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Factors Influencing Socio-Economic Status of Shea Butter Processors in North Central Nigeria

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Abstract

The study examines the factors influencing the socio-economic status of shea butter processors in North Central Nigeria. Hence, the study investigated factors influencing their SES. A multi-stage sampling procedure, combining purposive and random methods, was used to select 368 respondents. Data were collected through structured interviews and analysed using percentages, frequencies, means, Pearson Product-Moment Correlation, and linear regression. Processors had a mean age of 40.50 ± 12.17 years, and 54.6% were non-members of associations. Average annual production was 2382.94 ± 1906.45 kg, with a mean income of ₦455,025.54 ± 421,464.29. Increased income ($\bar{x}$=1.448) was the main benefit of processing. Overall, 67.1% of processors had moderate SES. Significant relationships existed between SES and age (r = 0.218), household size (r = 0.121), association membership (χ^2 = 57.59), quantity produced (r = 0.189), income (r = 0.178) and years of experience (r = 0.129). Association membership (β = 0.275) and benefits derived (β = 0.285) positively influenced SES. Agricultural development agencies in the zone should organise training programmes and help facilitate the formation of processors' associations to enhance productivity and income.

Keywords: Socio-economic status, Shea butter processors, Productivity and Benefits

Introduction

The importance of the shea tree in increasing gross domestic product, income, enhancing livelihoods and reducing food insecurity, particularly among women and youth, makes it a crucial resource for national growth. FAO (2023) noted that the shea value chain in West Africa supports livelihoods, food security, household resilience, women's economic empowerment, income generation and foreign exchange earnings for producing countries. Shea trees can be used indigenously and industrially to enhance human wellbeing. This has enabled many people in the shea belt zone to gain employment in activities such as picking, gathering, and harvesting nuts, as well as marketing and processing shea nuts and conducting research on the tree.

The shea belt zone in Nigeria is characterised by many people, particularly women and children in rural areas, who add value to shea nuts using traditional methods passed down over many generations. The profession contributes significantly to the

earnings of women in the zone who work directly or indirectly with shea trees, most of whom are engaged in shea processing, particularly because of its potential to reduce their poverty status (International Finance Corporation [IFC], 2022).

The shea sector, if fully developed in Nigeria, has high potential for poverty reduction and food provision in rural areas, as well as providing raw materials for industries, income and employment to millions of people at the same time. It can also be a main revenue source for the country. Recognising this potential for national economic development has led to different interventions by government and non-government agents. The number of government agencies that work directly or indirectly in the production and marketing of the product also indicates that shea butter is important to the country's economic development.

For example, the Nigerian Institute for Oil palm Research (NIFOR) is involved in the advancement of agronomical practices and genetic improvement of the shea tree that will lead to the domestication of the tree; the Raw Material Research Development Council (RMRDC) is saddled with the development of processing equipment and technology to increase productivity as well as reduce the drudgery and waste of resources associated with the production of shea butter. Similarly, other agencies like the Nigerian Export-Import (NEXIM) Bank and the Nigerian Export Promotion Council (NEPC) provide financial support and guidance on promoting shea butter exports to generate revenue for the nation and processors.

They also formed or facilitated the establishment of shea butter processor groups or associations and supported these groups to increase production and integrate them into the global shea value chain through collective action. This empowered them economically, socially, politically, and legally, while improving their socio-economic status. Moreover, women, as major stakeholders in the shea butter industry, are among the most vulnerable to poverty, and they engage in livelihood activities to build wealth that can reduce poverty and improve their welfare (UN Women, 2022; Abdul-Mumin & Al-Hassan, 2021). This may be one reason FAO (2023) and Global Shea Alliance (2023) argued that funding the shea sub-sector of the Nigerian economy is essential to its growth.

Deliberately strengthening the industry can help achieve the Sustainable Development Goals of poverty eradication (SDG 1), zero hunger (SDG 2), and gender equality (SDG 5). Therefore, assessing the impacts of shea butter enterprises on the social and economic standing of people in remote areas, mostly women, is imperative. According to Issahaku and Abdulai (2020) and FAO (2023), livelihood diversification, food sufficiency, household asset accumulation, job creation, and money accumulation are among the benefits rural people gain from taking up shea butter enterprise as an occupation. The economic gains they derive from the processing activity are probably going to transform into improved or better socio-economic status (SES).

