be that as it may, it serves a valuable purpose when it comes to analyzing extractivism of NTFPs within our context. It addresses the three main factors within which we wish to locate our analysis of sustainable extraction and commercialization of NTFPs. To achieve sustainable extraction, socio-political and economic considerations need to be considered together with the resource base (the biological).

Socio-political factors range from institutions (how extraction and marketing are organized) to the players who are involved in the extraction and marketing of the product and their social capital and networks. We shall dwell however on extraction for a moment whilst we treat marketing in the light of value chains later. Institutions, formal or informal, mediate the harvesting of NTFPs and affect their rate of extraction. In Ghana, at least two main forms of tenure regimes (private and communal) mediate the access to and control over the harvesting of NTFPs. Shea and *prekese* are predominantly found in privately managed lands. Private, in this case may be individual ownership or family ownership. *Marantaceae* leaves have communal access because forests where they are found are deemed as open areas. As Mearns has noted, institutions are ‘regularized patterns of behaviour between individuals and groups in a society’ (in Leach et al. 1999).

Social capital, which is ‘connections within and between social networks’ (Wikipedia), is also an important concept that affects sustainable extraction of the NTFPs under consideration. Where extractors have informal collection groups, this may give them an advantage in terms of the quantity extracted and the frequency of extraction compared to those who extract individually. Individuals may often not be able to go into the forest for security reasons. However, in the absence of rules and norms that are strictly followed, extraction under communal access regime may lead to a quick depletion of the resource base if the parts of the resource extracted are relevant for their regeneration (FAO 1996).

Neumann and Hirsch (2000: 30) also introduced the issue of gender, which for our purpose connotes the “process of being or becoming a [male or female] or actions in accordance with particular forms of masculinity” (Unterhalter 2007: 1). To these authors, there is “a distinct spatial division of labour” where women usually extract NTFPs from the fringes of the resource base whilst men are able to adventure deeper into it. Men therefore extract the best of the NTFPs and make more income than women. Where extraction is done mainly by women there is possibility that they may over-extract the resource base, since their extraction will concentrate in almost the same place with less time for regeneration. However, Agyeman (1996) reveals that at Kwapanin in Ghana, women have collection groups and are therefore able to do the harvesting from distant forest areas.

From the economic standpoint, availability of labour for extraction and technology for processing can determine commercial sustainability. A family with more labour for extraction will tend to extract more than a family with

fewer members. Where there are a lot of families with a large family labour force, unregulated extraction may affect the resource base even if the product does well on the market. In addition, Peluso (1992) and later Neumann and Hirsch (2000) came up with a negative correlation between NTFP extraction and income. They postulate that rate of extraction decreases with rising income levels of extractors and vice versa. This is mostly true when the NTFP business is considered the last resort in the options for income generation. It may not be valid, however, when the NTFP extraction and trade are the preferred livelihood options.

Furthermore, there is a positive correlation between the rate of exploitation of a NTFP and increases in its economic value and hence increase in its demand (Homma 1996: 59). A rising demand will lead to a rise in price. This will motivate extractors to increase extraction till the resource base is depleted when price continues to rise. At that point the resource base cannot support any further demand (*ibid*). It is worthy to note also that sometimes the resource base can be depleted faster than it can be anticipated.

Higher economic value of a NTFP can also motivate the participation of powerful people in its trade. They may eventually block the access of ordinary members of the rural communities to the resource (Neumann and Hirsch 2000). However, the participation of powerful people may not be at the level of access to the resource base, it may be in marketing. Agrawal (2007) also notes that uncertainty of future economic value and returns of a forest resource may compel excessive exploitation of it today. To ensure sustainability therefore, economic value should be seen to have the potential to increase, both today and in the future. This will avert possible discounting of future benefits to today and hence indulge in unsustainable extraction – this buttresses the need for sustainable commercialization as defined earlier. It is important to establish that it is intrinsically related to sustainable extraction. The market for some NTFPs in the Amazon region fell because extractors could not meet the volume of demand, (Richards 1993).

Another perspective can be explored by linking the biological and economic systems of NTFPs. This focuses on nature of these resources and their economic potentials with a view to extracting economic returns from them. For example, the nature of an NTFP, in our instance, *prekese*, *Marantaceae* leaves and shea can differ in diverse ways - from yield, perishability to the seasonality of natural supply. These characteristics to a large extent determine economic value. Where the NTFP is perishable and cannot be kept for more than a limited period, like the leaves in our case, it becomes difficult to store it or transport it to far away market centres, especially at the same time road infrastructure leading to market centres is not good. Such problems may speed up options for synthetic substitution. Similarly, where NTFPs have low yields with a boom-burst cycle of regeneration, their availability and supply becomes unreliable.

Additionally, where the NTFPs have limited processing ability, like the leaves and to some extent, *prekese*, they are unlikely to maintain their competitive edge on the market, except for specific reasons like cultural importance, which *prekese* seems to possess. In such a situation, the product's market will be limited to the local confines of that cultural setup or amongst groups of that

culture living elsewhere. Furthermore, economic value has a direct correlation with how fairly the market is organized.

### **2.3. Nature of Market**

Nature of the markets of our NTFPs will be analyzed within the framework of value chains. The value chain “describes the full range of activities which are required to bring a product or service ... through different phases of production [and] delivering to final consumers ...” (Kaplinsky and Morris 2001: 4). Value chain analysis has increasingly become vital in an era when both national and global markets are undergoing various transformations, and with a rapid integration of the global economy (Kaplinsky and Morris 2001: 1). It is argued that value chains are important today because of three reasons. First, there is specialization in production of different components of goods across many countries and regions of the globe and this has deepened global competition. This has a background of the theory of comparative advantage. Today, the nationalized and globalized nature of most markets has necessitated specialization along country or regional lines. Second, to be an effective player in the global market place, efficiency in production cannot be downplayed. Third, accessing global market may lead to sustained income (Kaplinsky and Morris 2001: 9) but this may not always be true. It will depend on how competitive the producers and their goods are. However, value chain analysis also helps to show whether local producers benefit from being connected to both the local and global market or they are exploited. With this analysis we are able to identify how much local producers of shea butter/nut for example, receive for being connected to the global market. It also helps to assess whether a given market is growing. In our case, value chain analysis shows that the *prekese* trade is underdeveloped whilst the leaves trade is shrinking at a faster pace.

It is however inferred from the above reasons that though effective insertion into both local and international markets can lead to income growth, efficiency in production is required in order to withstand the systemic competitiveness which has recently characterized the market. The ability of our NTFPs to meet the pace of both today’s and tomorrow’s competition of the market in order to ensure sustained incomes for local producers will depend to a large extent on their ability to meet the efficiency-in-production criterion. This can be achieved through upgrading, which forms an important part of the value chain analysis.

#### ***2.3.1. Upgrading***

Upgrading is defined as “the ability to make better products, to make products more efficiently, or to move into more skilled activities” (Pietrobelli and Rabellotti 2006: 1). Pietrobelli and Rabellotti argue that the necessity for upgrading is more than market interactions and mere knowledge of prices and quantities, but more importantly, includes “[l]aws, regulations, social rules and norms, technical standards and cultural habits [which] constitute the institutional context within which firms and organizations interact” (*ibid.*: 5). Following Humphrey and Schmitz (2000) as discussed in Pietrobelli and Rabellotti (2006: 11), four main types of upgrading can be categorized: process, product, functional

and inter-sectoral upgradings. For the purpose of this paper, attention will focus on process upgrading and product upgrading. For NTFPs to effectively compete on the market, processing as well as outputs has to be under constant improvement to meet buyers' taste and expectations. Process upgrading involves "transforming inputs into outputs more efficiently by reorganizing the production system or introducing superior technology. Such efforts do not only reduce cost per unit of goods produced, but also increases the ability to produce goods that meet buyers' expectations" (*ibid*: 11).

Product upgrading on the other hand involves the enhancement of the form, nature and all other features that come together to increase a product's economic and intrinsic values (Enzama 2008: 13). Kaplinsky and Morris (2001: 37), buttress the need for upgrading and argue that it is not enough just to innovate, if the innovation does not take place at a pace as fast or faster than other competitors. They assert that "if the rate of innovation is lower than competitors, this may result in declining value added and market shares" (*ibid*). Where there seems to be no form of upgrading, as in the case of *marantaceae* leaves, that market will be overtaken by substitutes which are enjoying faster rate of upgrading. Where there are no immediate forms of substitution, as in the case of shea, efforts will be made by members of the chain, or sometimes, outsiders to facilitate upgrading.

