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AN ANALYSIS OF FACTORS AFFECTING WOMENS' CAPACITIES AS TRADITIONAL SHEA BUTTER PROCESSORS IN NORTHERN GHANA

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ABSTRACT

The shea tree is an indigenous and exclusive asset in West and Central Africa and particularly abundant in the Northern Savannah areas of Ghana where shea butter constitutes a key source of income for local women. The objectives of this research were to describe the capacity level of women as traditional shea butter processors and to analyze factors which affected women's capacity in processing shea butter as a traditional home industry. Participant observation, interview and semi-structured questionnaire were used to collect data from 204 households engaged in shea butter processing in Sawla-Tuna-Kalba and Wa West districts, selected via simple random sampling procedure. Spearman correlation and descriptive statistics were used in the data analysis. The results revealed that the social economic characteristics of traditional shea butter processors (namely; age, length of time in business, informal education, motivation, family size, and individual beliefs about the social and cultural values of shea butter) and support from agriculture extension affected personal capacity. Personal capacity affected business capacity and in the next term, business capacity affected productivity. Increasing productivity will increase income. This means that the shea butter processors with higher personal capacity will do better in business. This study concludes that the processing of shea butter in Northern Ghana is still dominated by traditional business, both the production process and management and that the processing of shea butter into more innovative and economic products is still progressing slowly. The development of shea butter in Northern Ghana, especially shea butter processing has to consider and understand factors that affect personal and business capacity of traditional shea butter processors.

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INTRODUCTION

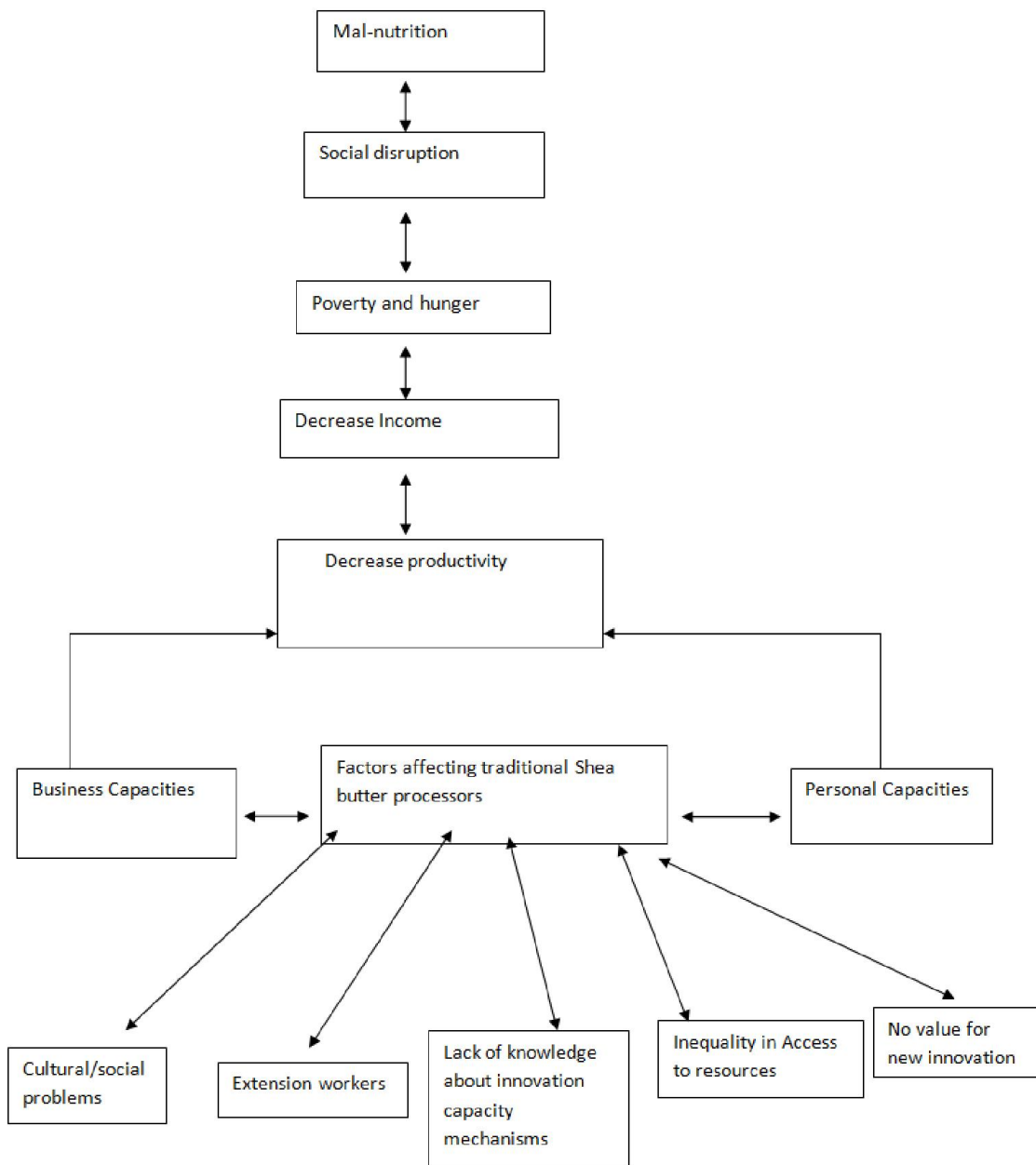
The shea tree is an indigenous and exclusive asset in West and Central Africa and particularly abundant in the Northern Savannah areas of Ghana. Shea butter is one of the local foods in Ghana that has the potential to support food diversification not only in Ghana but also other African countries. In Northern Ghana, shea butter constitutes a key source of income for local women. Shea butter is a fatty extract from the seed of the shea tree. The shea tree, formerly *butryospermumparadoxum*, now called *vitellariaparadoxa*, grows naturally in the wild in the dry savannah belt of West

