

Market Access Capacity of Women Shea Processors in Ghana

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Abstract

Research has shown that in the long run trade liberalisation creates opportunities for competition in terms of product quality and market accessibility. An Economic Recovery Programme (ERP) was launched in 1983 to halt a chronic economic decline in Ghana. Since then the agricultural sector, which is the backbone of the Ghanaian economy, has received great attention in terms of budgetary support, launching of new programmes and investment of significant funds in the rehabilitation of key agricultural projects including the shea industry. The major concern of policymakers and key stakeholders is how to link shea processors majority of whom are women to international market. The critical question addressed in this paper is: What factors affect the ability of women microentrepreneurs in the shea butter sub-sector to take advantage of market opportunities created by trade liberalization? This paper fits cross-sectional data obtained from 413 women microentrepreneurs engaged in shea butter processing into a binary or choice model to arrive at its conclusions. The finding is that the level of entrepreneurs' education and entrepreneurial skills are the factors that significantly determine the ability of microentrepreneurs to access shea butter market. In order to maximize the export potential of shea butter, it is recommended that policy makers should design policies that will improve the education and entrepreneurial capability of shea processors.

Key words: Market access, Shea butter, Ghana, Probit.

1. Introduction

The most common conclusion from trade-poverty studies is that in the long run trade liberalisation brings about reduction in poverty and increased economic growth (Greenaway & Sapsford 1994; Winters, McCulloch & McKay 2002). The explanation is that when countries liberalise they can enjoy several structural changes including changes in production and production methods as well as improved trade. In terms of poverty alleviation, trade liberalization is generally seen as a positive contributor in the sense that it allows people to exploit their productive potential, assists economic growth, curtails arbitrary policy interventions and helps to insulate against shocks. McKay, Morrissey & Villant (1997) explain that liberalization of agricultural prices, improved availability of inputs, and access to credit and technology are the reforms required to increase agricultural production. Trade change manifests itself in the form of outward market orientedness, increased competition, a shift from non-tradables to tradables and improved institutional support.

Nevertheless, the process through which trade liberalisation reduces poverty or promotes economic growth is not automatic. The process requires that countries embarking on trade liberalisation must be able to increase production and add value to their export commodities in addition to market availability. Because the impact of trade liberalization is not automatic, policy makers and other stakeholders need complementary measures such as human capital development and enhanced market accessibility by domestic producers in order to take advantage of the opportunities created by trade liberalisation.

An Economic Recovery Programme (ERP) was launched in 1983 to halt a chronic economic decline in Ghana which involved an adjustment of the Ghanaian economy¹. The structural adjustment programmes

¹ The agricultural reform focused on gradually reducing the government's involvement in the sector. Government farm estates and fertilizer plants were being diversified. Subsidies for fertilizers and chemicals were being phased out whereas export taxes and other trade restrictions were being reduced

and market liberalisation policies of the past 25 years in Ghana have transformed the agricultural sector in many ways. The agricultural liberalization process was generally driven by the need to achieve export-led growth and to attract foreign investment. According to trade theory, successful liberalization requires that entrepreneurs reallocate resources such as labor and capital from previously protected, non tradable goods production to investment in the production of tradable goods (Badieane & Kerallah 1999). Interestingly, in the early stages of the ERP, investors and entrepreneurs in the non-traditional sub-sector, particularly in the shea butter industry, doubted the credibility of the reforms in Ghana. They more or less adopted a wait-and-see attitude until recently when they are certain that the shea sub-sector which was previously non tradable is one of the most profitable areas.

Despite the efforts at promoting market for shea butter researchers (Egyir 2008 and Egyir & Akudugu 2009) have argued that absence of standardised measures (size, colour and weight) and inaccessibility of market opportunities still remain as major problems confronting shea processors. Market accessibility remains a bigger challenge because shea processors are price takers and are unable to supply the requisite consistency of quality (SNV 2006 and Lovett 2004). More so, whereas intermediary dealers readily exploit administrative and institutional support to engage in wholesale and export trade in shea butter, the indigenous women in the rural areas account for the primary production and retail trade in the local markets. Indeed, retail trade in the local market faces greater business development and expansion problems (e.g., low sales income, low credit and limited business expansion) thereby making it difficult for businesses owned by women entrepreneurs to grow, survive and to diversify. This objective can be achieved by identifying and exploiting new areas of competitive advantage (Republic of Ghana 2003).