### **2.3.2. Governance**

Despite the core importance of upgrading in the value chain analysis, it is usually mediated by the kind of value chain governance available. The importance of governance cannot be underestimated. At any particular point in the chain, a mechanism is needed to ensure that decisions are made about what kinds of commodities should be produced, how they should be produced (technology and quality standards) and the quantity to be produced. Governance is supposed to involve the effective participation of all the parties along the chain, (Pietrobelli and Rabellotti 2006: 9). Gereffi and Korzeniewicz's (1994) work, which is often hailed for pioneering the global value chain framework among other things give critical consideration to differences in the balance of power, especially in what they refer to as "buyer-driven" and "product-driven" networks. In their 2005 work, Gereffi and his colleagues adopted three factors to construct a theory of value chains: "The *complexity* of information and knowledge transfer to sustain a particular transaction, particular with respect to product and process specifications." Additionally "[t]he extent to which information and knowledge can be *codified* ..." and finally "[t]he *capabilities* of actual and potential suppliers in relation to the requirements of the transaction" (Gereffi et al. 2005).

Based on the above, "Captive value chains," and "Hierarchy value chains," were among five combinations which Gereffi and his colleagues used arrived at. The two types fit into the contextual reality of the commercialization of shea butter/nut but the other two types do not fit into any of the categories. In captive value chains, if the supplier is not able to meet the requirements of the buyer, that may necessitate an intervention from the lead firm (which is usually the buyer), "encouraging the build-up of transactional dependence as the lead firm seeks to lock-in suppliers in order to exclude others

from reaping the benefits of their efforts,” (*ibid*). In such a case the lead firm can unilaterally determine the terms of the relationship, including pricing and can also give credit which may lead to inter-linked relationships, a result which is sometimes inimical to the weaker party, making them susceptible to a situation which enables the superior party to extract much of the value added at their expense.

The hierarchy value chain on the other hand arises when requirements of products (i.e. their specifications) from buyers are so complicated that suppliers cannot codify and produce, or suppliers with such capability cannot be found. When this happens, lead firms are compelled “to [develop] and manufacture [the] products in-house” (*ibid*). As will be shown later, the shea trade has metamorphosed along these two scenarios:

In developing countries, value chain participation by small to medium scale firms is seen as the best ways to benefit from knowledge transfer, access to up-to-date information both from the local and global markets and above all, access to the market itself. However the exact roles that lead firms in the value chain play to “[foster] and [support] the SMEs’ upgrading process” are less clear, (Pietrobelli and Rabellotti 2006: 9). There are indications that lead firms in the shea value chain play a role in helping producers integrate more into the market, but third parties, who are not part of the chain, also play significant roles. In the other NTFPs nothing is observed as there are nothing like lead buyers.

Distribution of the returns to value addition along the chain is vital to keep it functioning. Transparency in the contract specification or bargaining process may contribute to a better distribution of the value-added resulting from improved performance (Ruben et al. 2007: 13). Power – i.e. unequal positions economically or politically influence bargains struck and the nature of trade relationship. A powerful partner (middleman) can dictate how the contract should go. Such actions will render the terms of contracts, expressly or implicitly agreed on with extractors or local processors impotent - already, “institutions or formal rules of behavior that facilitate market exchange tend to be absent or weakly developed in many developing countries” (*ibid*: 26) including Ghana. Unequal contractual relationships also arise from interlinked agreements. Such a relationship will lead to exploitation of the weaker partners by not transferring to them returns from price increases or not paying them the prevailing market prices for their products. This can however be injurious to the sustainability of the market for these NTFP - according to Richards (1993: 10), among the factors that led to low production response for Brazil nuts in the late 1980s was the fact that other members the upstream of the Brazil nut supply chain failed to transfer price increases to extractors. The need, therefore, arises to create institutions that organize people with the common goal of promoting their interest, or a collection of rules and regulations that regulate the behavior of a group of actors, (Leach et al., 1990; Ruben et al., 2007: 19). Extractors and local processors can organize themselves into cooperatives to strengthen their bargaining power and avoid information asymmetries and exploitation. Another aspect of institutions is government policy, not only on the access to the NTFPs but also to control arrangements that surround the relationship between extractors and middlemen. Such policies and their legal envi-

ronment empower local people (with help from NGOs) and create platforms to seek redress in events of exploitation

### **3. FROM EXTRACTION TO MARKETING OF SHEA, PREKESE AND LEAVES – REALITIES ON THE GROUND**

This chapter describes three main issues in the context of the three NTFPs in Ghana - socio-political issues that affect the extraction of resources, their ecological characteristics and how they influence economic value and the value chains that characterize marketing.

#### **3.1. The Politics of NTFP Extraction**

Many critical issues surround the extraction of Shea nut, *Tetrapleura Tetraptera* and *Marantaceae* leaves and hence, tend to influence the sustainability of their natural supply. These include tenure regimes of the resource base, social capital and norms, and social differentiation and the number of people involved. This section explores these issues in detail as they exist in the case study sites.

##### ***3.1.1. Right of access to the resource base***

We commence by describing the of access regime under which extractors interact with the resource base. Access rights mediate the interactions between the people of a community where a NTFP is found and its resource base – i.e. how harvesting and management are organized. Under access rights it becomes possible to determine governing issues such as who has the right to harvest? Where? How much and for whose benefit? This section considers the above questions.

##### **Access rights to the shea trees**

Shea trees generally grow wild, without much need for special care and nourishment, though this wildness is contestable. Lovett (2000: i) argues that the general view that available sheanut trees are the result of natural wild population is quite misleading and could result in ‘poor management strategies that aim to improve production and conserve this valuable resource’ (*ibid*). We argue that in Ghana, shea trees found on agricultural lands are unconsciously cared for, as people eliminate unwanted ‘woody species during fallow clearance and select sheanut trees using criteria based on spacing, health and yield” (Lovett 2000: i). They can therefore be said to have been “semi-domesticated following long term ‘natural’ and ‘unconscious’ selection during cycles of traditional fallow and crop cultivation’ (*ibid*). The shea tree is found largely on individuals and families farmlands. It has huge economic importance in this area and its economic significance makes it an important asset. Each farm owner, by custom, has absolute right over the trees found on their farms and it becomes criminal, according to custom, for another person to pick the nuts from someone else’s farmland without prior permission. According to some respon-

dents, such action can warrant physical assault from the land owner. The land owner may also choose to pardon and caution the trespasser or report the case to the local chief who may in turn adjudicate the case and pass judgment. The defendant, when found guilty, may be required to compensate the plaintiff or hand over the nuts. The respondents concede however that despite this mechanism, some people still sneak into others' farms to pick the nuts, especially at dawn. Generally however, the harvesting of the Shea nuts takes place predominantly on private farmlands. Though some of the Shea trees are found in open areas, such areas are so remote that harvesters will rarely patronize them.

### **Access rights to *Tetrapleura Tetraptera***

The situation does not differ much with *Tetrapleura Tetraptera* (called *prekese* locally). There three forms of access rights *prekese*, though all are informal: first, most of the *Tetrapleura Tetraptera* trees are found on private farmlands where owners have absolute right over them and their fruits. However, some are found in common areas and as such, belong to the entire community and their fruits can be picked by any member of that community. Finally, in cases where individuals enter the bush (open areas) and clear weeds around some of the *prekese* trees as if for farming purposes, this automatically gives them sole rights over such trees. Again they are more productive when they are properly maintained by eliminating unwanted woody species around them. The owner of such trees can compel person(s) found picking the *prekese* fruits from under such trees to hand them over.

### **Access rights to the marantaceae leaves**

*Marantaceae* leaves, in contrast, are found largely in forest reserves and transitional forest zones. The most popular harvest site, as has been indicated, is in the government forest reserves of the Ashanti region and Kwapanin, a small village at the fringe of the forest, is popularly known for the leaves trade. Though the forest is under the management of the Forestry Department of Ghana, no form of formal access right was found to be required for women to enter the forest to harvest leaves. To this effect, there is no form of formal property right over access to the forest and *marantaceae* leaves. In this context, the forest can be referred to as an open space for women who engage in this activity. One's access to and control over the leaves cannot be restricted by another person. The only entity that can restrict it is the Forestry department. Women are given free access as part of arrangements to ensure that they obtain some benefits from the forest, which the local people perceive to be their ancestral inheritance. However, this was only made possible after Julia Falconer<sup>1</sup> advocated for the abrogation of a permit regime that used to be in place. Under that regime, women paid money to the Forestry Department to

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<sup>1</sup> she was then in Ghana as a forestry research agent from ODA, working at the Collaborative Forest Management Unit of the Forestry Department in Kumasi, Ghana



enable them obtain permits with which they could enter the forest to extract leaves.

