



## REVIEW ON VALUE ADDITION ALONG THE SHEA (*VITELLARIA PARADOXA*) VALUE CHAIN IN SELECTED LGAs OF NIGER STATE, NIGERIA

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### Abstract

Value additions along agricultural products are yet to be fully exploited by developing economies. Shea (*Vitellaria paradoxa*) is a tree that grows in the wild of Savannah belt of Africa which has series of economic benefits not only recognised locally but recognised also by the international market. This paper is aimed at analysing the value addition along the shea (*V. paradoxa*) value chain in selected LGAs of Niger State, Nigeria. The review showed a range of constraints which inhibit participants in the value chain from reaching maximum efficiency. These are difficulties in accessing shea nuts, fluctuations in shea products prices, poor access to water, poor and inefficient processing facilities, poor market information, inadequate credit and high cost of processing equipment. These constraints should be addressed in order to improve value addition along the value chain.

**Keywords:** Shea, Value addition, Value chain, Constraint.

### Introduction

Agriculture is the main stay of Nigeria's economy accounting for more than 45% of the Gross Domestic Product (GDP) and employing more than half of its workforce. According to Food and Agricultural Organization (FAO) (2012), agriculture is the main source of livelihood for the majority of Nigerians. It also provides raw materials for the agro-allied industries and as an earner of foreign exchange. However, agricultural sector faces many challenges, notably a very low level of irrigation development, an outdated land tenure system that constrains access to land, limited adoption of research findings and technologies, inefficient fertilizer procurement and distribution, inadequate storage facilities, poor access to markets, high cost of farm inputs, poor access to credit and high rate of loan default, have all combined to keep agricultural productivity low with high postharvest losses and waste.

Shea tree (*Vitellaria paradoxa*) grows naturally in the wild of Savannah belt of Africa, from Senegal in the West to Sudan in the east and into the foot hills of the Ethiopian highlands, as well as in 17 countries across the African Continent; namely Benin, Ghana, Chad, Burkina Faso, Cameroon, Central African Republic, Guinea Bissau, Cote D'Voire, Mali, Niger, Nigeria, Sierra Leone, Togo, Uganda, Zaire, Guinea and Gambia. In Nigeria, the tree grows abundantly in Niger, Nassarawa, Kebbi, Kwara, Kogi, Oyo, Ondo, Kaduna, Adamawa, Zaria, Taraba, Borno



and Sokoto States (Ogunsami, 2008). It takes about 15 years before a tree begins to fruit and about 25 years before it is fully mature after which it will produce fruit for the next 200 years (Naturalhomes, 2021).

According to FAO (2004), the total African production of shea nut is approximately 1,760,000 metric tons and Nigeria accounts for 62% of the 600,000 metric tons produced in West Africa making it the largest producer of shea products in the world. Almost all parts of shea tree have economic value, the pulp of the fruit is edible and very rich in vitamins and antioxidants, the seeds when crushed yield vegetable oil which can be used for soap making, cooking, skin and hair care; butter extracted from the seed is of high demand in the international market as a substitute for cocoa butter in chocolate production and for cosmetic and pharmaceutical industries, it is a triglyceride (fat) derived mainly from stearic acid and oleic acid. The leaves are used as fodder and serves as an ingredient for making alkaline and paint, the bark and root are used for traditional medicine. Large Vitellaria trunks may be used to make mortars for domestic use. The wood is also used in building construction and can also be used as charcoal (Gbologade, 2012). Despite all the potentials, Nigeria has not fully utilized all the opportunities associated with shea butter value addition.

Value chain can be described as a set of activities carried out by firms which involves value addition in order to deliver a valuable product to the market. It charts the path by which products and services are created and eventually sold to customers and reflects the fact that each step of the path completed means the product/service becomes more valuable than it was in the previous step. The value chain generally comprises of the production, processing and marketing stages. The major activity in value chain is the transformation of product in its conception form to a form that is more appealing to its consumers/customers at various stages be it at local, national or international level.

The evaluation of value chain of shea tree is necessary, as seen in the products required by firms in their businesses for the production of secondary goods such as chocolates, refined cooking oils. It is also recognised by the international community as having vital properties for making cosmetics and other food products. This led to the collaboration of Niger State Commodity Export Promotion Council (NSCEPC) with Deutsche Gesellschaft Für internationale Zusammenarbeit (GIZ) GmbH, a German Cooperation mission in Nigeria that facilitates different interventions in the Shea sector, aimed at increasing Shea butter value addition in the State and improve the income base of the processors as well as their social well-being (Sanusi and Tijani, 2018).

### **Factors affecting profitability**

Keynes (2013) argued that profit is the engine on which business enterprises thrive and that every business entity should earn enough profits to sustain it and grow it through the long run. Profit is the excess revenues over the associated cost of production over a specified period of time. Profitability on the other hand is the ability of an investment to earn returns from its use (Tulsian, 2014).