Africa (Esinam, 2010). Aboyella (2002) has noted that shea butter processing and trading are major income generating activities that offer employment to rural women. Stichting Nederlandse Vrijwilligers (SNV) (2006) stated that more than 600,000 women in Northern Ghana depend on incomes from the sale of shea butter and other shea-related products as a means of their daily sustenance via, supplementing the family food budget and meeting medical and educational expenses. Therefore, as farm diversification has a potential as an economic driver in agricultural regions of the country, shea butter diversification also has many benefits, not only to household income, but also to the social life of communities and for the support of food security programmes. Issahaku et al. (2011) have noted that, shea nuts and shea butter have multiple uses. In a domestic setting, shea nuts constitute an important source of affordable cooking fat (Abbiw, 1990).

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Locally, shea butter is sold in loaves in markets. It is estimated that a Malian family of seven (7) people consume about 150 g of butter a day (Fluery, 1981). Shea butter is also used as a base for medicinal and cosmetic ointments, as pomade, as hair cream, for soap production and as an illuminant (Abbiw, 1990). In fact, the shea tree covers almost the entire area of Northern Ghana, occupying about 77,670 square kilometers in Western Dagomba, Southern Mamprusi, Western Gonja, Lawra, Tumu, Wa and Nanumba, with Eastern Gonja having the densest stands (CRIG, 2002). Shea butter processing in Northern Ghana is generally done by women with individual characteristics different from one another and the use of traditional technologies that are handed down from parent to child over several generations. There are four traditional product of shea nuts that are always produced, namely shea butter, *Yuonpogdo* (used as fuel energy), *Kabutu* (edible oil), and *Burima* (used as disinfectants and also as fuel wood), but most of the people, especially in towns tend to consume refined form of shea butter products with a different taste.