### ***3.1.2. Social networks and norms in extraction***

Apart from the vital role that tenure regimes plays in the harvest and management of the resource base, interrelationship between and among members of the communities who jointly benefit from such a resource cannot be over-emphasized. This inter-relationship is mediated by norms and social capital, but is largely influenced by the tenure regimes present. These together affect not only the rate of extraction of the given resource but its sustainability.

#### **Shea nuts**

Considering that Shea nuts extraction takes the form of private tenure regime, harvesting groups, as found for other NTFPs, were not an option. Additionally, there seems to have been an impression amongst respondents that, because the Shea trees are found on individual farmlands, there is little competition in terms of how fast and how many nuts one can harvest within a given period. Furthermore, it does not place much necessity on having more family labour for picking the nuts, especially as they are per se, not perishable – they can therefore be gathered and sent home a little at a time and stored in safe places (after the kernel has been extracted from the nut and dried to remove moisture content) until the women have time to extract the butter. This should not, however, be taken to mean that family labour is not required. Need for family labour arises predominantly during processing and usually involves female children rather than male counterparts. This is mainly because the activity and its trade are culturally seen as a preserve for females. However, in times of acute financial distress, they can mobilize more family labour for harvesting and processing. One setback is that most of the dependants of the harvesters are children who are unable to lend the needed support (this issue will be revisited later). In fact, women are the main players in the harvesting and commercialization of Shea nuts/butter. Men assist their wives only in special occasions like the forth quarter of pregnancy or when women are indisposed.

#### **The *Tetrapleura Tetraptera***

Similarly, the nature of property rights over access to *prekese* is such that they have not necessitated collection groups as occurs with *marantaceae* leaves. However, sometimes women require family labour, especially during periods of financial downturn. This is to increase the harvest in order to increase income. Since harvest takes place predominantly on individual farmlands and the business is not the main income source of people concerned, questions as to whether harvesters, who are generally women, can go deeper into the bush do not arise. In fact, men were not found to be key players in this business; and women engage in it only to supplement their incomes, which come generally from farming and petty trading. Because it is not considered to be a major source of income generation, there is nothing like employment of neither labour nor intensive use of family labour.

## **The *Marantaceae* leaves**

Harvesting of the *marantaceae* leaves, as mentioned earlier, takes place in forest reserves. Interaction of harvesters is more common and regular and there is competition to harvest as much of the leaves as possible, especially during the time the trade was at its peak. There was however, consensus on ways of safeguarding the sustainability of the resource base. Harvesters therefore have some norms which guide their interaction with the forest, especially in terms of their harvesting expeditions. For example, they do not harvest young leaves. This norm is adhered to by all the players. Young leaves are susceptible to early spoilage but such a norm is also primarily, to ensure fast regeneration and sustainability of the resource base.

Informal collection groups are also common with harvesting of the leaves. In fact, it is the only NTFP among those under consideration that has informal collection groups. This is based on three main reasons. First, the forest is so vast that the possibility of getting lost is high. When they are in groups, their ability to trace their way back is much easier. One young woman narrated how her grandmother got lost in the forest for several hours when she ventured into the forest jungle all alone – youth from the village had to be mobilized to comb the forest in search of her. Second, aside from the possibility of getting lost, group collection are necessary to guard against possible attacks by predators and wild animals found in the forest. Third, collection groups compete among themselves as to which group could harvest more leaves. These reasons together serve to contradict findings elsewhere that women are usually unable to adventure deep into the resource base as their male counterparts (Neumann and Hirsch 2000).

### ***3.1.3. Players in the Harvest and Trade of the NTFPs***

Fieldwork revealed that virtually all players involved in the harvesting and commercialization of the three NTFPs are women, though it was difficult to estimate the actual number involved. However, observation showed that about eight out of every 10 women were involved in the collection of the shea nuts whilst about four out of 10 were involved in the processing and sale of butter in the study area. This, within the context, makes the Shea nut/butter trade most substantial. To them, it is not only the oldest form of business for women but, also their main occupation. Though farming and petty trading are very significant part of their local economy, Shea nut/butter trade takes prominence. The shea trade was also found to be compatible with other forms of business ventures. During the shea nut harvest season, women go to the farm at dawn, collect the nuts and return before late morning. They are then able to do other things like return to work on their farms, sell cooked food at schools or sell shea butter on the local market. All the women involved in the business were also found to belong to almost the same social and economic class. Economic impoverishment could be observed to be engrained in the area, worsened by the near insignificance of agriculture. Agriculture is bedeviled with unreliable rainfall patterns and lack of irrigation facilities as well as low fertility of farmlands, due to outmoded and unsustainable farming meth-

ods. Unsurprisingly therefore, the shea trade is the main income generation venture of most women, who happen, in most cases, to be the main breadwinners of their homes – some are either widows or their husbands are under-employed, especially during the lean seasons of farming but also because farming is not doing well.

Compared to Shea, the number of people involved in the prekese trade in the study area is minimal, and made up entirely of low class and economically vulnerable women. The market is smaller, comparatively, but contains much potential for expansion. The trade has only been a supplementary source of income generation because agriculture is more viable, given relatively fertile farmlands with more predictable rainfall pattern in that part of the country. This is true because the area coincides with the forest zone of Ghana which experiences much of the rain throughout the year, in contrast to the north, where the Shea trade is common. It should be emphasized that the trade is most popular with women who have little reliable social capital such as relatives or children from the cities who could send them remittances – their engagement in the trade becomes a way of diversifying their incomes. This is more significant in the lean season of agriculture when money is scarce.

In terms of the number of people involved, the leaf gathering trade is worse off; it is just a few people who were found to engage in a business composed solely of women, with no form of social and economic differentiation, though a few men used to be involved when the business was very lucrative. In one village, all of about forty women who once traded in the leaves had abandoned it. The use of additional labour was not popular, not even family labour. This is due to two main reasons: first, the *marantaceae* leaves trade has drastically dwindled. Most harvesters no longer see it as a viable venture, especially when they compare the income that accrues from it with the dangers associated with harvesting. Second, it is worthwhile and economically more beneficial to employ family labour on their farms. It was discovered that, but for the forest allotments which had been allocated to the rural folk for farming, poverty would have been more engrained. These allocations have further led to decline in collection of leaves.

## **3.2. Ecological Characteristics of the NTFPS**

This section discusses the significance of the physical characteristics of the NTFPs when it comes to their potential uses and their economic value, especially through value addition (processing).

### ***3.2.1 Yield and nature of supply***

Aside from other factors, the sustainability of commercialization of NTFPs partly depends on the yield and reliability of that yield. Knowledge of the yield of the NTFPs and the nature of their natural supply is therefore important in estimating their commercial sustainability.

### **Shea nuts**

As already noted, the Shea fruit is seasonal. However supply of the nut or butter, depending on what buyers are interested in, can be year round, though it becomes scarce during the low season (from September to May). This is possible because they can be stored and though demand is relatively higher, there is still a great potential. This is partly because the volume of nuts that is picked is relatively meager – only about 500,000 tons are collected annually in seven West African countries, including Ghana (Addaquay 2004: 2). Every year about half of the nuts remain unpicked (Lovett 2004: 1). This can be attributed to the fact that most of the active age groups in these areas have migrated south of Ghana in search of employment, an issue beyond the scope of this study. Because of this, available family labour is usually very young, sometimes the children of those who have migrated. In most cases, they are unable to complement the efforts of women in transporting the nuts home. This restricts the work only to the women, most of whom are usually quite advanced in age.

On the other hand, the use of traditional technology in processing the nuts is still extensive and it is a major bottleneck, yielding an extraction rate of only 20% compared to a rate of 35-40% for semi-mechanized methods (Addaquay 2004: v). The employment of such crude methods does not lead to the production of large quantities of butter at a time. However, it is conceded that annual yield normally fluctuates along a three year cycle, (Yinug 2008). Poor road infrastructure coupled with rising petroleum prices also make it difficult and costly for buying companies to visit the various production areas to buy the produce.

### ***Prekese and Marantaceae leaves***

Like shea nut, the yield of *prekese* is once a year. It is however scarce in some parts of the year due to relatively low demand and lack of storage techniques. In contrast, the yield of *marantaceae* leaves is year round. It requires a cold and salubrious environment to survive, which the forest possesses. The leaves are however perishable. They can last only for a maximum of seven days along the supply chain and therefore their harvesting takes place a day before their sale. Natural supply is constant.

## **3.3. Use Potentials and Processing**

### ***3.3.1. Uses of the products***

Current and potential end uses of NTFPs together with other factors such as demand, determine whether or not a product will be economically significant and hence determine how sustainable their commercialization is likely to be. This section looks at current end uses of the three NTFPs and how significant they have been in determining their economic viability.

