



## SUSTAINABLE LIVELIHOOD UTILIZATION OF *Vitellaria paradoxa* (SHEA BUTTER) AMONG RURAL WOMEN IN AFIJIO LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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### ABSTRACT

This study evaluated the sustainable livelihood of shea butter utilization by the rural women of Afijio LGA, Ilora, Oyo State, Nigeria. Ilora was purposively selected because of the prominence of the market in the area. Simple random sampling was used to select 84 respondents, and structured questionnaires were administered. Descriptive statistics, regression analysis, and Likert scale ratings were used to analyze the data collected. Results revealed that most (84%) of the shea butter producers were female, while 16% were male. The modal age class of the respondents is 46-55 years, and most (42.2%) had secondary education. Regarding trading of other commodities, 32.2% of the rural women were involved in other businesses, while farming accounted for only 11.5%. Most (64.7%) respondents had 5 to 10 years of experience in shea butter production, which showed that most are experienced. Shea butter has helped provide 26.4% of rural women's basic needs and to pay bills 18.4%. Likert scale revealed that even though rural men participate in shea butter production, they have more impact on transportation (100%) and financial support (53.4%). Shea butter has varying medicinal and economic uses, including sunburn and burn treatment, arthritis, scalp irritation, dandruff, and hair growth. It is also a good cooking oil and is the most effective use of shea butter. Age and sex, at a 1% significance level, influenced the quality of shea butter produced. The annual rate of return on shea butter production was estimated at 81%, indicating shea butter is profitable.

**Keywords:** Medicinal uses, Profitability, Production, Sustainable Livelihood, Shea butter

### INTRODUCTION

Shea butter is a natural fat extracted from the nuts of the shea tree (*Vitellaria paradoxa*) that grows in the savannah regions of West Africa. Shea butter is an essential source of livelihood for rural women in West Africa, who are responsible for collecting and processing the nuts. The production of shea butter has been identified as a means of sustainable livelihood for rural women, as it provides them with a source of income and contributes to the economic development of their communities. Shea butter is a presiding traded product internationally. The queen of Sheba is said to have used it. Today, it has increased demand in three key sectors: food, cosmetics, and medicine (Bryceson, 2017). A considerable part of the African sales of Shea products is in North America and Western Europe, where Shea butter is highly used for chocolate production (Boffa, 2016). Shea products are sold both locally and internationally. Shea kernels, butter, and other finished products are primary export materials. Shea butter production in the North Central States of Nigeria is a means of income for the majority, especially women. However, the level of income received is low compared with the potential. That is due to different factors. The handling and processing techniques produce lower-quality fruits and butter, which receive low prices and access to international markets. A lack of awareness among collectors and processors regarding higher handling, processing techniques, and equipment compounds this issue.

In addition, most collectors and processors are in small, dispersed, and remote areas, making it difficult to access markets and leading to lower prices. Furthermore, they lack negotiating power as they primarily work as individuals. Consequently, they often find themselves at the mercy of intermediaries who invest in rural areas to buy nuts and butter.

As a result, the collectors and processors, primarily women, still need to receive the expected gains and acknowledgment for their labour.

Akudugu *et al.* (2013) argued that the lack of financial support in developing countries hinders the use and utilization of advanced farming inputs and new technologies. Similar research by Karlan and Zinman (2016) illustrated that recipients of financial support in South Africa experienced better outcomes than non-beneficiaries. Credit facilities improved the livelihoods of beneficiaries and lifted them out of poverty (Khan and Rahaman, 2017). Pufaa (2020) mentioned that financing shea butter production is generally satisfactory. However, the significant void lies in the lack of marketing support, which hinders butter producers from accessing product marketing opportunities. Specifically, this study identified the level of participation of rural men in the sustainable utilization of shea butter; evaluate the economic and medicinal benefits derived from shea butter utilization; determine the factors influencing the production of shea butter; estimate the cost and returns of shea butter production; and identify the challenges encountered in shea butter production in the study area.

