

The Shea Industry and Rural Livelihoods among Women in the Wa Municipality, Ghana

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Abstract

The majority of rural population in Ghana are faced with poverty, especially in northern Ghana which records the highest poverty levels. Despite the potential of the shea industry to contribute to alleviating poverty among rural women, little attention has been given to the industry. This paper examined the shea industry as a source of livelihood among rural women as well as the challenges women faced in the industry in Wa Municipality. Cross-sectional research design was employed and data were collected using questionnaires. The results of the study indicate that 93.7% of the women participated in the shea value chain as a main

source of livelihood strategy; as much as 69.8% of the respondents in the shea industry produce for both subsistence and commercial purposes; majority of the respondents (96%) were engaged in fresh nut collection as well as home processing of nuts, and 86.5% were engaged in shea butter processing; the average annual income per person was GH¢846.85; however, the average annual income for butter processors was much higher than that of nut processors; and the major challenges confronting women in the shea industry includes: limited access to investment capital; cutting down of live shea trees; lack of modern processing equipment and training; and poor pricing of shea products in the local market. The paper calls on government to formulate a clear cut policy for the industry, particularly on marketing of the shea products to make the industry lucrative for women while at the same time increasing the export base of shea products.

Keywords: Shea industry, Rural livelihood, Wa municipality

1. Introduction

The government of Ghana has acknowledged the problems of chronic poverty and mainstreamed issues relating to vulnerability and exclusion in the Growth and Poverty Reduction Strategy (GPRS II). In addition to promoting economic growth, the national development framework specifically targets empowering the poor, vulnerable and the excluded to enable them contribute to economic growth (UNDP & JICA, n.d).

In spite of certain progress in women's health and education, challenges remain in the areas of economic empowerment. The majority of rural people especially women in Ghana are faced with poverty, especially in northern Ghana as the North still records the highest levels of poverty. The Ghana living standard survey indicates that poverty is more severe in food crop growing areas as compared to the cash crop growing area in Ghana (Ghana Statistical Service, 2008).

The shea nut industry provides a viable opportunity for government and development partners in their effort to reduce poverty among rural women in Northern Ghana. The shea tree which grows well in northern Ghana has over the years supplemented the livelihood sources of rural women. For instance, women are engaged in the sale of the fresh shea fruits, processing and sale of the shea nuts, sale of charcoal made from the shea tree etc.

Despite the enormous potentials the shea industry has to offer in Ghana's drive to alleviate poverty among rural women, not much importance has been given to the industry in the Wa Municipality. Women who are considered to be among the poor and vulnerable groups of people in the municipality are believed to have challenges in creating livelihood strategies. This research therefore seeks to examine the contribution of the shea industry to household livelihood strategies among rural women in Wa Municipality and identify the challenges confronting rural women in the shea industry. The challenges confronting rural women in the shea industry as identified in this study will form the basis for policy formulation, programming and interventions by government and other actors in the industry towards enhancing the livelihood of rural women.

The objectives of the study include:

- 1) To examine how rural women earn their livelihood from the shea nut industry;
- 2) To determine the annual income earned by rural women from the shea nut industry; and

3) To identify the challenges confronting rural women in the shea nut industry in Wa Municipality.

2. Literature Review

2.1 *Economic Situation of Rural Women in Northern Ghana*

Like other developing economies, Ghana is an agrarian economy with majority of poor households earning their livelihood from agricultural activities. The agricultural sector therefore, remains the primary support in terms of the provision of food and employment (Institute of Statistical, Social and Economic Research, 2011). In the Upper West Region, about 86% of the population is engaged in agriculture as source of livelihood (Inkoom & Nanguo, 2011). Approximately, 60% of those engaged in this economic activity fall below the poverty line with the majority of the poor being women (Government of Ghana, 2003). Poverty remains predominantly rural, with the highest disparity in the three northern savannah regions: Northern Region, Upper West Region and Upper East Region, despite improvement in economic stability over the years (UNDP & JICA, n.d). The strong growth in GDP nearly halved the poverty rate in Ghana from approximately 52.0% at the beginning of the 1990s to 28.6% in 2005/6. At this rate, Ghana is poised to achieve the MDG of halving extreme poverty ahead of the 2015 time frame. The reduction in poverty may be attributed to the strong growth in cocoa and forestry sub-sectors. Despite these gains, income inequality across regions and between socio-economic groups remains high and has increased during the period of accelerated growth (Government of Ghana, 2010).