## Shea

Nuts of the shea are traditionally crushed and processed for the extraction of a vegetable fat known as shea butter. Aside from this, no major commercial use has been developed from it, though other potential uses have been discovered and, within the local indigenous context, there are several other uses depending on the location. Until recently, the butter was used only for cooking and for the human skin as moisturizer. According to respondents, these uses have been in place for millennia. About 55% of total shea collection is used internally (Lovett 2004: viii) and internal trade is organized predominantly around these uses. Locally, the butter is in demand for cooking, especially by the inhabitants of northern Ghana and it is used as a skin moisturizer against the harsh weather conditions of the savannah zone and during harmattan seasons. However introduction of vegetable cooking oils and manufactured skin moisturizers are replacing these uses.

For a little over a decade, however, export demand for the product has been on the ascendancy. Ghana though, have teething problems with shea production, it is the biggest exporter of home-produced shea butter in the West African sub region. It is estimated that 2,500 metric tonnes were exported in 2002 up from zero in the early 1990s (<http://www.thesheanetwork.net/ghana.html>) and 15,000 metric tonnes in 2004, (Yinug 2008: 31). In 2007, the port value of shea nut was US\$400/t up from US\$150/t in 2003 and in 2008, Ghana is expected to export an ambitious 250, 000 tonnes of shea butter at £200 per tonne (Milmo 2008). This rise in demand is linked to the discovery of new uses, especially in the confectionary and cosmetic industries of Europe and America. About 45% of it is now refined for edible products such as cocoa butter improvers. About 10% of total exported shea butter, estimated at 1,000 – 3,000 t per annum, is used in the personal care products, as rise in its beneficial properties for use in cosmetic and pharmaceutical products occurs (Lovett et al. 2003: 11). It is confirmed that, the value of both the nuts and their butter have increased over the period but it is traditionally tied to global cocoa prices.

**Table 1 Production of and Trade in Shea butter: Ghana (1997-2002)**

Year	Production	Export (t)	Export (\$1000)
1997	55,000	24,253	5,267
1998	53,000	9,137	1,764
1999	52,000	5,523	1,702
2000	65,000	55,858	7,881
2001	65,000	5,051	419
2002	65,000		

Source: (Lovett et al. 2003: 11)

**Table 2 Export of Shea nuts from Ghana (2002-2006)**

Year	2002	2003	2004	2005	2006
Export (MT)	27,625.500	66,996.900	8,895.089	165,508.326	104,755.253
Export (\$)	6,125,464.08	16,746,385.57	2,463,114.00	28,968,495.00	27,248,779.00

Source: Ghana Export Promotion Centre

This has somewhat increased the incomes of local harvesters and processors. One report indicated that one group of producers now makes US\$10 profit on each 100 kilograms of shea butter up from US\$2 previously (Olukoya 2008). The shea trade used to be under a cocoa marketing board, but since 1991, policies decisions led to its separation from this board, but without any public sector regulations (Chalfin 1996). Unlike the cocoa trade, which has private sector participation but regulated by a board, foreign private companies dominate the Shea nut/butter export with no proper regulatory environment, an issue that will be revisited later.

Prekese is on the other hand used as a flavour in food, especially by Ashantis, (an ethnic group, in Ghana) and by the Ashantis in the Diaspora. It has medicinal uses (Addae-Mensah et al. 2000) and is used largely in the local herbal medicine industry – one of such is Aduana Traditional Herbal Centre, which uses prekese in the cure of Fever, Typhoid, Malaria, Menstrual troubles, Rheumatism, Asthma and Cough. It is, however, not known how much demand comes from this industry.

*Marantaceae* leaves are used to wrap an array of items including food and cola nuts. Respondents lament that at the moment the only available uses to which the leaves can be put are wrapping *nkyekyerema*<sup>2</sup> and cola nuts though plastic wrapping materials compete with it in terms of the cola nuts. The limited use to which the leaves can be put has made the business unviable.

### ***3.3.2. Processing of the NTFPs***

The ability of local harvesters to process NTFPs at the local level shapes their ability to add more value to their product and increase their income from it, which is a necessity to achieve sustainable commercialization. Today, with the three NTFPs, it is only shea that is processed at the local level.

The Shea nut goes through a chain of processing until the butter is extracted. Three main ways exist for the extraction of the butter: traditional, semi-mechanized and mechanized methods. With the traditional method of extraction, the nuts are separated from the fruits after they have been picked from the farm. The nuts are then allowed to dry in the scorching sun after which the kernels are removed. They are then further dried either in the sun or roasted on fire to remove all moisture content. If properly dried, the kernel can be stored for a long time. It is then ground in a milling machine after which it is mixed with water and heated in large iron pots on fire. The heating separates the fat from the rest of the grounded matter. The fat is then skimmed and allowed to cool into unrefined shea butter. About 60% of all butter produced in West Africa is through this method (Addaquay 2004: v) including Ghana.

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<sup>2</sup> A local food made from maize and wrapped with *marantaceae* leaves before boiling

This method is however crude, time consuming and to some extent, unhygienic with discovery of impurities. This affects its value on the international market. Additionally, it is not environmentally benign as it involves extensive use of firewood and water, both of which are scarce resources in that area. Their prices are therefore high and tend to make processing expensive.

**Plate 1: Traditional way of extracting shea butter**



Source: *from field*

Though, women rely largely on traditional methods to extract the butter, its booming nature and increasing significance, have led to technological development towards better and more efficient ways of butter extraction. Ghana Regional Appropriate Technology Industrial Service (GRATIS) in part, a government subverted organization, is one of the institutions that have developed set of machines to modernize the extraction process. These semi-mechanized machines have been designed to undertake all the processes undertaken in the traditional method. Respondents testified that the machines make extraction more hygienic.

‘Even though semi-industrial methods achieve higher extraction rates than strictly traditional methods...traditional processors have been slow to adopt .....[these] small-scale technologies’ (Addaquay 2004). Their low adoption to these technologies is partly due to their lack of capacity, but they often blame this to low technical standards of some of the machines. Sometimes the traditional method tends to achieve higher butter than these machines, a shortfall which GRATIS accepts. Women also complained that use of the latter’s technology requires exertion of much energy in pressing the butter out of the nuts, a process that is very tiresome. Aside from the extraction of the crude butter, no form of refining was found to be done at the local level. This was again attributed to the fact that the refinery involved the use of specialized processes which, at the moment, cannot be performed by these local processors - they lack the capacity to manage such sophisticated machines (Lovett 2004:6-8).

**Plate 2: Press Bridge (used to press butter out of kernel) and milling machine**



Source: *from field*

On a higher level, there is mechanized (industrial) method of extracting the butter and its refinery. This involves the use of electrically powered machinery. Five main industrial processing plants are currently in Ghana, including West Africa Mills and Juabeng Oil Mills (Addaquay 2004: 2).

Conversely, harvesting of *marantaceae* leaves was found to be done by hand. It does not go through any form of processing. After harvesting, the leaves are put together and tied together in bundles the size of which determines the prices, ranging from US\$0.16 and US\$0.25 each. Not was any form of technology found to exist either for *prekese* extraction. According to respondents, *prekese* fruits are collected when they are ripe and fall under their trees. After harvesting, they go through no special processing before they are sold to middlemen. There is no known technology yet. This is partly because demand for the product is no other form than its original nature. At herbal medicine factories, it is used only as part of a bulk of ingredients in the production of various herbal medicines. Second, it is the raw form that is required if it is to be used in food.

### **3.4. The Economic Value of NTFPS and Sustainability of the Resource Base**

This section discusses how supply, processing, its uses and demand all work together to influence the economic value of NTFPs and how they influence the sustainability of the resource base.

The economic value of Shea nut has been increasing in recent years though yield and global demand fluctuate. This is attributed to the usage it has gained as indicated earlier. Respondents confirm that indeed demand for the product has risen lately. They attribute this to increasing number of buying



companies that have emerged in the areas of production. This, according to them, has increased the price of the nuts/butter. There was no evidence to suggest that the increased economic value has led to unsustainable exploitation of the product. According to respondents, apart from natural reasons, the resource base has not suffered from overexploitation. Two things assure sustainability: first it is only the nuts that are picked, more precisely the ripped shea fruits which fall off the trees. Second, harvesters interact with the trees in such a sacred manner that it leads to their automatic protection – the trees are very important to them to the extent that they will not extract them for firewood or any thing that will lead to their depletion.

According to the respondents, *prekese* has of late also seen a rise in economic demand. Current open market price of one sack (about 50kg) of *prekese* is US\$12.00 up from somewhere around US\$2.00 in 2000. Additionally, they indicated that current trends paint bright future for the business. However, though they claim there has been a rise in its economic value with growth in exports to the Ghanaian Diaspora and because it is used by the booming herbal medicine industry in Ghana, the trade is still small. Over-exploitation has not been experienced either, due to the same reasons as that of shea.