In order to make agricultural growth pro-poor, the rural poor must be successfully integrated into expanding markets (World Bank 1994). The critical questions that need answers are: *Do women shea processors in Ghana access foreign market? If they do, what is their capacity and what socio-economic factors determine their ability to access foreign market?* This present paper investigates factors that influence the capacity of women microentrepreneurs' in the Ghanaian shea butter industry to access market opportunities with the aim of providing policy recommendations that bring about improvement in income of women through improved market accessibility. The shea butter industry is chosen because of its employment and income potential. It is the single most entrepreneurial industry with high value chain ranging from picking of nuts through processing and to marketing.

The study is relevant for several reasons. Firstly, the findings will contribute to narrowing the gap in knowledge that exists regarding the factors that determine women shea processors' capacity to access and utilise market opportunities. This is useful for policy makers for embarking on market oriented policies in order to promote exports, particularly non-traditional exports like the shea butter (identified by the Ghana Export Promotion Council as one with high export potential). Secondly, the study concentrates on the market access capacity of women microentrepreneurs. In particular, many studies on the shea sub-sector have concentrated at the macroeconomic level with focus on the marketing challenges facing agricultural products in Ghana. The limitation is that such studies only provide a generic picture of the situation. The findings of the present paper will provide the specific picture of the actions on the ground thereby enabling the understanding of actual agricultural industries that have potential to grow through improved access to international market. Finally, NGOs such as Market Accessibility and Promotion Network (MAPRONET) are involved in promoting shea butter production and marketing in Ghana through linking local producers to international markets. The findings of the study will form the basis upon which such organisations can formulate their advocacy strategies for campaign towards women empowerment.

The remaining of the paper is organised as follows. Section III deals with factors affecting the performance of small scale enterprises whereas Section IV contains information about the theoretical framework and methodology. The empirical analysis is presented in Section V and conclusions presented in Section VI.

2. The Shea Butter Industry

Export crops in Ghana can be defined as those exchanges of agricultural commodities at Ghana's borders that have been officially recorded in Ghana's trade statistics. Export crops in Ghana fall into two categories, namely traditional and non-traditional export crops (Seini 2002). Cocoa remains the only significant traditional agricultural export crop whereas there are several non-traditional agricultural export commodities. Of the non-traditional exports, shea butter is said to be the most significant in terms of both volume and value.

Shea is a wild indigenous tree exclusive to Africa, and is concentrated in 19 countries spanning the area extending from the savanna belt of West Africa through to East Africa (FAO 1988 cited in SNV 2006). Though recent, shea butter has entered the international market because of its export potential. Shea butter is processed from shea kernels/nuts. Shea nuts are processed into oils and butter for various end users worldwide. Shea butter has several uses. The American Shea Butter Institute identifies twenty one (21) uses of shea butter. Shea butter is consumed locally in producing regions as food, cosmetics, soaps and detergents, medicines, and for cultural and religious purposes. The major industrial and commercial uses are in confectionaries, cosmetics and pharmaceuticals.

Shea is an important crop across the West Africa sub-region with the potential of enhancing cross border collaboration, regional cooperation and integration. More so, shea is gaining in importance on the international market, especially for use in confectionery and cosmetic industries. Approximately 150,000 MT valued USD 30 million is exported from Africa. There are great opportunities to increase the quantity, quality and value of butter exported as well as shea based products on the domestic market (Lovett 2004). Ghana and Togo are well known as major butter exporters in West Africa. Other countries are Nigeria, Mali, Burkina Faso, Togo, Cote d'Ivoire, Benin, Sierra Leone and Gambia. Information regarding estimates of shea kernel production and utilization in Ghana and West Africa is contained in Table 1. Potential exists for value addition into oils, soap, chocolates and cosmetics. Export price for shea butter in Ghana have risen steadily from 2000. The shea butter price per metric ton was US\$797 in 2000 which increased to US\$673.4 in 2001, US\$1,018 in 2002 and US\$ 1,005.4 in 2003 (Lovett 2004). Exports of shea butter remain low for most producing countries due to poor product quality, inadequate access to market information, weak business management skills, and lack of coordination among producers.