Research by Deng (2017) on profitability analysis of shea butter in Northern region of Ghana revealed a result using regression analysis to determine factors of profitability for shea butter processors and marketers. The estimated coefficients of quantity processed, household size of

respondents and years of education were positive and significant at 1%. The experience of respondents in the butter enterprise was also positively related to profit, but significant at 90% confident interval. While cost of storage and input cost of butter (nut price) was inversely related and significant at 99% confident level, cost of transportation was negatively linked but was significant at 5% significant level. The results imply an increase in the units of production, household size of respondents, experience of the workers in the industry and years of education will affect the profit of the enterprise positively. On the other hand, for profit to increase, the proprietor should reduce the cost of production through a decrease in the price of transportation cost, price of shea nut and cost of storage. The higher the quantity processed, the larger the net revenue obtained; then, the more the years' processor/producers spend in business, the more the net revenue. All the variables result signs were in conformity with the a-priori expectation. The coefficient for the adjusted R square of 0.8024 implies that the independent variables (regressors) explained 80.24% of the total variation in the dependent variable (regressand) which is the net revenue, while the remaining 19.76% is attributed to other factors not included in the model thus, error term. The F-value was found to be significant at 1%; this implies that all the explanatory variables taking together have significant effect on the net revenue.

In a study on characteristics of shea butter processing in Niger State, Nigeria (Tijani and Sanusi, 2020), it was found that most of the processors fell under the low level of shea butter processing output (64.8%) with the output of between 288.00 - 2,303.65 Kg per annum while the rest fall under the high level of shea butter processing output. It is interesting to note that despite Niger State government interest in developing shea butter processing output, most of the processors still fell under the low level category of processors output. The reason for this could be attributed to some of the constraints identified in the study such as lack of credit assistance from government and commercial banks to help the processors expand their enterprise, high cost of processing equipment that can help to increase shea butter production and lack of working materials. The reason could also be that the state being the largest State in the country, the area covered by the interventions may not be the whole state which may have affected the shea butter processing output adversely as revealed by the study. Similarly, because of the large numbers of processor groups in the state, the intervention may not cover all the groups could be another reason.

### **Constraints faced by actors in value chain**

Solomon *et al.* (2018) in their study on assessment of shea fruit processors in Niger State for improved livelihood and entrepreneurial activities, revealed the perception of the respondents on constraints limiting Shea processing activities in the study area showed that “difficulties in accessing Shea nuts ( $\bar{x}=4.84$ )”, “fluctuations in prices of Shea products ( $\bar{x}=4.45$ )”, “poor access to water for processing ( $\bar{x}=4.34$ )” and “poor and inefficient processing facilities/equipment ( $\bar{x}=4.25$ )” ranked highest in that order as perceived constraints to improved Shea butter production activities. “Poor market information ( $\bar{x}=3.99$ )” and “poor marketing outlet ( $\bar{x}=3.92$ )” were also perceived as severe constraints to improved butter production activities. Least considered as constraint is “labour scarcity ( $\bar{x}=2.93$ )”. Poor access to Shea nuts for processing in terms of quantity and quality could be attributed to a reduction in Shea tree population especially, those close to human inhabited areas. The depletion as documented is as a result of the Shea tree being a good raw material for charcoal production and firewood, often used as energy source for domestic cooking especially in the study area. This makes it imperative for



Shea fruit pickers to travel far out of inhabited areas for areas with higher Shea tree population for the purpose. As such, there are often difficulties in the evacuation of large quantity of picked fruits to either the markets or processing sites. Price fluctuations of Shea products could be attributed to three major factors; biological seasonality in Shea fruit production, quality of butter produced and the unorganised nature of Shea butter producers which make major marketers of Shea products to determine or dictate the prices of the products based on their whims and caprices. It is not surprising that labour scarcity is perceived as the least constraint to shea nut processing as family and communal form of labour are commonly used for butter production.

Majority of the processors responded that inadequacy of credit is a very severe constraint in shea butter production as it is often the case among rural practitioners as submitted by Oyesola *et al.*, (2010) in their study on effects of rural urban interaction on socioeconomic status of rural dwellers in Oyo State, Nigeria. Assessment of shea butter processing among rural dwellers in Atisbo LGA of Oyo State by Ademola *et al.* (2012) revealed that shea butter nuts are in abundant supply in the area, but limited processing equipment is a constraint that limits both quality and quantity of shea butter available for the market. Shelf life of shea butter is not a constraint, because it last for a long time; and labour is also not a constraint as household labour is sufficient. Processors do not have need for storage facilities, and unfortunately do not see a need for efficient information, as they do not regard it as a resource in their activity.

Constraints confronting Shea butter processing in Niger State to include lack of credit facilities ( $\bar{x}=1.78$ ), high cost of processing equipment ( $\bar{x}=1.72$ ) and lack of government assistance in term of inputs ( $\bar{x}=1.71$ ) as major constraints to Shea butter processing. Lack of credit facilities in the sector could be attributed to negligence of government and investors to see shea butter processing as a profitable business. The cost of a unit shea butter processing plant is very high and many processors may not be able to buy the equipment. The result on government assistance shows that the processors were not getting the adequate support in terms of credits and inputs from government to help the processors enhance their enterprises (Sanusi and Tijani, 2020).

## Conclusion

Several studies on shea (*Vitellaria paradoxa*) have revealed a wide range of constraints on value addition along the value chain. It becomes imperative to proffer solutions to the constraints faced by participants in the value chain for an improved shea products.

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