In contrast, the leaves trade has lost its popularity amongst rural women due to loss of its economic value. This development is attributed to the sudden explosion of plastic wrapping materials on the Ghanaian market which, at the moment, perform the functions that the leaves played in the past. The trade is said to be lingering on because of the cola nut and *nkyekyerema* trades. The leaves are currently abundant in the bush as only a fraction of them are currently harvested and sold.

The fall in demand for leaves correspondingly affect price. Their limited uses have sometimes led to their influx in the big cities. However, demand for it rises marginally when cola nut and maize are in season. Players confirm that they hold on to the business only as a way of making quick money to address urgent financial needs. They can not depend on it to any significant measure for their survival. It is seen just as a “by-benefit” for living close to the forest. Most people have abandoned the trade entirely as access to parcels of the forest allotments on which they can farm are deemed to be more lucrative and sustainable and hence, worth channelling all their attention into.

### **3.5. Market Chain of the NTFPs**

This section looks at market interaction between local producers and middlemen along the supply chain. It also looks at the supply chains of the three products and how far they benefit the local producers as against outsiders.

#### ***3.5.1. The Shea Trade***

Three main markets exist: local, national and international. The local market involves the sale of both the nuts and the shea butter. Nuts are sold to women who process them at the local level. The butter is then usually sold either by the same women who do the processing or to local buyers who in turn sell it in

kiosks or at community markets or to markets in nearby urban centres. This business is usually their main occupation. Some go hawking with the product in towns and villages early in the morning and return at sunset.

The national market, on the other hand, involves the sale of dry shea kernels and shea butter. Individuals, usually males, go round villages and towns where they buy dry shea kernels in large quantities at peak seasons for storage against the lean season when nuts are scarce and their prices are comparatively higher. They would sell these kernels to either local extracting companies or to companies who buy them for export. Because of low capital by these indigenous buyers, their trade is quite ad hoc and only opportunistic. Apart from these individuals, there are local companies who use mechanized methods to extract unrefined butter either for local consumption or for export. Aside these two channels, women, who are usually distributors, travel to the producing areas from other parts of the country to buy butter in bulk for distribution to retailers. Buyers have particular people they buy butter from, but this relationship does not go to the extent where they could give credit to the processors. Sometimes the relationship is so good that they rather may buy butter on credit and pay at the next purchase. Some women buyers, especially those from the main cities like Accra and Kumasi, go in groups with their own hired lorry. This makes the cost of transportation a bit cheaper.

In terms of the international market, buying companies move from one village to another with large trucks to buy either dry kernel or processed unrefined butter for exports. The leading companies in Ghana include Kassardjian Ghana Ltd. and Olam Ghana Ltd though there are several other small ones like Savannah Fruits Company and Technoserve Ltd. These exporting companies have contract arrangements with big global end-user companies - including Aarhus United in Denmark, Karlsham in Sweden, Loders Crocklaan in Holland or Fuji Oils in Japan. Much emphasis is currently being placed on processing at origin. Because of this, most of the buying companies prefer the purchase of the butter to the kernel. It is not unpopular therefore to find that a lot of the nuts are processed before they are sold for export.

Contracting, as is now common in the agricultural sector (contract farming), is also very common in the shea trade in Ghana. Buying companies, under an informal contract, give monies to women in exchange for a certain quantity of Shea butter/nut. They are then tasked to produce the required quantity within a specified period with emphasis on certain quality and packaging standards. The buying companies then come at the end of the contracting period to take the butter/nut to their warehouses for onward transportation to the ports for export. It has become a convention that some of the buying companies give bonuses to the women at the end of each contract period. It was also realized that the women do not only process the butter, but have to package it in boxes of 25 kg.

A buying company pays US\$40.00<sup>3</sup> for a box that contains 25 kg of Shea butter. The women revealed that they can make a profit of about US\$2.50 on each box after considering the cost of shea nuts, firewood and water. Where they have their own shea nuts, they can make as much as US\$37.50 profit on each box. At the moment, one sack (about 90kg) of shea nuts costs US\$30.00. One sack of nuts can produce a little over 25kg of butter. This means that aside the profit that is made; they can make extra butter on each sack, which they reveal becomes their profit as well. What is obvious here is the fact that the most popular channel choice is that of a long standing middleman/firm – women cooperatives scattered all over the shea nut catchment area have their own buying companies.

Generally in the area of production, processors have formed cooperatives and they do not deal individually with the companies. Assistance has been received from many NGOs and international development agencies like UNDP and Tokyo International Conference on African Development (TICAD) in setting up these cooperatives. Their support has come in the form of linkages to markets, assistance in the area of technology and upgrading in basic management skills, improving the bargaining power of processors who are generally women with little or no education. Additionally, most buying companies claim to adhere to the rules of fair trade and claim to pay the right prices to producers. Bodyshop, one of leading users of shea purchases shea directly from the local people. It practices fair trade in its dealings with local producers. Fair trade involves certifications, but it has been low because of difficulties like traceability, which is very difficult in the producing area (Lovett et al. 2003: 15)

### ***3.5.2. Tetrapleaura Tetraptera***

Two main forms of channel choices are popular with the *Tetrapleaura Tetraptera* trade: bargaining and negotiation at the spot and a long standing middleman. Most harvesters, after harvesting, send their *prekese* packed in sacks to the main market centre in nearby towns on market days. Many middlemen then come from the big cities and towns to buy the product. At the market, on-the-spot bargaining is quite common, though most sellers have particular customers (middlemen) to whom they sell their products. Similarly, most middlemen, especially those buying for herbal medicine companies or for export, goes round the villages periodically to buy the product in large quantities. Some of them have customers in the villages who hoard the products for them. Depending on the circumstance, supply chain can therefore involve either one middleman or two - one if the product is for the herbal medicine industry or for export but two; if it is to be retailed to consumers for use in food preparation. Three main kinds of demand also arise; local, national and international. Local demand arises because, within the rural economy, there is

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<sup>3</sup> GH¢1 was equal to US\$1 in July 2008

demand predominantly for use in food preparation. Demand for use as a spice in food is common in the Ashanti and Brong Ahafo regions of Ghana. There is also a national demand, partly due to Ashantis living in other parts of the country who want it for use in their food, but also because of the booming herbal medicine companies scattered in many parts of the country. Interestingly, unlike Shea butter for which there is demand in the international market because of its growing importance in an entirely new area - the confectionary and cosmetic industries, the prekese's international market is demand by Ghanaians for its traditional purposes, especially Ashantis in the Diaspora. Respondents revealed that rising economic value of the product was mainly due to its use in the herbal medicine industry and its export to the Ghanaian Diaspora.

### ***3.5.3. Marantaceae Leaves***

In the *marantaceae* leaves trade, one main form of channel choice is identifiable - a long standing middleman. In the entire study area, harvesters do not have more than two customers who come from the city to buy leaves. A long standing relationship and trust have been developed between them and the middlemen. They told us trust between them and one of their middlemen was so strong that it was easy to see when trade was either good or bad. The middlemen, who are themselves women, go to the villages on particular days of the week to buy the leaves. They would be harvested a day preceding their arrival. This is to ensure that the leaves are as fresh as possible to avert early spoilage when they are transported to the city. They use mobile telephones to communicate how much leaves they want for the next purchase. The use of mobile phones is now popular in Ghana and some villagers own their own phones. Before the inception of mobile phones, they used to indicate how much they needed before they left the village each time. The near collapse of the business in the village can then also be attributed for example to the sudden death of one of their buyers, which occurred when she was involved in a motor accident on her way from the village with the leaves. Respondents said that since then, they have not been able to build the same trust with other buyers. This according to them, induced most of the women to abandon the business. They claim the business was not good in the first place, so having to deal with new buyers who could not be trusted was not worth pursuing.

There are two main forms of supply chain available. The first involves only one middleman who would transport the leaves to the city and distribute them to final consumers, who are usually those who cook *nkyekyerema* for commercial purposes. The second supply chain involves two main middlemen. The first buys the leaves from the village in large quantities and sells them to a distributor in the city who will in turn sell them to her customers, who are generally traders in cola nut, and in some time past, food and meat vendors.

The length of the supply chain was not found to have any impact on the income of harvesters. It was found that the income the harvesters make depends instead on how high or low demand in the city is. We are told demand is higher when demand for cola nut or maize (used to make *nkyekyerema*) rises.

Respondents revealed that the business has further deteriorated because of the recent hikes in the prices of cereals, including maize. It was found that those who prepare *nkyekyerewa* are going out of business because of the global price hikes of grains. This limits the demand base of the leaves and makes it increasingly valueless and unprofitable.