\Socio-economic status (SES) is the economic and social position which an individual or family occupies in relation to others on the basis of their income, education and occupation, which could be measured singly or collectively. Socio-economic status is defined as the social locus a person or family occupies based on average composite scores of participation in group activities, self-assessment, material possession, and cultural possession (Sanusi & Akinbile, 2025).

Adekola & Abiona (2020) reported that socio-economic status positively influences participation in voluntary and community-based activities, particularly where such involvement enhances livelihoods and facilitates social mobility, understanding clientele and planning of developmental programmes. So the social position to which an individual belongs influences their level of involvement in a developmental programme and their perception of innovation directed at improving their social well-being. The ability to effectively participate in society's activities is related to the position to which the individual is perceived to belong in that society based on some social and cultural material possessions

Despite the strong potential of shea butter enterprises to boost processors' income and the country's GDP, the sub-sector remains in the informal economy. In addition, the sector is plagued by a scarcity of data, which explains why activities in the shea sector of the Nigerian economy go unnoticed, and Nigeria is not recognised as a shea butter-producing country. Similarly, other people have taken the advantage of the situation of no proper institutional structure in the industry such as low sales income, restricted access to credit and limited opportunity for business expansion (FAO, 2023; Global Shea Alliance, 2023) to dictate the pace and reap personal gains at the detriment of processors who went through the rigor of butter production. As a result, they lack control over butter prices and cannot produce butter that meets required standards. According to Kent and Bakawale (2021), the shea butter channel tends to have too many intermediaries that add cost rather than value to the products.

Meanwhile, involvement in shea butter processing activities is expected to positively affect processors' socio-economic status, given the current rise in demand and the value attached to shea butter. However, the literature shows that a large proportion of shea butter processors in Nigeria still use crude implements or traditional methods that affect their production output in both quality and quantity (Zaka et al., 2023). This undoubtedly may affect the socio-economic status of processors. Hence, there was a need to investigate the enterprise's contribution to processors' social and economic status. Against this backdrop, the study seeks to identify the factors influencing the socio-economic status of shea butter processors in North Central Nigeria.

The general objective of the study was to establish the factors influencing the socio-economic status of shea butter processors in North Central Nigeria. The specific objectives to be addressed are to:

- identify the benefits derived from shea butter processing
- determine the socio-economic status of shea butter processors in North Central, Nigeria and
- isolate the factors influencing the socio-economic status of processors.

Hypotheses

- There is no significant relationship between respondents' selected socio-economic characteristics and socio-economic status,

- There is no significant relationship between benefits derived by respondents and socio-economic status,

Methodology

The study was carried out in North Central, Nigeria. It covers latitude 7°00' to 11°30' north of the equator and longitude 4°00' to 11°00' east of the Greenwich meridian. The zone is made up of six states, namely Kogi, Benue, Niger, Kwara, Nasarawa, Plateau and the Federal Capital Territory. It has a projected population of about 21.1 million (National Population Census, 2022) and a land area of 235,110 km2.

The study used a multi-stage sampling procedure. The first stage involved purposive selection of Niger and Kwara States because of the large number of Shea butter processors. The second stage also involved a purposive selection of Niger State Agricultural Mechanization Development Agency (NAMDA) zones A (Bida) and C (Kotangora) in Niger State and Kwara State Agricultural Development Project (ADP) zone A (Kaiama) and C (Shao) in Kwara State for the same reason. The third stage involved randomly selecting 25% of blocks from each selected zone. NAMDA zone A and C have 13 and 15 blocks, respectively, while Kwara State ADP zone A and C have 8 and 10 blocks, respectively. Seven (7) blocks were selected from Niger State, with three (3) blocks from NAMDA Zone A and four (4) blocks from Zone C. Two (2) blocks were selected from ADP zone A and three (3) blocks from zone C in Kwara State to make a total of five (5) blocks.

The fourth stage involved random selection of 40% of cells from each of the blocks in Niger and Kwara States. Niger State NAMDA blocks have eight (8) cells each and 40% of cells gave 3 cells per block. This implies that 9 cells and 12 cells were selected from NAMDA zones A and C, respectively, to give a total of 21 cells in Niger State. Kwara State ADP, on the contrary, did not have equal cells, but a range of 6-9 cells per block, which gave an average of 8 cells per block and 40% also gave 3 cells per block. This gave 6 cells and 9 cells that were selected from zones A and C, respectively, to give a total of 15 cells in Kwara State.