2.2 *The Shea Industry and Rural Livelihood*

Shea nut is of immense importance to the people of northern Ghana as far as income generating activities for women are concerned. This is because shea business is traditionally women's business and it is a source of income for many families in rural areas (Carrettle et al., 2009). It is therefore, one of the greatest potentials that can be exploited to improve livelihood in a number of ways. The kernels of the shea fruit are high in oils and have long been collected and processed by women in savannah communities. Shea, therefore, provides a useful source of fats in diets. The fat, extracted as shea butter, also has cosmetic and pharmaceutical uses as a skin preparation. Shea butter is the main edible oil for the people of northern Ghana, being the most important source of fatty acids and glycerol in their diet (Kent & Bakaweri, 2010).

Products from the shea tree are used for medicinal purposes in different dimensions. Hatskevich *et al.*, (2011) explain this in a number of ways. They maintain that the substance is used in healing effects on burns, skin conditions and stretch marks. It is known to be naturally rich in vitamin A and E for smooth, hydrate and balance skin. They add that, shea contains vegetable fats that promote cell regeneration and circulation and, therefore, a healer and rejuvenator of ageing skin. The findings of McNally, (2008) do not deviate from this observation. He maintains that, shea has anti-microbial properties, which gives it a place in herbal medicine. It is also used in the pharmaceutical and cosmetic industries as an important raw material and/or a precursor for the manufacture of soaps, candles, and cosmetics. Shea butter is used as a sedative or anodyne for the treatment of sprains, dislocations and the relief of minor aches and pains.

In a cultural dimension Hatskevich et al. (2011) reveal that, the residue from shea after extracting the butter is an excellent fuel and can also be mixed with mud for plastering traditional mud houses, while wood from shea tree is used for stools, hoes, pestles and mortar. As a cosmetic, it is used as a moisturizer, for dressing hair (Dalziel, 1937; Ezema & Ogujiofor, 1992) and for protection against the weather and sun. It is used as a rub to relieve rheumatic and joint pains and is applied to activate healing in wounds and in cases of dislocation, swelling and bruising. It is widely used to treat skin problems such as dryness, sunburn, burns, ulcers and dermatitis (Vuillet, 1911; Bonkougou, 1987) and to massage pregnant women and small children (Marchand, 1988).

The shea tree is the second most important oil crop in Africa after palm nut tree (Hatskevich et al., 2011). In Ghana, shea is a business for women and a source of income for many families. In the Upper West region, shea business in some cases contributes more than half of annual income of households (Carette et al., 2009) and consumed locally as food, cosmetics, soaps and detergents, medicines, and for cultural and religious purposes (Seidu, 2012).

Other empirical studies elsewhere in Africa share similar view with regard to the role of shea nut in livelihood. Ferris *et al.* (2001) presents their argument in support of this. First, income from shea in Uganda is more than other major livelihood outcome such as brewing and farming. Secondly, shea business is not just entirely for women only but involves other groups such as men and children. Moore (2008) observation from the Upper East region of Ghana adds that, the use of the shea tree covers aspects of livelihood, poverty reduction through the selling of its products and food security through the fruit pulp and oil from the nut.

In Ghana, Carette et al. (2009) identified the main actors in the supply chain of shea as local traders, traders from the South of Ghana and traders who also trade abroad who get into contact with local village communities, women groups, and processing sites with the purpose to buy shea butter. This expands income generating activities for different groups of people for their livelihood. Trade in shea is now common across all social groups. It is being traded across regional boundaries with the potential of enhancing cross border collaboration, regional cooperation and integration (Seidu, 2012). Moore (2008), therefore, comments that shea is not only highly nutritious substance as food for rural dwellers but also a valuable commodity on local, national and international markets, making it the ideal candidate to research into. This underscores the importance of shea business as a livelihood strategy not just for only rural dwellers but for many participants of the market place.

2.3 The Shea Value Chain

Several activities are being performed by actors ranging from those who pick shea nuts from the bush to the final consumer. According to Rammohan (2010), the range of activities and services required to bring a product from its formation to sale in its final markets is the value chain. This is similar to what Austin (1992) is referred to as Production Chain Linkages. Consistent with this observation, Masters et al. (2004) posit that shea butter, thus, has higher value than shea nut because processing of raw material into higher value end product is the most strain forward way of value addition. Trienekens (2011), therefore, argues that value chains are seen as a vehicle by which new forms of production, technologies, logistics, labour

and networks are introduced. The purpose of these activities in the chain is to add value to the raw materials.