Given the boom-bust cycle of kola nut and *nkyekyerewa* trades, demand for leaves have both temporal and spatial fluctuations. Notwithstanding this, however, demand as it stands today has a national character. This is because kola nut for example, is in demand in most of the northern belt of Ghana and among the various communities in the south dominated by people with northern extraction, (called the *Zongo* communities). It should be emphasized however that some buyers of kola nut will insist on the use of plastic wrapping materials, showing that very soon these materials may out-compete the leaves.

As stated earlier, the main substitute to the leaves has been plastic bags. This, according to the respondents, has adversely affected their business. Though the leaves are cheaper and environmentally benign, consumers prefer the plastic bags. This is attributed to what they call 'development' and general rise in incomes. Even in the villages where leaves are harvested, observation showed that food vendors use plastic wrapping materials.

There is no formal way of entering into a contract. Arrangement to sell to or buy from a person, is mainly based on mutual trust, understanding and time-tested interaction and friendship. Additionally, though price changes are usually quoted by the harvesters, the final price usually lies with middlemen, depending on how good or bad sales in the city are. The respondents tell us they built a strong trust with their late buyer to the extent that they did not doubt her when she told them the market was and had to pay less for the leaves. They said she also gave them much higher prices on occasions when the market was favourable.

## 4. THEORETICAL REFLECTIONS

This chapter contains some theoretical reflections on the sustainable commercialization of NTFPs as presented earlier. It analyzes it using the theories and concepts discussed in chapter two.

### 4.1. Socio-Political Issues in NTFP Extraction

This section analyzes the interconnectivity of socio-political issues within a theoretical context that may influence the sustainability of both the resource base of the NTFPs and their endurance on the market. These include access regimes, Social networks, social norms and number of people involved in extraction.

#### 4.1.1. Access rights

Access rights as they exist in the case study areas show that private management rights, over land or the NTFPs (tree tenure), dominate access rights over their resource base. Community commons are gradually becoming quite rare, especially with Shea and *Tetrapleura Tetraptera*. This is because they are found on farmlands where owners usually possess usufruct rights over them. The FAO (1996), citing Lamien and Bangala (1994) report that ‘... ownership of trees in young fallows and parklands is private. Only people exploiting these lands and their relations are permitted to gather products from these trees.’ However people claim ownership of certain products in common areas merely by pretending to farm around such products. We see from this emerging trend that as a NTFP begins to enjoy rising economic value, there are efforts by individuals to embark on actions that grant them with private access rights over them. The aim of such actions among other things include monopolizing access to and control over the product and excluding others from the economic benefits. For example, one of the interviewees disclosed:

‘Some women can weed around some of the *prekese* trees as if they are farming; and these trees will become their bona-fide property. If they find another person picking the *prekese* from under such trees they can collect them back.’

This affirms that under the current trajectory, it is possible to find that some areas, though designated as common spaces, certain resources within them are privately owned by actions that have culturally or conventionally been accepted. It also reiterates the point that indigenous people are economically rational and able to speculate on market trends based on their knowledge of the market. They act accordingly in such a strategic manner as will enable them derive much economic benefit from that economic trend. One respondent told us that she was surprised how the *prekese* tree has suddenly become so important an asset –

‘a few years back, nobody regarded these trees, the only use for them was their fruits, either for home-made medicine or for preparing food.’

Additionally, a respondent, when asked why people are aggressive about safeguarding their shea trees exclaimed, '[t]he trees are our major source of livelihood.' As per Kijima et al. (2000), this form of resource management is more efficient than communal management – a conclusion they arrived at after statistically exploring the relative efficiency of the collective and individualized management of forest resources. However, the transaction cost of managing the resource under such a regime is high. It is not surprising that in the case study areas for both shea and *prekese*, thefts of the resources are common.

The question of access rights as found with *marantaceae* leaves is different. Earlier researches in the same study area revealed that women sought permits from the Forestry department before they were given the right to harvest leaves (Agyemang 1996). This, to a large extent, was aimed at privatizing the forest under the Forestry Department for the extraction of the leaves and this was not surprising. Evidence shows that, the leaves had strong economic value and widespread usage and that people made substantial incomes from them. The Forestry Department was motivated to extract some benefits from the economic gains of the women, and the best way out was to restrict access. The situation is however different under our study- the resource base is more an open space. Though it was believed the old regime was abrogated through the efforts of Julia Falconer<sup>4</sup>, another dimension emerges: the fact that the Forestry Department had realized that the leaves had begun to attract low patronage because of influx of plastic wrapping materials and there was little or nothing to benefit from them.

Some believe that communal access can lead to their over exploitation. For example, the FAO (1996) argues that "...gatherers put themselves at risk, by exploiting the resource on which they are dependent. This non-sustainable exploitation arises ... from the lack of ownership of the resource by the exploiting community." However, contrary to this, our study, supported by Agyemang (1996), shows that in Kwapanin, Ghana, women involved in the collection of *marantaceae* leaves located five sites and rotated their extraction among these sites, thereby giving the resource base time to regenerate. The kind of access right may therefore be said to depend on both the location and the kind of NTFP in question. But these cases drive home the point that access rights to resources with economic values can become very important and cannot be overlooked, as they can influence commercial sustainability.

#### ***4.1.2 Social network, norms and players involved in extraction***

As tenure regimes turn more towards private management, the level of interaction between community members in terms of harvesting tends to be thinner. This is partly attributed to the situation where each person's interest in the resource base becomes progressively limited to the confines of their farmlands and they are no longer afraid of excludability and subtractability.

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<sup>3</sup> Refer to note 1

The motivation to organize family labour in the harvest expeditions for instance were usually informed by the fear that others could organize much more labour and reap most benefit from the resource base – however, this trend is not popular with the shea nut and *prekese*, partly because their access rights are more individualized than communal.

The situation is however different with *marantaceae* leaves, which are found mainly in areas that have communal access. Agyeman (1996), for example, reports that in Kwapanin, women harvest *marantaceae* leaves in groups, partly for security reasons, but also to promote competition amongst them in terms of how much each group can extract. This competition has implications both for the sustainability of the resource base and its consequent effect on its commercialization. The FAO (1996) argues that “non-sustainable exploitation arises because of the harvesters’ desire for cash.” In the same report, it hints that the risk of “over exploitation” usually arises as a “result of everyone getting on the bandwagon to harvest as much as they can, as quickly as they can before anyone else” (*ibid*). Such circumstances arise in the absence of norms to regulate extraction, or the poor enforcement of such norms. In our case however, it was observed that harvesters strictly adhere to such norms as not harvesting young leaves, this way giving the resource base chance to regenerate.

The difference is that whereas individuals develop their own mechanisms to safeguard the sustainability of the resource base under a private management regime, collective action is required under communal management. However, when it comes to processing and trading there are some forms of social network: processing and sale of shea is generally done in groups.

People found to be involved in the commercialization of the NTFPs are usually among the poorest in the case study areas. ‘About 70% of the poor in Ghana live in rural areas’ (IFAD 2008) and all our study areas are rural. The trade is either the main source of income because there are no better alternatives or a supplement, as a way of diversifying incomes risks. However the number of players involved in the extraction and commercialization of the NTFPs tends to decrease as the business falls from being the main source of income generation. Our evidence supports Peluso’s (1992) work on extractivism in East Kalimantan, Indonesia, in that, a decrease in income increases both the number of people involved in extraction and the intensity of extraction and vice versa. In Ghana, Falconer (1990) and Agyemang (1996) discovered that most of the people involved in the NTFP business are poor and usually women.

## 4.2. Ecological Considerations

This section provides an analysis of how the yield of the resource base is vital in determining the sustainability of the commercialization of the NTFPs.

Sustainable commercialization of NTFPs among other things is dependent on how constant and predictable their natural supply is. This depends on both the part that is harvested and their natural supply cycle – no problem has yet been experienced with elasticity of supply of our NTFPs. Though in some cases supply of some NTFPs such as the shea are naturally cyclical (Yinug



2008), overexploitation and non-sustainable harvest practices have led to a near depletion of others in some locations. For example the FAO(1996) reports that “[u]nfortunately harvesting pressure has invariably caused severe reduction in medicinal plant populations, and their extinction in some areas.” For our NTFPs, apart from *Marantaceae* leaves, the specific parts of the NTFPs that are harvested do not affect their resource base in a way that could result in their depletion – it is only the fruits that are harvested. Peters (1994) is cited by Sunderland and Ndoye (2004) as asserting that “harvesting seeds and fruits ... may not adversely impact plant regeneration.” With *Marantaceae* leaves however, if its demand had been rising continuously, due to the fact that its leaves are essential to its survival and regeneration, pressure of extraction may by now have caused serious supply problems. For example, Blay (2004) reports that today, because of continuous and extensive exploitation of *Garinia epunctata*, *G. afzeli* and *G. kola* as chewing sticks, their supply is largely under threat and suppliers have had to resort to inferior species.