The substitution of shea butter for cocoa butter in the European Union (EU) chocolate manufacturing industry illustrates the most important end-use for shea butter worldwide (USAID/WATH 2004). However, the market increasingly seeks it as an ingredient in the United States (US) and EU cosmetic industries, which has expanded the popularity of shea butter over the past five years. Companies, such as l'Occitane, the Body Shop and other upscale personal care product manufacturers, have highlighted the beneficial qualities of shea butter as an ingredient in a range of personal care products. Although it is often used in low proportions in facial and skin creams, lip balms, soaps and shampoos, the demand for shea continues to grow (USAID/WATH 2004).

Proponents have argued that the shea sub-sector is one of the few agro-processing industries that have received support from both governmental and non-governmental organizations as ways of empowering women and encouraging the export of non-traditional export commodities. Many initiatives have attempted to address quality and marketing issues at the shea-extraction stages. Specifically, innovations to improve extraction processes, have addressed the issue by aiming to reduce inputs (labour, water, fuel wood, etc.) and attempting to improve consistency of quality through the use of machines, such as crackers, roasters, grinders, presses and kneaders (SNV 2006). Attempts to improve supply chains through the formation of co-operations, market linkages and in-country processing groups have also been made. For instance, the Shebu Industry, a shea butter factory has been established in Savelugu-Nanton District of the Northern Region to buy and process shea nuts whereas many exporting companies and many women groups are involved in the processing. Factories (e.g., A Sekaf Ghana Limited) are being established to process shea

butter for export. In addition, several women groups or associations have been formed in the communities in various districts with support from both local and national NGOs. The popular women groups operating in Northern Ghana are the Christian Mothers Association, Sunta-Nunta Women Group and Tehisuma Women's Group. More importantly, countries like Japan, UK, Spain and Denmark are importing shea nut/butter from Ghana. The Ghana Export Promotion Council has recently identified several shea nut/butter exporting companies in the country. Examples include Bosbel, Antrak Freight Ghana Limited, Olam Ghana, Good Tech Ghana Limited and Kassardjian Industries Ghana Limited². Others are Arthus Olive Ghana Limited, Vicdoris Pharmaceuticals, Dorca Providence Grocery and SPB Uni-Comerz Enterprises. The Body Shop, just one of many international companies buying locally produced shea butter from women's groups, increased its demand for shea from 5 t in 1994 to over 100 tonnes per annum in 2003.

There is the already a growing network of NGOs and other organisations that have joined with rural producer groups, particularly through "The Shea Network" supported under the FAO/CFC funded ProKarité project (SNV 2006). This group of organisations currently supports pilot activities in Senegal, Burkina Faso, Mali and Niger. These initiatives aim to develop appropriate criteria for quality standards, provenance definitions, processing procedures and agricultural practice, so that through the flow of information, shea kernels or butter can be more easily commoditized and internationally traded with confidence. At a recent regional and consultative workshop in Bamako, sixteen of the shea producing African countries agreed on a number of resolutions, including one to form an international (African-wide) shea association that will link up national institutions and form a platform for further developments and discussions.

The United States Agency for International Development (USAID) has funded lots of initiatives in the shea butter production region whereas Techno-Serve (TNS)-Ghana has offered business advice to shea butter production businesses in Northern Ghana. The shea sub-sector has witnessed support from NGOs in terms of credit and capacity development for women involved in the processing of shea butter. The activities of the NGOs aim at improving quality and quantity so as to enjoy market opportunities in the sub-sector. Indeed, support for the sub-sector has largely been championed by private sector initiatives. However, recent development in the sub-sector indicate that research institutions like the University for Development Studies (UDS) and Savannah Agricultural Research Institute (SARI) are collaborating to conduct scientific research on the shea tree, particularly how it can be grown on plantations like cocoa. More importantly, the government is pursuing a policy for the establishment of a Shea Board to be solely responsible for planning and coordinating the activities of shea industry. The move is to promote quality research into the crop so as to raise it to international standard like cocoa. The Ghana Export Promotion Council (GEPC) reports that shea butter export volumes ranged between 1,310 MT in 1998 and 2,539 MT in 2002. Growing demand is due to an increasing worldwide demand for vegetable oils and fats, especially for the stearin component for use in Cocoa Butter Improvers and other edible products.