Consumers hold the view that, butter produced by the traditional women is inferior and difficult to cook with (Issahaku et al 2011). This has become a new problem to traditional shea butter processing because small scale producers generally lack the knowledge, information and resources to meet quality standard and formal market specifications (Biénebeand and Dennis, 2005). This situation is certainly very unfortunate for the development of shea butter in Northern Ghana, especially to revitalize shea butter as a local food through food diversification and to increase household income of traditional shea butter processors. Therefore, it becomes important to increase the capacity of women as shea butter processors so that they can produce innovative products of shea butter. One reason to increase their capacity beyond the role of traditional shea butter processing is that, higher capacity and better skills will make them be able to expand the scale of their enterprises. In the next stage, they will be able to take advantage of market opportunities not only in their respective rural communities,



Source: Authors' own construct

but also in the whole country and beyond. Here, change agent is needed to show and give many innovative skills that could make the business of shea butter processing better. Based on this background, the aims of this research were to: (1) describe the capacity level of women as traditional shea butter processors, and (2) analyze factors that affect their capacity.

Conceptual Framework

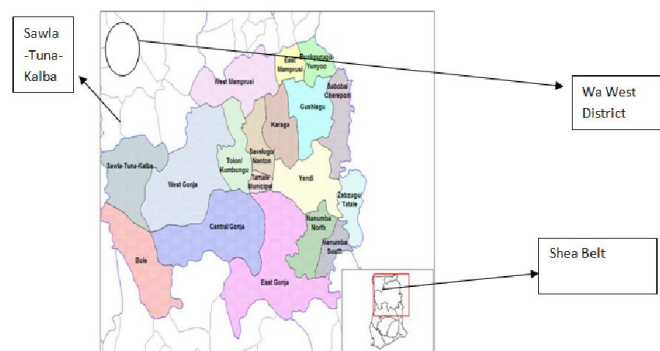
Prior discussions established typical features of the shea industry, its positive contributions, and challenges or constraints. Though factors affecting traditional shea butter processors are indispensable, the roles of key stakeholders via extension workers as well as socio-cultural are relevant for the success of the shea industry. It is against this background that the conceptual framework carved an integrated approach for capacitating traditional women in the shea industry in Northern Ghana. The conceptual framework is premised on the basis of the stakeholder analysis which identified key factors which affect the capacities of traditional shea butter processors via cultural/social problems, inequality in access to resources, inadequate support from extension workers, lack of knowledge about innovation capacity mechanism, no value for new innovation among others, and their respective interests and contributions towards increasing their personal and business capacity as well as the development of the entire industry. Figure 1 above shows a list of factors which affect the personal and business capacity of traditional women shea butter processors, which finally resulted in decrease in shea butter production, decrease income, poverty, hunger and social disruption.

MATERIALS AND METHODS

The findings presented in this study are based on a number of fieldworks conducted between 2013 and 2014. The fieldwork involved 204 households engaged in shea butter processing from 8 research localities/communities within the three Northern Regions of Ghana. Northern Ghana was chosen for the study because shea tree flourishes extensively in the area which is part of the Guinea Savannah zone (FAO, 1988a), and occurs over almost the entire area of Northern Ghana, covering about 77,670 square kilometers (CRIG, 2002; Esinam, 2010). In addition, shea butter constitutes a key income source for local women in Northern Ghana (SNV, 2006). The fieldworks included participant observations and interviews with selected stakeholders and shea butter processors in the settlements studied, as well as expert interviews with representatives from individual organizations involved in shea processing. Such open ended interviews afforded the respondents the opportunity to express their candid opinion on their capacity level as traditional shea butter processors and factors affecting their capacity. The data collected were subsequently transcribed and used to validate and complement the earlier fieldworks, providing valuable insights into current capacity level of traditional shea butter processors in the study area. The area of analysis is Northern Ghana, with emphasis on the Sawla-Tuna-Kalba and Wa west districts, which is considered to have a large potential for shea butter production and as shea butter processing centers in Northern Ghana. The research population was all households engaged in traditional shea butter processing in the selected villages. Sample distribution in each village was determined

proportionally based on the population size of the community. Simple random sampling method was used to draw the sample. The unit of analysis was the household engaged in shea butter processing where the primary respondent is the woman who processes shea butter and runs the business. Data were analyzed using descriptive statistics and the Spearman Correlation analysis. Software of Statistical Package for the Social Science (SPSS) was used to process the Data.