Sometimes the problem may not be over-exploitation, but the fact that the resource base cannot meet the required demand because of low yield, sometimes due to natural occurrences such as draughts and human- induced problems such as civil unrests (FAO 1995a). Fluctuation in supply and over-exploitation of the resource base may result in supply not meeting demand. In such situations, prices rise but then end users divert their demand to substitutes and may not revert back when supply problems are corrected. This has been true for gum arabic. For example, ‘demand for gum arabic has ... been constrained at times by supply, and under these circumstances end-users who switch to alternatives do not always revert to [it] when supply problems are erased’ (FAO 1995a). At the moment, none of our NTFPs can be said to be faced with supply inadequacies, but taken together, the above points to the fact that if the shea and *prekese* trades should be developed to their fullest potential, their current yield pattern will make their supply inelastic which could affect the trade adversely. This is why their domestication may be important.

### **4.3. Economic and Marketing Issue**

#### ***4.3.1. Uses of the NTFPs***

There is an obvious link between end uses of a resource and the demand for it and, by extension, its value. It can be observed that shea is doing well compared to the other two because its end uses have been enlarged to both global and industrial levels. The resultant effect is an increased economic value accruing from increased aggregate demand. *Prekese* is rising economically because it is increasingly gaining a place in the local herbal industry and the relative increase and ease in its exportation to the Ghanaian Diaspora. The *marantaceae* leaves trade at the other extreme has seen a downturn because of the progressive loss of its economic uses. It is worth emphasizing however that the bloodline of the shea trade is based on foreign demand. This has both a potential and a challenge. The potential is that more demand can be expected as the foreign demand base continues to broaden. However the challenge is that any collapse in this foreign demand away from the resource could see its

market crumble in Ghana. Second demand and price of shea butter are tied somewhat to that of cocoa, since shea butter is used as a substitute when cocoa prices soar. As long as this trend continues, any downward pricing of cocoa, or its stability, could adversely affect the volume of demand for the shea. Demand for shea butter has been high recently because cocoa prices have been rising, currently hovering around £1,500 a tonne (Milmo 2008). The increase in demand for shea is also, however, increasingly tied to quality (for example low moisture and high oil contents), due to increasing demand for cosmetic purposes, (Yinug 2008: 36). To benefit effectively from booming global demand, critical consideration has to be given to how these NTFPs are processed and whether they meet national and international standards. This brings to the table the issue of upgrading.

### ***4.3.2. Upgrading***

Upgrading, as indicated in chapter two forms an important part of value chains and its success, determines the sustainability of our NTFPs in the market in the face of competition. The first requirement in upgrading has to do with processing of the NTFPs and with efficiency.

Process upgrading, ensures value addition. It can take place either by the extractors or by the several members along the supply chain. However, when it takes place at downstream of the chain it leads to price addition at the local level other things being equal. Where there is no local processing technology, it can affect its local price. In our case, it is only shea that is processed at the local level. Processing is done solely by women. This confirms the FAO's (1995b) report that said '[w]omen traditionally play a major role in the processing ... of NTFPs in many countries ...' The other two has no form of processing yet at origin.

Processing should meet some technical standards if the product is to compete keenly. However in the case of shea, cultural habits in processing tend to overtake the adoption of modern mechanized forms. As discussed in chapter 3, most local processors of the shea prefer to use traditional ways of extracting butter in place of more modern and more hygienic methods. However, where a technology exists but it is rudimentary, as in the case of traditional shea butter processing, it affects efficiency of processing and impinges on the quality of the end product which in turn, affects the price. It is not surprising therefore that some buying companies raise issues on quality of shea butter. Traditional ways of processing can not only raise issues of quality but also time wastage. "Household processing of certain forest products is time consuming" (FAO 1995b). This is true in our case, since the current traditional means of processing the butter are home-based and takes many hours. When waste is avoided because of efficiency and combined with quality, it will increase the overall quantity offered for sale, the price and hence its competitiveness vis-à-vis substitutes. Technology does not have only economic advantage but can also have health and environmental benefits (Haruna 2002). For example, where there is extensive use of firewood in processing, introduction of machinery for the same work may reduce the amount of firewood used, thereby reducing the rate of environmental degradation whilst health implications associated with smoke and fire are drastically minimized. Ironically however, some-

times adoption of ‘superior’ technology may come with its own challenges – it may not meet the required technical standards and this may not motivate its patronage. For example, in our case, it is because the use of bridge press leads both to lower butter extraction rate and the fact that its use is tiresome, that is why the local women prefer the use of traditional methods of extraction.

Furthermore, the use of technology, especially introduction of new ones, sometimes takes a different turn with gender. Neumann and Hirsch (2000: 29) claim that women are more likely to use outmoded, rudimentary and basic machinery or, sometimes none at all. The use of sophisticated and labour efficient tools and machinery are usually more easily adopted by men. According to them, this creates a mechanism of participatory exclusion for the use and control of technology against women, the effect of which is discriminated income levels made between men and women. Though this may be true, it does depend on the kind of machinery, the location and perhaps other factors that go beyond the fact that one is merely a male or female.

In our case, it was revealed that though women hire male operators to use machines, they can operate them themselves. Part of reasons women employ male operators, is admittedly that men can easily repair the machines when they break down, but it is also because their aim is to find an opportunity to undertake family responsibilities and to work on their farms. It is note worthy that, whilst women can use traditional method of extraction in their homes, uses of machines take them away. This is because machines are installed at a vantage place for use by all the women in a particular cooperative. This is a twist that can sometimes emerge between technology and women – they are sometimes not compatible with women’s socially constructed environment. Therefore, men do not just operate new machines because women lack the capacity - there may be other reasons. Additionally sometimes women lack the required capacity to operate the so called sophisticated machines. Training of women to build their capacity has therefore been the main preoccupation of many NGOs and development organizations.

Product upgrading, which involves the enhancement of the form, nature and everything that increases the economic and intrinsic value of a product, seems to exist in low levels in our case. Apart from shea butter, whose end products seem to be improving as a result of capacity building by both development organizations and some buying companies, the other products do not seem to be undergoing any form of improvement. *Prekese* and *marantaceae* leaves do not require any significant processing because they are in demand in their natural form, though it was found that they could have been better cleaned and packaged in plastic or paper wrappers. This would only not have ensured hygiene but also enhanced their intrinsic value. The question of hygiene, for example dominated advocacy for use of plastic bags over the use of the leaves. The leaves or the *prekese* can have fungi and viral infections from the bush and hence become precarious if they are used with no sterilization or proper cleaning. Such factors may also be attributed to the fact that their trade has not developed to the extent of receiving these needed upgrading, which is one of the important aspects of value chain governance.

### 4.3.3 Governance

Governance is important when it comes to making decisions along the value chain. In our case, decision-making differs with each of the NTFPs, though there are similarities between *marantaceae* leaves and *prekese*. With the shea trade, buying companies, usually exporting companies, seem to drive the decision making process. This is perhaps because the shea value chain can be described more as buyer-driven. At the moment, there is transfer of knowledge in the area of packaging the shea butter. Hitherto, producers only put the butter in large open gourds or large locally made cane baskets (still in use at the local level). However, as described in chapter three, butter is now packed in boxes of 25 kilograms. Interestingly, knowledge-transfer and agenda-setting in the shea butter value chain have also come from players not directly involved in it. For example, some development partners like USAID, UNDP and TICAD and NGOs have undertaken entrepreneurial and capacity building programmes to build the capacity of the producers in improved shea butter processing, connection to market and better management of their business ventures. These have served to bring the governance system to a good condition.

In terms of *marantaceae* leaves and *prekese*, no particular entity is driving governance issues in their value chains. The main issue for harvesters of the leaves has been not harvesting young leaves as buyers claim do not keep long. With *prekese*, it has been with not including fruits that may have grown moulds. There has not been any effort to effectively organize harvesters and buyers in any meaningful manner, especially for *prekese* whose demand is increasing because of the export and local herbal medicine industry.

With the shea trade, there has been a metamorphosis from hierarchy to captive value chains. Initially, when local processors could not produce the required standard of shea butter, there was a need for some buyer companies to go into in-house production. An example is Kassardjian Ghana Ltd. Additionally most end-user organizations in Asia, America and Europe produced the butter at their end. Today, no form of refinery of butter is done at the local level, because local processors lack the capacity and the technology. Observation shows that the sale of the shea nuts then per se, did not lead to improved prices because the intermediary and end-user organizations extracted all the value addition for themselves. Today, with emphasis on production at origin, much of the butter is produced at source. Even fair trade is emerging, but slowly.