The fifth stage was random selection of 10% proportionate to the size of processors from the list of generated/registered processors in each selected cell from the two States to give 368 processors that represented the sample size for the study. The study population included all Shea butter processors in North Central Nigeria. Interview schedule was administered to the respondents with the support of Kwara State Agricultural Development Project (ADP) and Niger State Agricultural Mechanization Development Agency (NAMDA) staffs working with them in their respective cells and data collected were subjected to analysis using the mean, percentage, standard deviation, Chi-square, correlation and regression analysis.

The socioeconomic characteristics were analysed using frequency counts and means. The benefits derived by shea butter processors were measured by providing a list of possible 13 benefits derivable from processing shea butter on a 3point scale of not beneficial (0), moderately beneficial (1) and very beneficial (2). The weighted mean scores were calculated for each benefit and used to rank them from most to least beneficial. The constraints were measured by providing a list of 22 possible constraints experienced by processors on a 3-point scale of not a constraint (0), mild constraint (1), and severe constraint (2). The weighted mean scores were obtained for each constraint and used to rank the constraints from the most severe constraints to the least affecting processing.

For the dependent variable (socio-economic status), the technique was adopted from Sanusi and Akinbile (2025), who defined socio-economic status as the social locus a person or family occupies based on the average composite scores of participation in group activities, self-assessment, material possession, and cultural possession. Consequently, the study used four (4) domains: participation, self-assessment, cultural possessions and material possessions. This is expressed in the equation below.

Socio-economic status (SES) = ∑z-participation + z-self-assessment + z-cultural possession + z-material possession…… Equation 1

Participation was captured by asking the respondents to indicate the association to which they belong from a list of associations found in the area. Being a member of any association scores 1, and non-membership in an association scores 0. Holding any elective position in such associations was scored 1, and not holding a position was scored 0; their activities in the association were also captured on a 3-point scale of never (0), occasional (1) and frequently (2), depending on their roles in the association. All the scores were summed together to obtain the participation scores. Self–assessment was operationalised by listing social responsibilities and asking respondents to indicate on a 3-point scale of never, sometimes, and always (0, 1, and 2, respectively), based on their ability to accomplish these tasks. The value obtained gave the self-assessment score for the respondents.

With regard to cultural and material possessions, the seven (7) cultural item and thirteen (13) material possessions, as adopted from Sanusi and Akinbile, (2025) and their assigned scores, were given as follows:

Cultural possessions; children that are graduate (0=4, 1=7, 2=8, 3=9, ≥4=10), glass plates (0=4, 1=6, 2-4=7, >4=8), floor rug/carpet (0=4, 1=7, 2=9), land (0=4, 1=7, 2=8, 3=9, 4=10), wooden bed with mattress (0=2, 1=5, 2=7, 3=9), number of sheep/goats (0=3, 1=4, 2-4=5, >4=7), long metal spoon (0=2, 1=4, 2-4=6, >4=9).

Material possessions; dining table (0=4, 1=7, 2=10), cushion chair (0=4, 1=7, 2=9, ≥3=10), motorcycle (0=4, 1=7, 2=9, 3=10), refrigerator (0=4, 1=7, 2=9, 3=10), fans (0=3, 1=6, 2=8, 3=10), cooking stove (0=3, 1=6, 2=8, 3=10), television (0=4, 1=7, 2=9, 3=10), blender (0=4, 1=8, 2=9), radio/cassette player (0=3, 1=6, 2=8, 3=10), generator (0=4, 1=8), well (0=4, 1=8), DVD (0=3, 1=7, 2-4=9, 5=10), and decoder (1=4, 2=8).

The socio-economic status index (status) of the processors is the summation of the standardised participation scores, self-assessment scores, cultural possession scores and material possession scores. The means and the standard deviation were computed and utilised to categorise the socio-economic status of the processors into low SES, moderate SES and high SES. The values or scores below the mean minus 1 standard deviation ($\bar{x}$-1δ) signify low SES, the values or scores between mean minus 1 standard deviation ($\bar{x}$-1δ) to mean plus 1 standard deviation ($\bar{x}$+1δ) signify moderate SES, and values above mean plus 1 standard deviation ($\bar{x}$+1δ) signify high SES.