The survey area is shown in the map below



RESULTS AND DISCUSSION

Women's capacity in Shea butter Processing

In this research, women capacities are the abilities of women processing shea butter. These capacities are divided into personal capacity and business capacity.

Personal Capacity

Personal capacity of traditional shea butter processors was reflected by the capacity to: arrange business plan, identify and solve problems, take advantage of opportunities, and maintain business continuity. Majority of traditional shea butter processors have similar levels of personal capacity. In terms of business plan, all processors have a desire to expand business, but the problem is their inability to prepare a business plan, including pre- and post-production planning. The only planning that takes place is to keep the business going; thus, doing business is a routine activity. Traditional shea butter processors have various problems in processing shea butter. The main problem is increasing price of additional material. However, there are two ways to solve these problems. First, buying those additional materials at market prices and making the selling price of the product higher. Processors usually do this to preserve the quality of products. Second, reducing additional material or decreasing size of product or package to keep the selling price constant has been another option. The majority (62%) of traditional shea butter processors have moderate capacity to take advantage of opportunities. It means that just taking advantage of opportunities with an acceptable level of risk, for example, opportunities to increase volume of production during festival and funeral celebrations because shea butter is mostly used to prepare local dishes during these activities. Actually, the change in consumers' demand is an opportunity to develop business scale. In Europe, the changes in consumers' demand have forced the food industry to create and develop new products and marketing campaigns that are able to fulfill all these requirements (Faluera et al, 2012), but in shea butter

Plates 1: De-Husted and Fried Shea Nuts Plates 2 and 3: Grinded Shea Nuts into Paste



Source: Field Survey, December, 2013.

Plates 4 and 5: Women processing Shea butter



Plates 6: Processed Butter



Source: Field Survey, December, 2013.

processing, most processors don't want to change their business arrangements including technology because they do not want to take additional risks (Läppleand and van Rensburg, 2011; Mani, 2013). As a result of that, most of them face difficulties to increase the scale of their businesses. In addition, consumers' taste is continually expanding, not only about sense of taste, but also colour, size, texture, and packaging. In other words, apart from price and quality, consumers also have consideration about benefits (potential benefits of product technology), health and food, environmental factors thus, risk concerns of the technology in relation to health safety and food and environmental safety, respectively (Kikulwe et al, 2011). Availability of many novel food products nowadays is also a problem for shea butter processors to increase the scale of their business. Nearly 92% of traditional shea butter processors have capacity to maintain business continuity in medium category. It was seen from business conditions that there was a slight change from the previous generation that had been running the business for decades. In other words, for sustainability, they manage business by making choices and entrepreneurial behaviour (Anthopoulou, 2010).

Business Capacity

There are four components to measure enterprise capacity, namely: capital, labour, technology, and marketing skills. A little over half of the traditional shea butter processors (52%) have business capacity in medium category. The majority

(53%) of traditional shea butter processors have medium capacity to provide money as capital for the business. They generally rely on their own capital because they do not have access to sources of capital, such as banks and micro credit schemes. This was also founded by Akinbami et al, (2012) in a study about technology adoption and women entrepreneurial behaviour in rural South Western Nigerian communities. Mostly, the business of shea butter processing begins by continuing the efforts of parents or borrowing money from others to use as capital. When a business is already running, some portions of revenue can be saved as working capital.