Over 90% of processors are women with men playing the role of mere assistants to their spouses. The mean age of shea processors is 42 years. Majority (86%) are have not attained formal education. Women shea processors, however, have long business experience (average of 15 years) with a low capital set up (mean = GHC 89). Eighty four percent (84%) of the sheanut processors regard the activity as their main occupation with an average monthly income of GHC 290. Each women processor employs about 4 people, mostly family members or friends. Over 90% of the employees are female. Most processors (91%) have a good knowledge of the amounts that they process per week. With reference to quantities processed in a week, responses ranged from 2 bowls of shea butter to 4 bags with the majority (64%) saying they processed between 15 bowls and 2 bags of sheanuts a week. The price of butter varies from region to region and from district to district. The price at which a kilo/bowl of shea butter was sold in the market ranged from GHC 0.30 and GHC 5.00. The weekly cost of production after the purchase of nuts, processing, labor and others

² Bosbel Vegetable Oil Limited is Ghana's largest shea butter production and export company. It processes up to 2,400 metric tonnes of shea nuts annually for export. At maximum capacity Bosbel Vegetable Oils Limited can process 3,600 metric tonnes of shea nut.

average GHC 36 in a week. On the average 35 bowls of sheanuts produce 19 bowls of shea butter as output. A bowl of butter is sold, on the average at GHC1.80. Therefore 19 bowls of shea butter on a weekly basis, yield an amount of GHC 34.20.

3. Factors Affecting the Performance of Small Scale Enterprises

According to Cagatay (2001), results of case studies indicate that trade liberalization in predominantly agricultural economies may disadvantage women compared to men, even when traditional export crop production increases. In many sub-Saharan African countries, women are critical to food security, as they are typically small farmers or food crop producers. Trade reform tends to advantage large and medium producers, since small farms, especially women, often lack access to credit, new technologies, marketing know-how and the like needed to take advantage of new markets.

Available literature shows that there are many exogenous factors that affect the performance of agro-processors. These include the industrialization policy of an economy, whether it promotes large scale or small scale production, supports from the government, credit, and lack of effective demand. The success of any small business enterprise depends on the skill, capabilities and abilities of entrepreneurs to innovate. Most studies dealing with agricultural production argue that schooling or the level of education of a farmer helps the farmer in the use of production information leading to increased yield. Pudasaini (1983) has argued that education contributed to agricultural production in Nepal through both worker and allocative effects. The author, however, cautioned that though education enhances agricultural production mainly by improving farmers' decision-making ability, the way in which it is done differs from environment to environment. Thus, in a technologically dynamic agriculture, education improves farmers' allocative ability, enabling them to select improved inputs and optimally allocate existing and new inputs among competing uses. On the other hand, in a traditional agriculture, it enhances their decision-making ability mainly by increasing their ability to better allocate existing farm resources. Education is an important factor determining women's participation in the different categories of the labour market (Kalirajan & Shand 1985; Diagne & Zeller 2001 and Ajibefun & Daramola 2003). Ajibefun & Daramola (2003) concluded that education is an important policy variable, and could be used by policy makers to improve both technical and allocative efficiency of producers.