Participants are active in the chain if they are part of the chain's governance system and are, therefore, able to negotiate and influence decisions (Kent & Bakaweri, 2010). This is because proper linkage between producers and the market is an essential element in upgrading the shea value chain. Principally, the actors in the shea value chain are nut pickers, processors and the traders. Carrette et al. (2009) report that, these actors are sellers/suppliers of shea, wholesalers, retailers and consumers who play succeeding roles along the chain.

A comprehensive description of the shea value chain can be found in empirical studies such as McNally (2008), Carrette et al., (2009) and Kent & Bakaweri (2010). Their description covers a wide range of actors along the production chain which could be viewed as follows:

The local and international shea markets are two very different buyers with the international market having strict specifications while the local market uses shea butter for its traditional uses. These two markets are beginning to conflict with each other as demand for shea butter increases on the international market. The world's biggest international markets for shea butter are in Europe and North America. Supply to the major companies on the international market is typically done by another organization within Ghana that buys nuts and processes butter to the specifications of the major buyer.

The number one concern for international buyers is "perceived quality" before price. For edible products the major market is in Europe and India and the butter extraction and refining is done there. The major cosmetic and soap industry is in the United States and is known as the most lucrative global shea butter market. The finished products in North America tend to have high tech containers and extensive marketing campaigns behind them and are high end products. It is estimated that 150,000-200,000 tonnes of nuts are exported each year from West Africa, 50,000 tonnes (approximately 33%) coming from Ghana alone. The nuts are shipped out of West Africa mainly from ports in Dakar, Senegal, Lome, Togo and Tema, Ghana.

Different range of actors including local butter processors and local nut traders buy it and sometimes export it. This is shown in Figure 1. The Figure shows various activities performed from where the nuts are picked in the bush till it reaches the final consumer. In each activity some kind of value is being added till it reaches the consumer. Basically the activities under processing include that of curing, extraction, refining, fractionation and manufacturing.

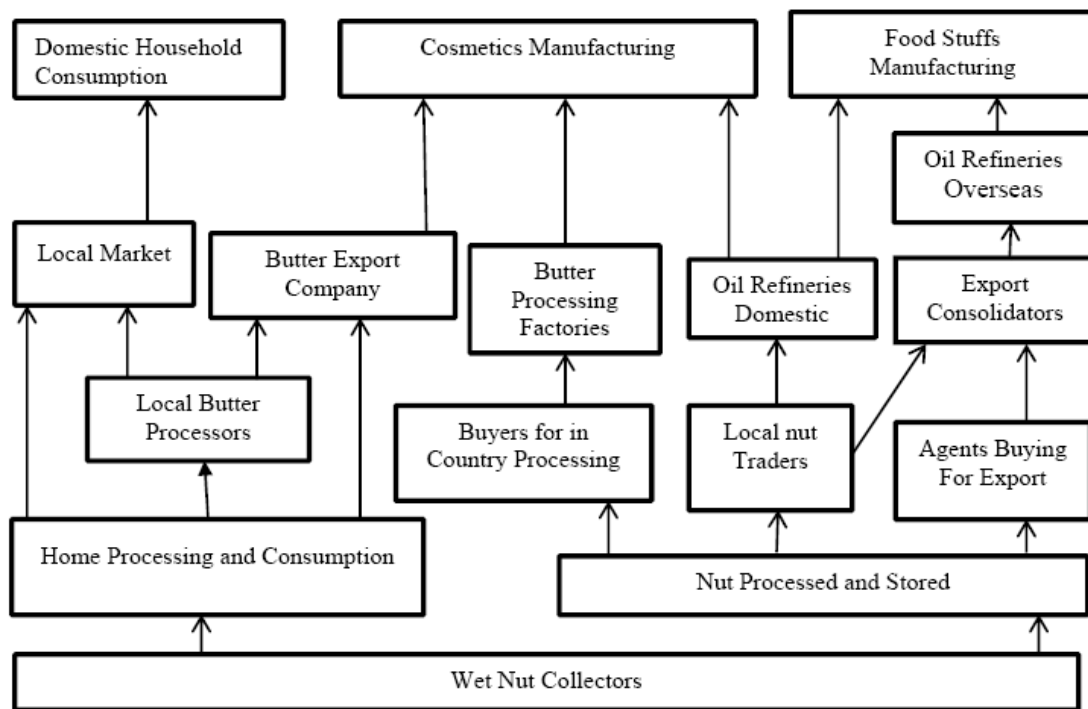


Figure 1. The shea value chain

Source: Adapted from Kent and Bakaweri (2010).