To fulfill labour needs, the majority (54%) of traditional shea butter processors have medium category of labour. So far, there is no difficulty in getting the number of workers needed from outside or inside their families, but workers' skills need to increase. Each processor employed two or three persons. All works were done manually without tools so that the processes have a strong traditional feel. Technology of equipment and information technology related to shea butter processing business was also very rare. Lack of available information (Läppleand and van Rensburg, 2011), and lack of capacity to access information was a barrier to obtaining the required information and hence the pace of adoption was slow. Market availability is important to traditional shea butter processors for selling their product. Majority (64%) of processors had medium capacity to access markets, this illustrated that all of the traditional shea butter processors did not have great difficulty in selling processed products. In addition, the sale

price was appropriate and there was no price competition because every processor had their established customers. The majority (65%) of shea butter processors had business productivity in the medium category, as well as the aspect of quantity and quality of the products. About product quantity, 60% of processors felt satisfied because it could increase household income. There is a desire to increase output, but increasing the quantity of product means adding working capital, while the volume of demand rarely increased. Therefore, increasing the quantity of product is made upon request. According to (Atapary, 2010), certain types of product's demand is getting lower thus 40% every year because consumers were getting bored with these products. The quality of the products was also classified in the medium category. Food products generally were not tested by the Food and Drugs Board, not only because the test cost is too expensive, but also most of shea butter processors do not know the meaning, method, or significance of the tests. The average revenue of shea butter processing is in the medium category about GH¢ 200.00 (equivalent to US\$ 100.00) per month. This contributed about 86% to household income.

Factors Affecting Women's Capacities

Not all characteristics of traditional shea butter processors affect capacity to run business, but change agents (extension workers) have an important role to play in increasing the capacity of shea butter processors as illustrated in Table 1.

Table 1. Correlation between characteristics of traditional shea butter processors and the role of extension workers with personal and business capacities

Characteristics	Personal Capacity	Business capacity
Age	.226**	.091
Formal education	.006	.077
Informal education	.143*	.035
Length of time in business	.205**	.069
Motivation	.163*	-.014
Family size	.154*	.099
Household's income	.030	.165*
Information access	.031	.033
The value of social function of shea butter	.253**	.085
The value of culture function of shea butter	.278**	.108
The role of extension worker	.226**	.174
Personal capacity		.318**

** Significant at level (α) = 0.01; * Significant at level (α) = 0.05.

Source: Field Survey, 2013

Cultural values (.278**) of shea butter had positive and significant correlation with personal capacity, while the level of formal education, household income and access to information have no effect. Household income has positive correlation with business capacity. It reflected the fact that although shea butter processing is an income source for women, the condition of the work and the process itself still reflects the traditional character of business. Improving skills in processing shea butter seems to occur along with increasing age of the processor and length of time in business. This is because, the shea butter business is mostly a hereditary business, the motivation of processors is not only about income, but also to preserve a culture and manage their businesses while maintaining and implementing the social and cultural values of shea butter. Nasharudin, (2013) also found that motivational level had a significant correlation with

capacity building. Family size affects the capacity of women in processing shea butter through the availability of family labour as a source of labour. The level of formal education is almost the same for most of shea butter processors so it doesn't affect individual capacity, but informal education had a positive correlation with capacity. Similarly, the number of family dependents is almost the same and unlikely to cause any big effect on the individual's capacity. Extension workers had a positive and significant correlation with personal and business capacity, but the correlation with personal capacity was higher than the correlation with business capacity. It means that the extension worker through the role as a motivator, facilitator, and catalyst is very important in increasing personal capacity of traditional shea butter processors instead of increasing business capacity. Lovett (2004) stated that trade networks for shea in West Africa are dominated by lack of information and standards in terms of market demand and quality-price structure. This typically leaves the women as price-takers and prevents shea butter and kernel from being traded as a profitable commodity. Esinam (2010) added that, there is currently no incentive, let alone opportunity to improve quality. Our position is further strengthened and reinforced by prior research which has shown that, lack of access to affordable capital and business skills in Africa is well known and options to improve shea butter production are possible without links to support from international non-governmental organizations (NGOs) operating in the shea zone (Lovett, 2004).

These constraints must therefore be addressed if the full potential of the industry is to be realized in Ghana and West Africa as a whole. All components of personal capacity positively affect the capacity of business. This means that the shea butter processors with higher personal capacity will do better in business such as raising capital, providing labour, technology, and having market access. Business capacity will not increase without good personal capacity and the role of women not only in production and consumption, but also to gain greater power over their livelihoods (Anderson and Bellows, 2012). All elements of business capacity simultaneously had positive and significant correlation with productivity and income, but separate analysis showed that capital, labour, and technology had positive and significant correlation with productivity and income while market access had no correlation as shown in Table 2. Market access had no correlation with productivity and income because all processors had their own customers so market is not a problem but it will be a problem if the quantity of production increases.