Kebede et al. (1990) found that the characteristics of business owners have strong impact on the performance of small scale enterprises in Nigeria and that the level of human capital (proxied by years of schooling of the owner) and experience are the most significant factors affecting the performance of small scale enterprises in Nigeria. Other factors that are also important determinants are the amount of seed money used in starting the business and the location of the enterprise. This is similar to the findings of Kimuyu & Omiti (2000) that the performance of entrepreneurs is heavily dependent on the background of such entrepreneurs and these backgrounds which vary, include factors such as age, education and tribe of the entrepreneur. Similarly, Quartey (2002) indicated that access to finance has a significant positive influence on a firm's growth and that locating an enterprise in an urban area yields a positive effect on growth. A firm's proximity to demand sources and to concentrations of competition influences its profitability as well as exposing the firm to high-income customers (McPherson 1996; Obeng 1994; Piore & Sabel, 1984 and Schmitz 1998). *Ceteris paribus*, urban enterprises record a higher success rate than rural enterprises (Kimuyu & Omiti, 2000). The reason is that suppliers of credit are of the view that rural enterprises are less concentrated and more difficult to serve (high average cost). Besides, due to lower rural incomes, rural based businesses enjoy lower volumes of business and lower demand for credit. Nonetheless, for Dawson (1997) though access to credit can have a positive influence on firm's growth the impact of credit on growth is often not sustained. Similarly, McPherson (1996) pointed out that loans from government are not the best answer for raising capital for small and medium enterprise (SME) development. The explanation is that such loans are expensive with very high interest rates.

The performance of a firm is also likely to be affected by the level of human capital embodied in its proprietor. Bates (1990) found that the level of education of the entrepreneur significantly determines the firm's longevity (and perhaps growth). McPherson (1996) argues that enterprises owned by females are less

likely to grow, since traditionally, female generated funds are used to cover the family's basic needs, hence female proprietors may avoid taking the risks involved in firm expansion.

Access to market is fundamental for the success of small and medium enterprises. The interpretation is that business owners are encouraged to produce more with guaranteed market. Effective market encourages innovation and competition leading to quality produce. Secondly, when business owners are sure of a ready market for their products their marginal propensity to pump in more capital into their businesses is high. Effective market also increases the demand for bank loans thereby enhancing financial intermediation.

4. Conceptual framework and Methodology

The subject of economics involves three things: production, distribution and consumption. This means that production is incomplete until the goods or services get to the final consumer. Marketing plays an important role in the distribution process of goods and services. Marketing is the process of planning and executing the conception, pricing, promotion, and distribution of goods and services in order to create and maintain relationships that will satisfy individual and organisational objectives (Boone & Kurtz 2004). Effective marketing highly depends on the marketing opportunities available. Four types of marketing opportunities can be identified. The first is market penetration. It is about increasing sales of a firm's present product in its present market. This can be achieved through a more aggressive marketing mix (Perreault & McCarthy 2005) such as developing closer relationships with customers so that they will be loyal. The second is market development. It simply involves sales increases by selling present products in new markets. Market development may require a search for new uses for a product and also advertisement in different media to reach new target customers. Product development is the third type of marketing opportunity. It means offering new or improved products for present markets. The last type of market opportunity is diversification which involves moving into totally different lines of business which may include entirely new and unfamiliar products, markets, or even levels in the production-marketing system.

Firms need to be able to access market opportunities in order for them to grow and stay competitively in the market. Accessing market largely depends on several factors like capital, size, location, nature of product and the capacity of the owner.

The response of shea processors to trade liberalization such as market accessibility is individualistic, and the decision to access market is dichotomous between two mutually exclusive alternatives i.e., the individual chooses either to go into shea processing or not. The decision of the i^{th} individual can be represented by a random variable y_i that takes the value of 1 if the individual engages in shea processing and 0 for otherwise. It is assumed that the average utility derived from a decision by an individual enterprise to engage in shea processing is based on the attributes of the decision, which are specific to the enterprise. The underlying utility function which ranks the preference of the i^{th} individual is assumed to be a function of enterprise-specific characteristics, 'X' (examples of such characteristics include age, sex, level of education, business experience, etc) and a normally distributed error term (zero mean and constant variance): $U_{i1}(X) = \beta_1 X_i + \varepsilon_{i1}$ for engagement in shea butter processing and $U_{i0}(X) = \beta_0 X_i + \varepsilon_{i0}$ for non-engagement.