2.4 Challenges in the Shea Nut Industry

The constraints of the shea nut industry cut across all the different actors operating along the value chain of the commodity. They span over a wide range including production, processing and marketing. Shea trees are wild trees that naturally grow in producing areas. As a result the life of these trees is exposed to destruction by human activities such as cutting down of the trees and bush fires. Planting of shea trees takes several years (minimum of 15 years) which discourages people in its production under controlled farms. As a result yield of shea nut is dependent on factors not controlled by man (Ferris et al., 2001; Carrette et al., 2009). Uncontrollable factors such as weather make yield uncertain. Supply of shea nut is therefore seasonal (Kent & Bakaweri, 2010), thus, affecting plant capacity utilization of processing firms.

Deforestation becomes a bigger problem in Ghana which directly impacts the availability of shea nuts and butter. Bushfires, cutting of trees for firewood and destructive farming methods are all factors that affect the availability of shea nuts (McNally, 2008). Currently, local people and NGOs are more interested in protecting and cultivating shea trees. This requires understanding of the life cycle of shea to the survival of the shea butter business.

Al-hassan (2012) explained that, processors of shea nut are over dependent on the traditional method of shea nut processing which affects quality and hence faces a challenge of market access. Earlier studies such as Swetman et al. (1997) are of the view that the traditional method of shea nut processing is arduous and require a lot of human effort. This causes pain among processors and hence limit the quality of output. Poor quality of shea butter from the

traditional process has been associated to material handling among processors (Olaoye, 2001). Consistent with this observation, Masters et al. (2004) maintain that the traditional method as an alternative way of processing shea butter yields low quantity. In the view of Kante et al. (2008), it is a process that is physically demanding, inefficient and lacks quality. Meanwhile, Issahaku et al. (2011) reported that majority of rural women especially in northern Ghana are not using improved methods despite their allocative efficiency.

Shea butter remains indigenous as it is being consumed greatly locally. Kent & Bakaweri (2010) posit that the problem of market access among participants along the shea value chain is peculiar to shea butter processors. This is associated with weak current demand and lack of pre-financing of nuts (Rammohan, 2010). Within this framework, Al-hassan (2012) undertakes a study on market access capacity of shea nut processors in Ghana. His empirical results show that actors' limitation in accessing market is associated with poor entrepreneurial skills, over dependence on Traditional methods and lack of formal training. This is not different from the view of Planet Finance (2010), when he argues that key challenges in upgrading the shea value chain includes processors' lack of business orientation, skills and equipment to produce the needs of the market. Addaquay (2004) attributes limited market access by processors to lack of information and ready capital. Still on this aspect, Elias et al. (2006) articulate their view from an empirical study on constraints of the shea industry resulting from communication. They maintain that, processors have little opportunity to communicate with donors and other stake holders hence such people lack holistic view of the shea commodity value chain.

3. Methodology

3.1 The Study Area

The Wa Municipality is located in the Upper West Region of Ghana. It shares administrative boundaries with the Nadowli District to the North, Wa East District to the East and South and Wa West District to the West and South. It lies within latitudes 1°40'N to 2°45'N and longitudes 9°32' to 10°20'W. The strategic location of the Municipality enhances trade and commerce with Burkina Faso. Since Wa is the administrative capital of the Upper West region, it has the potential to grow and become both the industrial and commercial hub for the North-Western corridor of Ghana (Wa Municipal Assembly, 2010).

According to the 2010 Population and Housing Census, the Wa Municipality has a total population of 107,214 (male: 52,996 and female: 54,218) constituting 15.3% of the total population of the Upper West Region. The Municipality has the lowest dependency ration (64.6) relative to other districts in the Upper West Region. This is as a result of the fact that the Municipality has the highest concentration of urban dwellers (66.3%) which is attributed to in-migration of the youth from the other districts. The Mole-Dagbani forms an overwhelming majority in the municipality (80.4%). Other minority ethnic groups include the Akan (5.1%), Gurma (6.7%), Guan (1.6%), Grusi (2.3%), Ewe (0.9%), Ga-Dangbe (0.4%), Mande (0.4%) and Others (2%). In terms of religion, Islam is the most dominant religion in the Municipality (65.9%). Other religions present include Christianity (29%) and Traditional African Religion (4.1%) (Ghana Statistical Service, 2013).