Results and Discussion

Benefits Derived from Shea Butter Processing

Benefits derived from a livelihood activity are the main purpose why such people remain in that business. The higher the benefits the more they want to belong, and when they derive little or no benefit, there is tendency to quit the business. So, for the sustainability of the shea butter sub-sector of the country, the benefits derived must be adequate in order to improve their socio-economic status and to keep them in the business. The results in Table 1 reveals that the processors derived the benefits of increased income generation ($\bar{x}$=1.45), reducing poverty ($\bar{x}$=1.35) and being able to feed their household well ($\bar{x}$=1.33).

The results were similar to the report of Tanzile, et.al, (2023) that the benefits derived by processors in Naro (100%) and in Moyiri, (95.6%) of North-Western Ghana indicated that shea butter processing business was their major source of income generation. The main fundamental basic human needs of food, cloth and shelter in form of income generation as well as poverty reduction were clearly provided by this livelihood activity. Hence, the socio-economic status of the processors is likely to be improved or impacted through involvement in the business and which may probably be another reason for their continuous involvement in the business despite all odds.

Table 1: Benefit derived from Shea butter processing

Benefit of Shea butter processing	Mean/Standard deviation	Rank
Increase in income generation	1.448 ± 0.51	1st
Being politically active.	0.921 ± 0.62	11th
Cosmopolitan	0.976 ± 0.63	9th
Belonging to a prestigious social group	0.894 ± 0.70	12th
Gaining more knowledge /technical	0.929 ± 0.73	10th
Being able to feed one's household well	1.329 ± 0.56	3rd
Social security (freedom of expression and association)	0.954 ± 0.66	8th
Meeting social responsibility	1.139 ± 0.61	7th
Acquisition of household assets	1.220 ± 0.58	5th
Acquisition of working equipment	1.166 ± 0.61	6th
Reducing poverty	1.345 ± 0.51	2nd
Acquisition of means of mobility	0.321 ± 0.58	13th
Being able to take good care of one's health.	1.299 ± 0.49	4th

Socio-economic Status Index

Table 2 shows the socio-economic status index of the processors which ranges from 0 – 11.79. The data reveal that 41.6% of the processors had between 6.01-8.00 socio-economic status, 34.2% of the processors had between 4.01-6.00 socio-economic

status and 18.5% of the processors had between 2.01-4.00 socio-economic status and mean of 5.77 ± 2.08. Table 4 shows the distribution of the shea butter processors into the three socio-economic status (SES) groups of low SES, moderate SES and high SES. The result reveals that 67.3% of the processors were in the moderate SES category, 20.7% had low SES and 12.0% of the processors were in the high SES category. The result contradicts the findings of Afolabi, et.al, (2024) who reported 30%, 30% and 40% of their respondents in the South-eastern, Nigeria falling into core poor, moderate poor and non-poor poverty status respectively, a measure or scale similar to socio-economic status.

It is interesting to note that most of the respondents fall into the moderate SES classification and the distribution following a normal distribution curve of a wider center with tapering two ends. The result reveals that the shea butter processors were fairly doing well. This could probably be inferred that shea butter processing activities is positively contributing to the processors socially and economically.

Table 3: Shea butter processors' socio-economic status.

Socio-economic status (SES)	Percentage (%)	Mean	S.D
0.00-2.00	2.4	5.767	2.076
2.01-4.00	18.5		
4.01-6.00	34.2		
6.01-8.00	41.6		
8.01-10.00	0.6		
10.01-12.00	2.7		
Socio-economic status (SES) category			
Low SES (0-3.68)	16.6		
Moderate SES (3.69-7.83)	67.1		
High SES (7.84-11.79)	16.3		

Relationship between Selected Socio-economic Characteristics and Socio-economic Status of the Respondents

Table 4 reveals that age (r=0.254), household size (r=0.154,), years of experience (r=0.208) quantity of shea butter produced (r=0.197), income from shea butter (r=0.340), educational level (χ^2=57.89), membership of shea butter association (χ^2=57.59) and the benefits derived from shea butter processing were significantly related to socio-economic status of respondents. Age was significantly related to socio-economic status as expected because one cannot compare what an elderly respondent have acquired over long period of years with somebody that has just started life in term of accumulating assets and other indicators such as land and refrigerator that were used to develop the socio-economic status.