### Problem Statement

A sector's ability to employ many unskilled labourers determines its contribution to sustainable livelihoods. However, in the Shea industry, women consistently face production challenges and need more access to resources and information for decent livelihoods. The logistical and technological limitations women face in the Shea industry make it difficult to collect an adequate quantity of fruits, resulting in reduced quality and quantity of butter produced. As a result, women are deprived of the total benefits of their

work and resources. Despite the considerable potential of the shea industry for socio-economic growth in Oyo State, it faces numerous challenges. Poverty remains a pressing issue, particularly for women who encounter difficulties in developing livelihood strategies. Shea butter can raise rural women out of poverty due to increased demand in international markets (Sikaam *et al.*, 2019). Women cannot exploit emerging markets because they produce shea butter using traditional techniques and tools. Using old techniques and tools adversely affects the quality of shea butter, resulting in poor prices and reduced market access for women (Abdul-Moomin *et al.*, 2016). While existing studies have examined advanced shea butter processing technologies, this study focuses on rural women's involvement in shea butter utilization as a sustainable livelihood strategy in Oyo State. This research provided helpful insights for stakeholders to determine the necessary procedures to improve the operations of the shea industry in Oyo State.

## MATERIALS AND METHODS

### Area of Study (Description of Oyo State)

This study was carried out in Ilora (Afijio local government area), Oyo state, to evaluate the sustainable utilization of shea butter among rural women in the area. Oyo State is a state in Southwestern Nigeria. The state capital is Ibadan, the third-most populous city in the country and formerly the second-most populous city in Africa. Oyo State is edged to the North by Kwara State, the East by Osun State, and the southwest by Ogun State and the Republic of Benin. In 2016, the state had an estimated population of 7,840,864. The majority of Oyo State residents are Yoruba, and the Yoruba language remains dominant. Also called the "Pace Setter State," present-day Oyo State sits on territory formerly ruled by various kingdoms and empires. Ilora is situated in Afijio, LGA, Oyo, Nigeria. Its geographical coordinates are 7° 48' 0" North, 3° 54' 0" East, and its original name is Ilora. Historical facts and records show that Ilora was discovered by a famous hunter known as Akibio between the 15th and 16th centuries. Agriculture remains the mainstay occupation of the Ilora people, as they remain the best producers of shea butter, cassava, maize, vegetables, fish, eggs, and other agricultural products in Nigeria.

### Data Collection and Analysis

Structured and pretested questionnaires, which included closed-ended and open-ended questions, were administered through face-to-face interviews with the respondents. The

data were analyzed using descriptive statistics, regression analysis, cost and returns analysis, and Likert scale analysis.

The descriptive statistics include frequency tables, means, and percentages to describe the socio-economic characteristics of the respondents in the sustainable utilization of shea butter in the study area.

Budgetary Technique (Cost and Returns Analysis): was used to estimate the cost and returns to shea butter production in the study area

Variable costs (VC) consist of Labour costs, Transportation, and the cost of shea nuts

Fixed costs (FC) included the cost of trays, containers, and display tables, among others.

Total cost (TC) = TVC + TFC

Where;

TC=Total cost

TVC = Total variable cost

TFC = Total fixed cost

Gross profit (GP) = TR-TVC

Where;

TR- Total revenue is given by  $P_y \times Y$

Where  $P_y$  = Price of shea butter

$Y$  = Output of shea butter (Kg)

Net profit (NP) = GP-TFC

Where:

GM= Gross Margin

TFC = Total Fixed Cost

Profitability Ratio

Rate of Return on Investment

$$(RORI\%) = \frac{TR - TC}{TC} \times \frac{100}{1}$$

Regression is a statistical tool for measuring the relationship between independent and dependent variables. The usefulness of the regression technique lies in the numerical estimates of the regression coefficient, which have economic interpretations and are viewed as original values.

$$Y = b_0 + b_1X_1 + b_2X_2 + \dots + b_{10}X_{10} + U_i \quad \dots \quad (1)$$

Where the dependent variable is

$Y$  = price of shea butter about its quality

Likert Scale Analysis: This was used to evaluate men's participation in shea butter production and identify the benefits of shea butter in the study area. It is an ordered one-dimensional scale on which respondents choose one option that best aligns their view out of five (5) available options.

The options with their grading or scoring number are: strongly agree = 5; agree = 4; undecided = 3; disagree = 2; and strongly disagree = 1.