Gender inequality in favour of male is pervasive in the Municipality. The life of women in the Municipality is over burdened with feeding the family, child care and housekeeping. Women are further disadvantaged due to limited access to production inputs i.e. land, credit and employment opportunities. Poverty has remained a persistent characteristic of the life of women in the Municipality. The combined effects of societal bias and other economic hindrances have resulted in the slowing down of the advancement of women. Majority of women therefore continue to operate under very difficult conditions. Despite their weak position in the society, women play dominant roles in the economic, political and social development of the Municipality. Economic empowerment and improvement in the income levels of women will obviously have positive multiple effects within their households, particularly on children. However, women in the Wa Municipality lack access to the resources they need in order to address this issue (Wa Municipal Assembly, 2010).

3.2 Study Design

The study employed a cross-sectional study design drawing on both quantitative and qualitative approaches. The cross-sectional design was adopted because it is useful in obtaining an overall ‘picture’ of a phenomenon as at the time of the study and allows the research finding to be generalized within the context of the study area. According to Ahuja (2001), this design aims at all the four goals of research: description, exploration, explanation and experimentation.

3.3 Sampling and Sample Size Determination

Purposive sampling was used to select rural communities within the Municipality where the shea nut industry is quite vibrant. According to Youth Action on Rights and Opportunities (YARO (Note 1)), a total of 641 women are engaged in the shea industry in the selected communities.

The sample size for the study was determined using a statistical formula at 0.08 error level. According to Ahuja (2001:187), an acceptable error level traditionally is up to ± 0.05 or ± 0.10 (i.e., 5 or 10 percentage point). The sample size formula is given by: $n = \frac{N}{1+N(e)^2}$; where

n = sample size; N = sample frame e = margin of error and 1 = constant (Yamane, 1970; cited in Ahuja, 2001:186). In this research, $N=641$ and $e = 0.08$. Therefore, $n =$

$\frac{641}{1+641(0.08)^2} = 125.6 = 126$. Thus, the sample size for the study was 126 women in the shea industry.

The determined sample size was distributed among twelve (12) intensive shea processing communities using proportionate quota sampling in order to minimize bias (see Table 1). Simple random sampling was then used to select the respondents at the various communities since a complete list of each group was obtained from YARO.

Table 1. Selected communities and sample distribution

S/N	Name of Community	Total No. of Women	Sample Selected
1	Kperisi	161	32
2	Nyagli	30	6
3	Guli	108	21
4	Kpongpaala	25	5
5	Yibile	25	5
6	Boli	60	12
7	Konjehi	55	11
8	Bamahu	59	11
9	Zinpehi	30	6
10	Kpongu	30	6
11	Danko	28	5
12	Dandafuro	30	6
Total		641	126

Source: YARO, 2014.

3.4 Data Collection and Analysis Techniques

The instrument for data collection was questionnaires which were administered through personal interviews due to the generally high illiteracy rate in the rural communities in the Wa Municipality. According to Twumasi (2001: 54), as a method of data collection, the questionnaire is an efficient way to collect statistically quantifiable information.

Both qualitative and quantitative techniques were employed in the data analysis. Data obtained from the field was processed (edited, coded and tabulated) through the use of Statistical Package for the Social Sciences (SPSS) version 20. Descriptive statistics such as mean, standard deviation, frequencies and percentages were applied in the data analyses which are presented in tables.

4. Results and Discussion

4.1 Livelihood from the Shea Nut Industry

Rural development literature maintains that livelihoods activities of women are diverse. The results of this study confirm this in a number of ways. First, women do not engage in only shea nut production activities alone as a source of livelihood. However, majority (93.7%) participated in the shea value chain as a main source of livelihood strategy. The remaining 6.3% were engaged in the shea nut enterprise but it was not their main source of livelihood activity. The shea business as a rural livelihood activity provides them with income, food, medicine and employment which are strategies for poverty alleviation among the rural folks.

Actors in the shea value chain engage in their various enterprises to achieve various objectives. The results of the study indicate that 15.95% of the women keep their enterprises for subsistence purpose. They produce and consume greater proportion of their output themselves. About 14.3% produce for commercial purpose. This implies that they produce and sell greater proportion of their output. Majority (69.8%) of the women produce for both consumption and for sale. These findings suggest that women in the Wa Municipality do not

have objectives that drive them towards commercialization. They produce to feed themselves and sell some proportion to meet other households' expenditures. This justifies how rural households rely on the shea industry for a livelihood.

Shea industry was observed as important activities for the people. It is so important that rural women keep multiple enterprises to add value and widened their scope of earnings. The various livelihood activities in the shea value chain include fresh nut collection, nut processing, local butter processing, nut buying, buying of shea butter and providing labour to someone in shea enterprise. It is common to find an individual engaging in more than half of these activities (see Table 2).