Household size has a direct relationship with the socio-economic status because the larger the household size, the larger the number of members of the household that will be drawn as family labour to assist in the production of more shea butter which could translates into more income and by extension better socio-economic status. Years of experience is expected to have a direct effect on socio-economic status of the processors because the longer the person is involved in the business, the more the need for expansion or improvement in the business and income generated from the enterprise over the years hence a probable better socio-economic status. Quantities

of shea butter produced were significantly related to socio-economic status of processors because the quantity of shea butter produced is a function of income generated from the business, which implies that the higher quantity of shea butter produced will result into higher income that could influence a better socio-economic status.

The income generated from shea butter was significant as expected because of the effect of income generation on socio-economic status as income in itself is an indicator of socio-economic status. This implies that as the benefits derived by the processors increases, their socio-economic status also increases. This can be explained from the fact that as the benefits such as income generated from shea butter enterprises increases, the processors are able to carry out social responsibilities and acquired cultural and material possessions that places them at a higher social status.

The educational level is expected to affect socio-economic status positively because it is a measure of socio-economic status itself. This is so because education has serious effects on the way an individual approaches a situation and makes the best use of it through accessing more information on innovations to be employed in their business as well as market information that can lead to increase income and better socio-economic status. Another reason could also be adduced that the shea butter processors were able to apply their knowledge of education to critically observe and analyse the situations as well as take advantage of the circumstances to make the best out of the limited resources which in some cases translates to better socio-economic status.

Membership of shea butter processors association was significantly related to socio-economic status because being a member of an association avails them opportunities such as taking advantage of bulk purchase of shea nuts, bulk sales of shea butter as well as accessing credits and other input supports from Governments and Non-governmental agents to improve their productivity that translates to better status in the society which non-members do not have. This shows the importance of social capital to improve individual's social status.

Table 4 Relationship between selected personal characteristics and benefit with socio-economic status of the respondents.

Variables	χ^2 value	r- value
Age		0.218*
Household size		0.121*
Education level	57.89*	
Membership of shea butter association	57.59*	
Year of experience		0.129*
Quantity of butter produced		0.189*
Income from shea butter		0.178*
Benefits		0.501*

*P≤0.05

Determinants of Socio-economic Status of the Respondents'

Some independent variables were regressed against the socio-economic status to establish their contribution to the socio-economic status of shea butter processors. The result in Table 5 reveals that the F–value of 16.82 was significant at the 0.05 level and an adjusted R2 value of 0.47, which suggests that these independent variables can explain a 47% contribution to socio-economic status in the regression model. The result in Table 5 also reveals that membership of shea butter association (β=0.275), labour used (β=0.163) and benefits (β=0.285) significantly influenced socio-economic status. Benefits derived from shea butter processing (28.5%), followed by membership of shea butter association that contributed 27.5%, were the most determinant factors to the socio-economic status of the processors.

Membership of the shea butter association is an important predictor of socio-economic status because the association serves as a means to access credit and other interventions from Government agencies and Non-Governmental organisations in order to improve their productivity and income, as well as their socio-economic status. The result obtained aligns with a similar study by Luka et al. (2024) that reported that membership of a cooperative was positively significant to poverty status, which is in itself a measure of socio-economic status. Labour used was statistically significant to socio-economic status, as expected, because the larger the labour employed by the processors, the more shea butter will be produced; hence, their income and possibly better socio-economic status.

Benefits derived from shea butter processing were positive and significantly related to the socio-economic status because the benefits derived from processing, such as income and acquisition of more assets, were expected to improve the socio-economic status of the processors.

Table 5: Determinants of socio-economic status

Variables	Beta	t-value
Constant		
Age	0.112	1.853
Household size	0.060	1.359
Education (formal)	-0.125	-1.425
Membership of association	0.275**	5.865
Quantity of butter produced	-0.053	-0.538
Income from shea butter	0.017	0.156
Years of experience	-0.061	-1.039
Labour used (paid)	0.163**	3.646
Benefits derived from processing	0.285**	5.525

R=0.708, R^2=0.502, Adjusted R^2=0.472, Standard error of estimate=1.499, F-value=16.815 and $\alpha_{0.05=000}$

Conclusion and Recommendations

There was a significant relationship between SES and age, household size, association membership, quantity produced, income, and years of experience. Association membership and benefits derived positively influenced SES. The study recommends that agricultural development agencies in the zone organise training

programmes for processors from time to time to enhance productivity, given the high level of illiteracy in the zone. In addition, NGOs and the respective agricultural development agencies of the states in the zone should also help or facilitate the formation of processors' associations since it influences socio-economic status.

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