## RESULTS AND DISCUSSION

**Table 1: Socioeconomic characteristics of respondents in the study area**

Characteristics	Frequency	Percentage	Mode
<b>Sex</b>			
Male	13	16.0	Female
Female	68	84.0	
<b>Age</b>			
15-25	2	2.4	46 – 55
26-35	11	13.1	
36-45	15	17.9	
46-55	32	38.1	
56-65	12	14.3	
66-75	9	10.7	
76-85	3	3.6	

**Marital Status**

Married	47	56.0
Single	7	8.3
Divorced	3	3.6
Widower	6	7.1
Widow	21	25.0

Married

**Educational Status**

No Formal Education	33	39.8
Primary	11	13.3
Secondary	35	42.2
Tertiary	4	4.8

Secondary

**Size of the Household**

1	1	1.1
2	1	1.1
3	1	1.1
4	18	20.7
5	25	28.7
6	15	17.2
7	19	21.8
8	3	3.4
9	1	1.1

5 Persons

**Tribe**

Yoruba	84	100.0
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Yoruba

**Religion**

Christianity	34	40.0
Is lam	36	42.4
Traditional	15	17.6

Christianity

Source: Field Survey Data, 2024

**Table 2: Rural men's participation in Shea butter production**

S/N	Perceptual Statement	SA (%)	A (%)	U (%)	D (%)	SD (%)	M	SD	P
1	Men have a significant impact on shea nut collection.		5(5.8)	8(9.3)	32(37.2)	41(47.4)	4.27	.86	Low
2	Men are highly involved in shea butter processing.		10(11.6)	1(1.2)	41(47.7)	34(39.5)	4.15	.93	Low
3	Men play a significant role in shea butter transportation	59(68.6)	27(31.4)				1.31	.47	High
4	Men provide financial support for shea butter production	7(8.1)	39(45.3)	19(22.1)	17(19.8)	4(4.7)	2.67	1.03	High
5	Men are involved in marketing and price determination	1(1.2)	6(7.0)	24(27.9)	27(31.4)	28(32.6)	3.87	.99	Low
6	Men are highly involved in the shea butter storage	3(3.5)	8(9.3)	34(39.5)	28(32.6)	13(15.1)	3.47	.98	Neutral

Source: Field Survey Data, 2024. Values in parentheses are percentages

**Table 3: Economic and Medicinal benefits of Shea butter in the study area**

S/N	Perceptual Statement on Economic and Medicinal Benefits	SA (%)	A (%)	U (%)	D (%)	SD (%)	M	SD	P
1	Shea butter is effective in treating dry skin	25(29.4)	29(34.1)	21(24.7)	10(11.8)		2.19	.994	High
2	Shea butter is effective in treating eczema	9(10.6)	51(60.0)	16(18.8)	7(8.2)	2(2.4)	2.32	.862	High
3	Shea butter is effective in treating acne	13(15.5)	39(46.4)	22(26.2)	8(9.5)	2(2.4)	2.37	.941	High
4	Shea butter is effective in treating sunburn and burns	23(27.4)	35(41.7)	15(17.9)	9(10.7)	2(2.4)	2.19	1.035	High
5	Shea butter is effective in treating insect bites	24(28.9)	33(39.8)	13(15.7)	8(9.6)	4(4.8)	2.58	3.558	High
6	Shea butter is effective in treating arthritis	45(52.9)	29(34.1)	7(8.2)	2(2.4)	2(2.4)	1.67	.905	High

7	Shea butter is effective in treating joint pain	27(32.1)	19(22.6)	19(22.6)	14(16.7)	5(6.0)	2.42	1.263	High
8	Shea butter is effective in treating scalp irritation and dandruff	34(40.0)	25(29.4)	18(21.2)	8(9.4)		2.00	1.000	High
9	Shea butter is effective in hair growth	24(28.2)	38(44.7)	16(18.8)	6(7.1)	1(1.2)	2.08	.929	High
10	Shea butter serves as a good cooking oil	46(54.1)	31(36.5)	6(7.1)	2(2.4)		1.58	.730	High

Source: Field Survey Data, 2024. Values in parentheses are percentages

**Table 4: Multiple Regression Analysis showing the factors influencing shea butter production in the study area**

Variables	B	Std. Error	T	Sig
Sex X <sub>1</sub>	-0.082***	0.037	-2.242	.028
Age X <sub>2</sub>	-0.008***	0.010	-0.848	.049
Marital Status X <sub>3</sub>	-0.00	0.008	-0.702	.485
Educational status X <sub>4</sub>	0.015	0.014	1.126	.264
Religion X <sub>5</sub>	0.039	0.019	2.017	.348
R-square	0.155			
F statistics	2.495			