Table 2. Activities in the shea value chain (Table contains multiple responses)

Livelihood Activity	Frequency	Percentage
Fresh nut collector	121	96.0
Home processing of Nut	121	96.0
Local butter processing	109	86.5
Local nut buyer	13	10.3
Local shea butter buyer	10	7.9
Provides labour for shea business	3	2.4

Source: Field Survey, 2014.

Women who were engaged in fresh nuts collection indicated that they gather fresh nut from the bush and farmland. This is what they term as "shea nut picking". Shea fruits often fall from the trees themselves under the influence of wind. This is what they collect and process into nuts. Collection is done usually in the morning and transported home later in the day. Fresh shea fruits collected may be eaten as diet at this stage by households or sell to urban dwellers for income. The results indicate that 96% of the sample respondents were engaged in fresh nut collection. Sale of shea fruits was however not a common livelihood activity among the women. This is because they consider the nuts to have more value than the fruits themselves. As a result, sale of shea fruits was a common practice often associated with children.

It was established that unshelled shea fruit normally pass through series of processing activities to obtain shea nuts. Shea fruits are conveyed from farmlands for home processing. Home nut processing involves removing the shells of the nuts and drying them to obtained nuts. This is the activity along the shea value chain immediately after nut collection. The study revealed that 96% of the sample women were also engaged in home processing of nuts. From the survey, all fresh nut collectors were also engaged in home processing of nuts. Shea nuts may be sold outright after this stage. This was observed as a common phenomenon among the respondents. Shea nuts can be sold in bags or small quantities in periodic intervals. This however, varies with household financial requirements.

From the survey, 86.5% of the sample was engaged in shea butter processing which involves turning the nuts into butter. This stage in the value chain requires investment in machinery for the processing. Past studies indicate that one common equipment is the Bridge Press that

reduces the labour involve and safe time of processing. However, results from the survey point out that the women often resorted to traditional methods of butter processing. Rural women considered shea butter processing as a means of poverty reduction via its role of employment and income generation.

Along the shea value chain, some of the women were engaged in trading in shea nuts. Their main activity is to buy shea nuts either for butter processing or for direct resale for profit. It was discovered that about 10.3% of the sample respondents were engaged in local shea nut buying. The proportion of respondents engaged in this activity was low compared with those in fresh nut collection, nut processing and butter processing. The nut buying involves a considerable amount of starting capital which rural women often find it challenging to obtain. This probably is the reason for low engagement of women in local shea nut buying. Empirical literature acknowledged that some actors in the shea value chain engage in nut buying for the international market. However, no evidence of this was found in this survey.

Like past studies, this survey observed that local shea butter buying is one of the livelihood activities in the shea nut industry. Rural women buy processed shea butter and sell in local markets. According to results of this survey, about 7.9% of respondents were observed to be associated with this activity. Past studies have indicated that some individuals in the shea nut industry acts as agents who buy the butter for some companies. Evidence from this survey however maintains that local shea butter buying among the respondents was not a service rendered to any company but in a form of sole proprietorship. Shea butter buying also requires both initial and working capital which rural women sometimes find difficult to obtain and this explains the relatively smaller proportion of respondents in that activity.

Some people provide labour for enterprises in the shea nut industry for daily wage. The labour was specifically engaged in carrying of shea nut, processing, and sale of shea products. This however, was not very common among the women. Only 2.4% of respondents provide labour for wage. The justification is that there were no barriers to entry into shea business since the industry is wide and rely mostly on the use of traditional technologies. Many of the women therefore, had their own enterprises and do not necessarily have to work for others. As a result, labour was only provided based on informal relations where a processor may only compensate the labour for her assistance. Payment may be either in kind or cash. It was further observed that those who provided labour were mostly household members. On average, 2 persons in each household assist their family members in their shea business activities. Refer to Table 2.

4.2 Uses of Shea Products

Shea products have been put to various uses among rural folks. All respondents indicated that the shea fruits are eaten as source of diet; the shea butter is used as cooking oil, manufacture of local soap, used as substitute for korosine in lightening and used in preparation of most herbal medicine (especially those that are prepared as cream); the bark of the shea tree is used as medicine for treatment of stomach ache; and dry shea trees used as firewood. These different uses reduce household financial requirements thus suggesting that the shea nut industry can reduce poverty among rural people.

4.3 Income Earned by Rural Women from the Shea Industry

The survey point out that all participants in the shea value chain earn income. They sell their output periodically i.e., weekly, monthly, quarterly, semi-annually and annually. It was observed that majority (77.8%) of them sell per week. About 16.7% of them sell monthly and 4.0% sell annually. Those who sell quarterly and semi-annually constitute 0.8% in either case. Those who sell weekly are mostly nut processors and butter processors. Nut processors sell in smaller quantities ranging from 2kg to 80kg. Some women can store the nuts for long and sell only when they consider prices to be favorable. The regular earnings from the industry as was observed among the respondents assist them to meet daily household financial requirements.