The utilities and the i^{th} enterprise would choose the alternative 'shea butter processing' if and only if $U_{i1} > U_{i0}$. Therefore, for the i^{th} enterprise, the probability of shea butter processing is given by:

$$\rho(1) = \Phi(\beta X_i), \quad (1)$$

where Φ is the cumulative distribution function for ε . The functional form of Φ depends on the assumptions made about the distribution of ε . The model arises from assuming the normal distribution for

\mathcal{E} (Nkamleu & Adesina 1999). Thus for the i^{th} enterprise, the probability of an individual choosing to engage in shea butter processing is given by:

$$\Phi_f(\beta X_i) = \int_{-\infty}^{\beta X_i} \frac{1}{\sqrt{2\pi}} \exp\left(-\frac{t^2}{2}\right) dt \quad (2)$$

The determinants of market accessibility can be estimated using a Probit technique. Four variables (factors) were hypothesised to influence enterprise owners' ability to access market opportunities. The factors fall into business owner and enterprise specific categories. These are experience in shea butter processing (years), education (years of schooling), capacity development (number of workshops attended) and entrepreneurial skills dummy (1 = modern method of processing shea butter and 0 = otherwise). The dependent variable is market accessibility and is represented by a dummy (1 if business enterprise ever sold shea butter to export companies and 0 otherwise).

5. Empirical Analysis

The probit regression has been used to assess the capacity of women microentrepreneurs to access market for their shea butter. The variables identified as factors that influence the ability of women shea processors to access market were age, experience, level of education, entrepreneurial skills, capacity training and membership in association. The age variable was dropped because it correlated with the experience variable. Also, capacity training variable and membership to association or group variable were correlated and the latter was dropped. The inclusion of the experience variable is as a result of the long experience (average of 15 years) that the women have in processing butter. With this long experience it is expected that the women can produce quality shea butter to meet the standards of the market. The education variable is included because with education beneficiary women are able to process information easily and innovate. The entrepreneurial skills variable describes the ability of women microentrepreneurs to use modern method of processing butter. It is estimated that modern method of processing (40 – 50%) produces high quality butter as compared with the traditional method (15 – 30%) suggesting improved market accessibility. The choice of production methodology is useful for explaining the type of market a firm can sell its products because both quantity and quality are invariably defined by the method of processing. The capacity training variable captures the effects of the training workshops that are often organized by NGOs to train women processors on group dynamics and market strategy.

The Probit results are contained Table 3. The results indicate that shea processors' ability to access market is significantly determined by their levels of education. Education enables microentrepreneurs to understand and explain business opportunities and dynamics. Education also enables women shea processors to effectively plan and manage their businesses in terms of resource mobilization and utilisation. Again, when entrepreneurs acquire high levels of education they are capable of conducting informal research and to understand market features or trends such as price behaviour, seasonality (peak market), source of raw materials and reliable customers all of which inform the individual regarding opportunity identification and utilization. This finding is similar to the conclusion of Kalirajan & Shand (1985) finding that the level of human capital is a significant factor affecting the performance of small scale enterprises.

The positive and significant nature of the entrepreneurship variable can be interpreted to mean that shea butter entrepreneurs' ability to effectively access market opportunities highly depends on the quality of entrepreneurial skills they possess. The advantages of possessing quality entrepreneurial skills are many. Entrepreneurial skills enables women microentrepreneurs to participate in training workshops which assists them to learn about new business opportunities and to acquire new business planning and management techniques. Secondly, through entrepreneurship, women engaged in processing shea butter have better skills of keeping records, a pre-requisite for effective planning, monitoring and evaluation. Also, entrepreneurial skills bring about innovation and value addition in terms of improved methods of shea

processing and packaging. Lastly, entrepreneurial skills enable women to form groups. When women form groups they take advantage to pool resources together and attract more credit from lending institutions, especially rural banks and non-governmental organizations. Groups also enable women to inter-depend on each other in terms of labour supply.

6. Conclusion

This paper examines the market access capability of women engaged in shea butter processing in Ghana. Cross-sectional data obtained from 413 women microentrepreneurs engaged in shea butter processing were fitted into a binary or choice model to arrive at its conclusions. The results indicate that women shea processors' ability to access market is significantly determined by their levels of education and entrepreneurial skills. Accessibility to the growing market opportunities is limited because of poor entrepreneurial skills which manifest itself in the form of weak human capacity and overdependence on traditional method of processing shea butter. Also, majority of the women engaged in shea processing do not have formal education thereby limiting their ability to do research and to understand the basic market conditions based on supply and demand. These have lots of policy implications. Improved market access cannot be attained unless business owners have the necessary entrepreneurial skills and education capacity. The implication is that improved entrepreneurial and education capacity makes firms more innovative and competitive in both local and foreign markets.