To confirm Pietrobelli and Rabellotti's view (2006: 9) that the roles of lead-firms in promoting the upgrading process of SMEs in developing countries are less clear, our study finds that external players (such as the West African Trade Hub of USAID and other players mentioned earlier) seem more rigorous in building a more solid governance system for the shea value chain sometimes than the players themselves. For the other two NTFPs, nothing at all seems to be happening – it is difficult to identify neither lead buyers nor external players. Middlemen are mostly individuals rather than organizations, and they do not tend to integrate themselves in any meaningful measure.

The distribution of returns to value addition seems to be thin in the case of shea butter. Though contractual arrangements usually exist with some level of transparency, the real transfer of returns seems to be low. For example, port

price of shea was US\$400/t in 2007 (may be higher for 2008) whilst producers make only US\$100/t profit, given that they make US\$10 profit on each 100kg of butter. It is difficult to assume how much is incurred as cost on transportation, administration and shipment, as the necessary information was not readily forthcoming from the buying companies. There are reports that the trade has tremendously impacted positively on the livelihoods of most of the processors – nutritional and health issues of most families have improved substantially and one woman is reported to have afforded to “replace her missing teeth” (Olukoya 2008). Field observation shows that over all impact of the trade is still under expectation. Some level of exploitation exists, and this is evident in the giving of bonuses. These bonuses given by some buyer companies though may be without negative intentions, still raises suspicion. Why should a business partner, trading on fair grounds incur extra costs through bonuses if he or she is not making more than is due at the expense of the other party?

Furthermore, though prices are set by the local producers based on their knowledge of the local/national market, there is information asymmetry between them and buyer companies on prevailing international prices. This raises issues of unequal power relations, between poor and sometimes illiterate women dealing with educated and rich individuals, working for transnational companies who are more abreast with the market. It is because of such unequal power relations that “institutions or formal rules of behaviour that facilitate market exchange,” (Ruben et al. 2007: 26) are vital, though non existent in our case. Despite assistance from NGOs and development organizations, there are still problems with how producers can build capacity to meet international expectations. Lovett (2004: 10-15) among other things raises issues of quality of shea kernels and butter, ‘traceability with regard to organic, quality or fair trade certification,’ and ‘...difficulties resulting from fluctuations in supply and demand, inconsistent pricing through the value chain, absence of trust in contractual agreements and lack of access to credit.’ This requires a formal institution which will among other things build a strong network of both producers and buyers whilst building the latter’s capacity. The cocoa sector in Ghana has a marketing board that ensures that there is a good marketing network whilst ensuring that price increases are transferred to the local producers – this is however absent in the case of shea butter. Non-transfer of price increases for value addition to downstream actors may negatively affect the sustainability of the product on the market (Richards 1993: 10).

Since there is no form of value addition downstream for *marantaceae* and *prekese*, issues of transfer of returns due to value addition do not arise. Generally however, transfer of price increases seems to be fair, given the less complex nature of the supply chains for them. However there are indications that due to differences in exchange rates, those who sell *prekese* in the Diaspora exploit the harvesters.

## 5. CONCLUSION

This paper has sought to explore the sustainability of the commercialization of shea nut/butter, *Marantaceae* leaves and *Tetrapleura Tetraptera* within the context of prevailing socio-political, ecological and economic and market considerations in Ghana.

Within these socio-political considerations, the question of access rights to the resource base, social capital and networks and the socio-economic status of local players have been explored. It has been discovered that access rights are progressively leading to individualized management regimes. Additionally, though the latter have led to low interaction between local players in the extraction process, interaction becomes prevalent with processing and trading of the products. Mechanisms to safeguard the sustainability of the resource base are therefore to a large extent individualized, except in the case of the *Marantaceae* leaves where the access regime is communal and has necessitated communal action towards sustainability. Furthermore, it has generally been observed that players in the three NTFPs' trade are generally women, who tend to rely on it for survival. These businesses are either main sources of income generation or they are important supplements. In this sense, the number of people involved in a trade is directly correlated to its importance for their total incomes.

The paper has also shown, in the biological and ecological context, that none of the NTFPs under consideration have so far experienced over-exploitation and or shortfalls in natural yield and supply. It has however been argued that given the current yield of shea vis-à-vis its potential future demand, lack of its domestication may result in supply problems and could have the potential to divert end-users' demand to substitutes, which may negatively impact on the trade. It has also been shown that *Marantaceae* leaves are currently underutilized, because of their substitution by plastic wrapping materials, a development which is almost leading to its demise.

In the economic and marketing context, upgrading and governance of the value chains of the three NTFPs have been discussed. It has been found that, though there has been some improvement in the process and product upgrading of shea butter, there is still a lot to be done. Whilst cultural habits have sometimes overwhelmed modern technological adaptation at the local level, these habits may be blamed on low technical standards of machineries developed, which serve as a disincentive to their use. At the same time, *marantaceae* leaves and *prekese* lack any form of upgrading. This is either because of their collapse (in the case of the leaves) or their slow rate of expansion (in terms of the *prekese*). The decision-making process in the value chain of shea has also been spearheaded largely by NGOs and other development organizations, parties who are neither a part of nor have direct economic interests in the chain. This has led to some form of knowledge transfer to local producers as well as enhancement of their bargaining power and their capacity to respond to requirements of consumers. Value chains of the other two NTFP seem to have been neglected.

Indications are that shea has an enormous potential. Its local as well as international markets are expanding. It serves to benefit the local people enormously, transforming their lives and serving as good source of livelihoods.

There are clear indications that a wide economic and social gap exists between southern Ghana and the north. The latter is considered the poorest of the country, with most of its population serving as unskilled labour force in many parts of the south. Coupled with this, most women lack freehold interest in landed properties, making them most vulnerable to poverty. Activities that have potential to reduce poverty such as the shea trade should bring a great sigh of relief, especially given that agriculture, because of poor rainfall patterns and lack of irrigation facilities, is not a viable option

However this study has shown that public sector participation in formalizing the trade and developing a framework to build local producers' capacity and connecting them effectively to the market have been absent. At the moment, amount of value addition at local level is minimal, thereby losing out on increased prices at local level. The lack of marketing boards to oversee and regulate the interaction between players in a space that is composed of vulnerable local producers and powerful individuals and transnational companies raise issues of imbalanced power relations and tends to expose the former to undue exploitation from the latter. Just as cocoa has served to enhance the livelihoods of many local people in the south, effective government attention to shea could do same for those in the north, especially women. Proper development of the shea can be a good starting point for the development of other commercial forest products like *prekese*.

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## Appendices

### Appendix 1 Guiding Questions for Interviewing Harvesters and Processors

1. How many uses can the NTFP be put? Does it have the potential to be processed into something else?
2. How would you describe the yield of the product? Is it year round or seasonal?
3. Is supply constant throughout the year or it becomes scarce during some part of the year. How does seasonality of supply affect commercialization?
4. Is it the main income generating venture or it is only a supplement?
5. Does the product go through any kind of processing?
6. What technologies are available for processing the product? Is the technology good enough or it is rudimentary? Has the availability of the technology improved efficiency?
7. Are operates the machinery? Men or women?
8. Where are the products found? Who owns those places?
9. Do you harvest the products individually or you do it in groups?
10. Do you use family labour for the extraction? Which members of the family are usually used as labour?
11. Males and females: who are more involved in the extraction and processing of the products?
12. Can women go deeper into the resource base to harvest the products? If not why? If yes why do you think they are able to?
13. Can men go deeper into the resource base? If not why? If yes why do you think they are able to?
14. Do you think the resource base is facing over-exploitation?
15. How would you describe the number of people involved in the extraction of the product? Many people, few people?
16. How differentiated are the extractors in terms of political, social and economic status? Do such differentiations, if they exist, affect how much each extractor can extract?
17. How many middlemen are along the market chain?
18. What kind of channel choice is popular with the trade of this product?
19. What kind of demand is available? Local, national or international?
20. Does demand have temporal and spatial fluctuation?

21. Are there substitutes to the product? Are these substitutes posing a threat to the product's market?
22. Have you increased how much you sell the product? Who determines price increase, you or the buyer? When and how do you know you should increase your price?
23. Do you have any contractual arrangements with the buyers?
24. Do you have cooperatives?
25. What is the purpose of these cooperatives?
26. Does government have any policy that regulates the market of the product and to protect you from exploitation?.
27. Do you receive any help from NGOs?

## **Appendix 2            Guiding Questions for Interviewing Middlemen**

1. How long have you been in this business?
2. How do you organize trade with the local people?
3. How much do you pay for .....
4. Can you tell me more about how the.....trade is moving? Do you see it to be viable and will be viable in the future?

## **Appendix 3            Interviewing Government Officials**

Interview with government officials was not structured.