Table 2. Correlation Between Business Capacity with Productivity and Income of Traditional Shea butter Processing

The component of business capacity	Productivity	Income
Capital	.273**	.294**
Labour	.219**	.194**
Technology	.201**	.236**
Market	.015	.039
Business capacity	.188**	.194**

** Significant at level $\alpha = 0.01$

Source: Field Survey, 2013.

Based on the analysis of the factors that affect the capacity of traditional shea butter processors, increasing their capacity could be achieved through efforts to increase the factors that have an influence on personal and business capacity. These factors include:

Improving the role of informal education through various extensions and training to give more experiences to traditional shea butter processors. Informal education could be used to improve their knowledge thus replacing the role of formal education. According to Akinbami et al, (2012) most rural women entrepreneurs are reluctant in adopting improved technologies; one of the reasons is their educational level. Therefore, developing the knowledge base is important to improve women's small enterprise development (Hossain and Islam, 2012) and a strong knowledge base is power to achieve success in export products. Informal education could be used to increase motivation, the value of social and culture function of shea butter that have positive and significant relationship to personal capacity. Helping traditional shea butter processors to have easy access to information, especially about shea butter processing, would improve their situation. Information communication and technology (ICTs) is popular as a significant tool for economic and social development of least developed countries (Asiedu, 2012). With ICTs, agricultural information exchanges could be quickly effected among agricultural workers and could bring about synergic agricultural development to the country (Lawal-Adebowale and Akeredolu-Ale, 2010; Aleke et al, 2011) and extension practitioners should not be underestimated (Guenthner and Swan, 2011). Mobile phones could be chosen as alternative because in many developing countries, mobile phones significantly reduce communication and information costs for the rural poor and give new opportunities for rural farmers to obtain access to information on agricultural technologies and also to use ICTs in agricultural extension services (Aker, 2011).

The information that traditional shea butter processors needed were about business management, production technology for innovative product of shea butter with good market opportunity, how to get home industry permit, packaging technology, and capital access. It is necessary to improve the competitiveness of shea butter products with other food products. Other information is needed about market opportunities, price information of shea butter products, and how to use information media to access markets, for example how to use the website for product promotion. In the short term, building business capacity of shea butter processing could be achieved by supporting capital and equipment as loans that have to be paid back, so there is a responsibility to use and maintain that support. This support should be given selectively to avoid failures. Besides that, it is important to motivate traditional shea butter processors for willingness and readiness to work together in groups so that capacity building programmes will be easier. Groups should grow up from traditional shea butter processors themselves, not to be formed intentionally to get support. Therefore, it takes time to learn, analyze, and prepare traditional shea butter processors as part of the business group.

Conclusions and Recommendations

This study illustrated that the processing of shea butter in Northern Ghana is still dominated by traditional business, both the production process and management. Personal and business capacities of traditional shea butter processor are in medium category. That's why increasing personal capacity and business capacity is important. This study also reinforced the opinion that the development of shea butter in Northern

Ghana, especially shea butter processing into more innovative and economic products is still progressing slowly. In the future, the development of shea butter in Northern Ghana, especially shea butter processing has to consider and understand factors that affect personal and business capacity of traditional shea butter processors. Characteristics of social economic namely age, length of time in business, informal education, motivation, family size, and individual beliefs about social and cultural values of shea butter affects personal capacity, while the level of formal education, household income, and access to information have no effect. The role of extension workers affects personal capacity higher than business capacity. Increasing the components of personal capacity is needed because it is still in the medium category. This can be done through various forms of informal education activities, such as training, extension and counselling, as well as mentoring, primarily to increase business capacity. In the next term, increasing business capacity will increase productivity and income.

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