About 121 respondents sell dry nuts. They obtain a minimum of GH¢ 20.00 and a maximum of GH¢1,060.00. The average annual income of this category is GH¢190.31 with a standard deviation of GH¢209.93. The standard deviation is more than the mean. This indicates a wider variation in terms of income among the women. Those who process butter earn a minimum of GH¢240.00 and a maximum of GH¢5,760.00 per year. The mean earning for this category of people is GH¢1,211.63. This also recorded a higher standard deviation of GH¢1,373.28 suggesting wider dispersion of their earnings. Only 4 women were observed to be engaged in nut buying. They earn a minimum of GH¢360.00 and a maximum of GH¢1920.00 per annum. Besides, only one case of shea butter buying for sale was observed. This person earns GH¢ 240.00 yearly.

Generally, the average annual income of all respondents irrespective of the particular shea activity they were engaged in was GH¢846.85. Some receive as little as GH¢40.00 per annum while others earn as high as GH¢846.85 per annum. This average earning is higher than the average income of households in the region (GH¢130.00 per annum). The shea industry therefore, contributes in reducing income poverty among the women in the Wa Municipality. Table 3 shows descriptive statistics of the distribution of women earnings from the shea industry.

Table 3. Annual income of women in shea business (in Ghana cedis)

Variable	N	Min	Max	Mean	Std. Dev.
Income from Nuts	121	20.00	1060.00	190.31	209.93
Butter Processing	65	240.00	5760.00	1211.63	1373.28
Nut Buyer	4	360	1920	1170.00	667.23
Shea Butter Buyer	1	240	240	240.00	-
Total Income	126	40.00	6640.00	846.85	1293.55

Source: Field Survey, 2014.

Households also consume shea products. On average GH¢89.13 worth of shea products were consumed per household per annum. This consumption was either in the form of dry nuts or butter. The survey also pointed out that shea nuts can be used to exchange food stuffs or payment for an agreement. The evidence is that some of the women sometimes collect food ingredients from others for a promise of paying back with some agreed quantity of shea nuts. This system liberates households from their agent problems.

4.4 Challenges Confronting Rural Women in the Shea Nut Industry

4.4.1 Production Challenges

It was found from the survey that access to investment capital is a challenge confronting the people. The survey also pointed out that 95.2% of the sample women indicated that access to credit is a major challenge in their shea business activities. The women have the zeal for shea nut processing but sometimes lack the starting and operation capital. Only 27% of the women admitted that they ever received credit for their enterprise development. These credit beneficiaries accessed the credit from only informal sources (Village Savings and Loans Association) with repayment period of 3 months on average.

Technologically, the women are backwards. They rely on only rudimentary methods of nut and butter processing. Results from the survey therefore indicate that only 15.9% of the respondents ever had access to training service. As a result their operations are usually done using traditional methods. About 93.7% of the respondents therefore, maintained that access to training services is a constraint to their enterprise development. The respondents indicated that they lack access to institutions that will train them on new ways of butter processing. Equipment such as the bridge press, nut cracker and grinding mills are not available. Sometimes one has to carry her inputs to other communities to access some of these facilities. This makes the work laborious and unpleasant.

Cutting down of the shea trees was discovered as one of the most pressing challenge facing all the respondents. The shea trees are often been cut down to provide space for building of houses, roads construction, as materials for building houses and during land clearing for crop production. This reduces the supply of shea nuts for sale. The shea tree has some oil in it that support burning even if the tree is not dry. This makes it good for charcoal burning and has been often been cut down to produce charcoal. Shea trees around the surroundings of the communities have often been cut down thus compelling shea nut pickers to walk for long distances to gather shea fruits.

Also, the respondents were equally challenged with the risk associated with gathering shea nuts in the bush. Shea nuts picking is always in the rainy season when grasses are usually grown. The risk associated with the collection of the fresh shea nuts is scorpions and snakes bites because the all the respondents indicated that they do not have protective cloths such as rain coats, wellington boots and hand gloves to protect themselves. Therefore, cases of snake bites during fresh nut collection are often common. This usually produces some fear in many women during fresh nuts collection.