Source: Field Survey Data, 2024

\*\*\*Significant at 1%

\*\* Significant at 5%

\* Significant at 10%

**Table 5: Cost and Returns Analysis of Shea Butter Production**

Cost Items	Amount (₦)
<b>Revenue</b>	
Quantity of Shea butter sold (kg)	133.1
Total Selling Price (Naira)	4,770
Total revenue	643,887
<b>Variable cost</b>	
Cost of nuts	120,000
Labour	30,000
Transportation	41,400
Packaging materials and storage	12,750
Total Variable Cost (TVC)	204,150
Gross profit (GP)	439,737
<b>Fixed cost (Depreciation)</b>	
Cost of the tray	10,000
Cost of measuring the container	4,000
Cost of the display table	27,000
Rent	110,500
Total fixed cost	151,500
Total cost	355,650
Net profit	288,237
Rate of Return on Investment (RORI)	81.1%

Source: Field Survey Data, 2024

**Table 6: Challenges faced during Shea butter production**

Challenges	Frequency	Percentage (%)	Mode
High cost of transportation	37	45.0	High Cost of Transportation
Improper storage equipment	8	10.0	
Lack of the shea tree	16	19.0	
Lack of funds	21	26.0	
Way forward to the problems			
Government intervention	32	37.0	Government Intervention
Encouraging economy	24	28.0	
Loan and finance	14	16.0	
Provision of equipment and machines	7	8.0	
Proper storage	10	11.0	

Source: Field Survey Data, 2024



Plate 1: Picture showing Shea butter at the point of sale

### Discussion

Shea butter production is of great significance to the livelihood of the people in the study area. This research showed that most respondents are females due to their dominance in the shea industry, which aligns with Choungou Nguekeng *et al.*, (2021). This is also due to the time-consuming processes involved in shea butter production, which makes men look into other, less time-consuming options. Meanwhile, some men act as middlemen between the women and the buyers. High literacy would have implied that shea butter producers could easily be trained in advanced techniques and processing methods.

The study also showed that even though they have other businesses, due to their community history with shea butter production, they are primarily involved in one or more shea butter value chains despite doing other agricultural businesses, which have significantly increased their livelihood and contributed to rural economies.

The majority of the profit earned by rural women producing shea butter goes into food consumption, which corresponds with Karlan (2016) as it relates to the hunger period in Nigeria.

Aremu *et al.*, (2015) stated the medicinal uses of shea butter, which agrees with this research. However, there is a difference between the fact that shea butter is less effective in treating eczema and the agreement that it is very effective in treating arthritis.

According to the coefficient of multiple determinants, the variables in the model have been able to indicate factors affecting shea butter production. Sex, with a P value of -0.082, and Age, with a P value of -0.008, both significantly impact shea butter production. This does not agree with Sikaam *et al.* (2019), who only considered sex as the significant factor affecting shea butter production.

Olugbire *et al.*, (2014) reported that shea butter is very profitable in Nigeria. This research further discovered that it has an annual rate of return on investment of 81%. Also, the purchase of nuts is the highest cost incurred by the respondents.

### CONCLUSION

This study described Shea butter as a non-timber forest product that serves different food and medicinal industry uses. The majorities of respondents in the study areas are females and are involved in not only shea butter production alongside its value chains but also other agricultural activities. The respondents of the location derived several benefits from shea production, ranging from food, medicine, and income generation. Some of the respondents have poor educational backgrounds, which accounts for their lack of accountability, low productivity, lack of advancement in methods of production, and degradation of the initial shea tree plantation

in the community, which they have now been enlightened about. Shea butter production in the study area is profitable and viable, can be combined with other jobs, and it should be encouraged because it is lucrative. This project has not only provided the people of Oyo state and Nigeria at large with information about rural women in shea butter production, but it has also brought about enlightenment on the shea butter industry, which can enhance its development and economic importance in the study area. Based on the findings of this study, the following recommendations were suggested: Government should provide loans with minimal interest through its financial institutions so that producers can increase their productivity and there should be follow-up visits by extension agents to ensure that the desired results in the shea butter producers' knowledge and skills are achieved.

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