In order to maximize the export potential of shea butter in Ghana and other West African producing countries, policy makers should design policies that will improve the education and entrepreneurial capability of shea processors. Efforts to address the problem of women's access to market should focus on improving their level of education and capacity. The education process should include training in improved methods of packaging and marketing. Extension service delivery is paramount for promoting the adoption of improved methods of shea processing. Further, efforts should be made to sensitize shea processors to become aware of international market standards and promotion (advertisement, value addition, etc) requirements. Shea processors need to be informed about market conditions prevailing in the United States, EU and AU markets. The reason is that education might well be a critical factor not only for empowering women, broadening their horizons, and generating different aspirations, but also for enabling them to be better entrepreneurs (Pingle 2008).

A policy aimed at developing small and medium scale industries has to focus upon the supply of confident and competent entrepreneurs (Buame 1986; Zeller 1999 and Zeller & Sharma 1998). Ability to maintain consistent and high-quality production of shea butter using best practice methods for extraction, storage and packaging is key. This can be achieved by improving the entrepreneurial skills of shea processors. The recommendation is that shea processors should strengthen existing groups or associations and form cooperatives in order to have a strong voice to access market and expand output. As part of market accessibility, government and other NGO support should be sought to promote effective production, storage, processing and marketing of shea butter. Export promotion and other marketing outlets should be sought by shea processors to improve revenue realized from the production and processing of shea butter. There is the need to strengthen the work of the Shea Network so that local producers from various West African countries can come together to have a formidable West African shea butter market. This will motivate local processors to invest more in entrepreneurial development.

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Table 1: Estimates of Shea Kernel Production and Utilization in Ghana and West Africa (equivalent dry kernel t/year).

	Major West African producing countries	Ghana	Ghana as percent major West Africa Total
Total potential production	1,130,000	200,000	17.7
Actual collection	585,000	130,000	22.2
Estimated domestic consumption	321,900	70,000	21.7
Total exports	263,100	60,000	22.8
Exported as kernels	217,000	45,000	20.7
Exported as shea butter	46,100	15,000	32.5
Equivalent amount of shea butter (t)	15,400	5,000	32.5

Source: Lovett, 2004. The Shea Butter Value Chain: Production, Transformation and Marketing in West Africa. West Africa Trade Hub (WATH) Technical Report. No 2, November 2004.

About 21% of total exports are in the form of shea kernel.

Table 2: Table Export of Shea butter.

Country	Total Shea Kernel produced (mt)	Export as Shea butter (mt)	Export as Shea butter (%)
Benin	35,000	100	0.3
Burkina Faso	40,000	3,000	7.5
Cote d'Ivoire	25,000	10,000	40
Ghana	60,000	15,000	25
Mali	53,000	3,000	6
Nigeria	20,000	0	-
Togo	30,000	15,000	50
All 20 countries	267,410	47,460	18

Source: USAID/WATH, 2004. Percentages are author's calculation.

Ghana's export of shea butter as a percentage of total exports is high (25%) compared to countries like Nigeria, Benin, Senegal, Gambia, etc.

**Table 3: Probit analysis of Determinants of Market Accessibility -
 Dependent variable is Market Accessibility**

Variable	Parameters	Coefficients	z-statistic
<i>Constant</i>	β_0	-3.682	-8.369
<i>Experience</i>	β_1	1.062	0.692
<i>Education</i>	β_2	1.134	0.120**
<i>Entrepreneurship skills</i>	β_3	1.176	0.141*
<i>Capacity Training</i>	β_4	0.860	2.258
Log likelihood		-11.193626	
LR chi2(4)		10.73	
Prob > chi2		0.0298**	
Pseudo R ²		0.3240	
N		413	

Source: Field survey, 2009. Note: ** and * represent 5% and 10% level of significance, respectively.

The Pseudo R-square is 32%. All variables have the expected signs. The education variable has a positive sign and is statistically significant at 5% level. The entrepreneurship variable has a positive sign and significant at 10% level.

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