Besides, shea trees grow naturally in the bush and in farmlands. In the Upper West Region, the tree is not cultivated in controlled farms. As a result, many shea trees suffer from the effect of bush fires every year. This phenomenon reduces the quantity of nuts a tree can produce. In some cases when the fire is very severe, the trees fail to produce fruits at all. Besides, bush fires do not only reduces the quantity of fruits of affected trees but sometimes result in the death of the trees. Such affected trees are used as firewood or burn as charcoal.

Moreover, the supply of the shea nuts is seasonal just like the supply of other products of other economic trees such as dawadawa, cocoa, etc. The shea trees only fruits once in a year which last for a period of three months (usually from April to June). Therefore, until the next

season there would not be fresh nuts for the women to pick and process. This implies that the collection of fresh nuts and home processing of nuts are equally seasonal activities which do not allow the women to continue to earn income throughout the year from these activities unless they divert into buying the shea nuts and processing into butter for sale.

The last production challenge confronting women in the shea industry was difficulty in transporting the fresh nuts collected from the bush or farms to home. After gathering the nuts in the bush or farms, they are usually transported home for processing. Until recently, the only means of transporting them was by head portage. However, due to advancement in technology, those who can afford now employ the services of tricycles to transport them at a fee.

4.4.2 Processing Challenges

From the study results, it was evident that the most pressing processing challenge confronting the women was the lack of modern processing equipment that could reduce the labour intensity of the process but at the same time makes it faster as admitted by most of the respondents. The use of modern processing equipment has the potential of increasing the earnings of the shea butter processors. Due to the lack of modern processing equipment, the processors have no other choice than to rely on traditional processing methods which leads to poor quality of the butter.

The next most pressing processing challenge was lack of electricity. Electricity could assist them to undertake some of the processing activities in the night and could as well serve as source of power supply for the processing machines. Currently some of the communities have grinding mills which aid in the processing. However, these grinding mills are powered with diesel which makes their operation less efficient.

Besides, lack of proper storage facilities was another challenge facing the women. Thus, they do not access to proper storage facilities to keep the fresh nuts collected, processed nuts and butter. This contributes to poor quality of the products and equally undermines the ability of the women to store the nuts for a long period of time in order to wait for higher prices, especially those involved in fresh nuts collection, nut processing and trading in the nuts.

4.4.3 Marketing Challenges

The study results indicate that poor pricing was the most pressing marketing challenge confronting the women. Thus, the price at which the shea products (processed nuts and butter) are usually being sold is too small as compared to their expectations. Related to this was the issue of fluctuation in the prices of the processed nuts and butter which could sometimes result in losses as well as reduction in profit margins of the butter processors, nut traders and butter traders.

Besides, the respondents were of the view that there is generally low demand for the shea butter especially in the urban settings. This is because most urban households do not usually use the shea butter for both domestic and commercial cooking as compared to their rural counterparts. This therefore created a limited local market for the shea butter.

5. Conclusions and Recommendations

The shea industry serves as a major livelihood activity for most rural women in the Wa Municipality. Average income from shea business is higher than that of household income in

the Upper West Region. Notwithstanding the contribution of the shea industry to the livelihood of rural women in the Wa Municipality, a multiple of challenges such as limited access to investment capital; cutting down of wet shea trees; lack of modern processing equipment and training; and poor prices of the shea products in the local market abound in the industry.

Based on the findings of this study, the following recommendations have been proposed for consideration by various stakeholders in the shea industry as well as development agents. First, the chiefs and elders of the communities should promulgate bye-laws against the free cutting down of live shea trees. Community taskforces should be constituted to monitor and enforce the bye-law. Also, the Wa Municipal Assembly in collaboration with NGOs should assist the women in the rural communities who are engaged in the shea industry to procure modern processing equipment to enable them improve upon their production efficiency and quality of their products while reducing the labour intensiveness of their production. This should be complemented with training the women on modern processing techniques.

Besides, considering the fact that the shea industry holds a high potential for effective contribution towards rural poverty reduction, particularly in northern Ghana, government should vigorously promote the shea industry in Northern Ghana by formulating a clear cut policy for the industry, targeting to increase the incomes of rural women and the current export base of shea products. Additionally, since access to credit was one of the major challenges of the rural women in the shea industry, the Wa Municipal Assembly in collaboration with NGOs such as Care International and Plan Ghana should adopt Care's Village Savings and Loans Association (VSLA) model for implementation in most of the rural communities in the Municipality. This would enable the rural women to have access to credit at easy terms and also create opportunity for them to mobilize savings for investment in the shea industry.

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Note 1. YARO is a local NGO which is working with women in these rural communities who are engaged in the shea nut industry.

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