

INVOLVEMENT OF RURAL HOUSEHOLDS ALONG ENTERPRISE VALUE CHAIN OF THE INDIGENOUS BLACK-SOAP FROM ASH-DERIVED ALKALI

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ABSTRACT

The study assessed the involvement of rural households along the indigenous black-soap enterprise value chain in Oyo State, Nigeria. It specifically described selected socio-economic characteristics of the respondents; examined their reasons for involvement in the enterprise; identified their involvements in various activities at every stage along the enterprise value chain and determined their involvement levels. 210 respondents were selected for the study using a multistage sampling procedure. Both quantitative and qualitative data were collected using an interview schedule and FGD respectively. Appropriate descriptive statistical tools were used to summarize the data while ANOVA was used to test the hypothesis. Results showed that the mean initial business capital was ₦12,817.63 while the mean monthly income was ₦21,953.03. Respondents were involved in the black-soap enterprise because it serves as a means of livelihood for the households (mean = 2.91) and is profitable (mean = 2.80). Involvement was high in the production stage, low in the value addition stage and moderate in the marketing stage. At $p \leq 0.01$, a significant difference exists in the overall involvement level along the value chain across the study area ($F = 8.99^{**}$). The study concluded that respondents' overall involvement along the black-soap enterprise value chain was moderate.

Keywords: Black-soap, households, rural, value chain, level of involvement, Nigeria.

Introduction

Rural households in the sub-Saharan Africa including Nigeria derive their income from multiple sources with non-agricultural activities accounting for a substantial share of total income (Ellis, 2000). Ekong (2010) observed that in Nigeria, aside from farming, rural dwellers diversify into other economic activities including indigenous enterprises like black-soap production, wood carving, blacksmithing, mat weaving, and pottery among others; some of which make use of wastes generated from agricultural commercial activities (which are readily available in the rural areas) as their raw materials.

The production of the indigenous African organic soap from ash-derived alkali has been an age-long craft in Nigeria and West African countries (Bella, 2008). Black-soap business is still one of the indigenous enterprises serving as a source of livelihood to several rural households in Oyo State, Nigeria. It is a lucrative business opportunity which can be started with a small amount of money and uses the waste of agricultural produce like cocoa pods and plantain peels. While many indigenous enterprises are gradually going into extinction, black-soap remains viable in the study area. Also, while enterprises like the indigenous cloth weaving, mat weaving, and pottery

factories are mainly home-based, black-soap factories because of the polluting effect of soap making, are clustered in production centres locally called *ebu* among the Yoruba ethnic group in south western Nigeria. A production centre usually accommodates between 20 – 30 soap makers who share facilities like water, shelter and other materials (Aina, 1995). The soap has been in use from time immemorial among the West African natives especially in Ghana and Nigeria, though the recipes are different from one country to another and from one state to another within a country (Natural Nigeria, 2014). There are more than 100 different varieties of African black-soap with the colour varying from light brown, beige, and grey to jet black, depending on the indigenous ingredients and the production method employed (Jolayemi, 2016).

Scientifically, black-soap is made through the process of saponification reaction of fat and alkali (Bella, 2008) or esterification reaction of palm kernel oil and the filtrate of cocoa pod ash (Ikotun *et al.*, 2017). While traditional recipes are free from additives like dyes, fragrances, and others, scientific innovations have led to the modification of the soap through the addition of different naturally occurring beauty enhancing organic compounds like aloe vera, camwood, lime, honey and shea butter. Chemical analyses of the modified black-soap samples revealed that the addition of these naturally beautifying compounds to the soap has not denatured it chemically, but rather it has aided its antibacterial activities (Ikotun *et al.*, 2018). It was further observed that the addition of naturally occurring organic compounds to black-soap improved its deep cleansing ability, skin moisturizing effect and facilitated its ability to destroy some of the microorganisms better than the one without additives.

Several benefits of the black-soap have also been identified by different researchers.

For instance, Grieve (1997) reported that the soap is a natural source of vitamin A and E, and iron. It has the ability to deeply cleanse the skin's pores, remove blemishes and makeup, and help minimize razor bumps that result from shaving (Bella, 2008). It is more effective than the medicated soaps in removing and reducing certain bacteria due to its antibacterial properties (Ikpoh *et al.*, 2012). Ann Lin *et al.* (2017) also revealed that the soap satisfactorily reduced symptoms of various dermatologic conditions, reduced fine lines or wrinkles due to its antioxidant properties, removed the appearance of dark spots, and reduced the impact of eczema and good for overall skincare. Ikotun *et al.* (2018) reiterated that black-soap helps to reduce razor bumps and other blemishes, help with makeup removal, soothing effects on the skin due to the oils and fats present in it. Fletcher (2020) mentioned some other benefits of the soap such as: its safety for most skin types because of its traditional recipe which does not contain any additives like dyes, fragrances, or perfumes which makes it a good substitute for people with sensitive skin and those who are allergic to certain additives in modern soaps. It also has antifungal properties which may help to prevent the spread of fungal infections such as athlete's foot. Unlike some modern soaps, which can leave a residue behind after washing, black-soap comes off easily when rinsed with water, leaving the skin clean and not sticky. The soap is also naturally exfoliating by helping to remove dead skin and leaving the skin fresher and cleaner.

Although new structural facilities are emerging, the traditional technique of production is still in use in the study area. Some soap makers are now using drums instead of clay pots and some are now obtaining water from wells instead of streams and rivers. The traditional production procedure is as highlighted in the case box below:

Selection of the base oil: The base oil could be palm oil, palm kernel oil or shea butter. The quantity of base oil needed varies depending on the quantity of soap to be made but the quantity of oil to be used at a time should not exceed half the capacity of the boiler, therefore, large quantity production is done in several batches.

Preparation of ash: Active ingredients like a cocoa pod or plantain peels, shea butter tree bark, coconut husks, and palm bunch are dried and burned over low flame into ash. Alternatively, ready-made ash can be bought from ash producers in high cocoa-producing communities in Nigeria.

Extraction of mordant water: Traditionally, at least three big clay pots with perforated bottoms and three smaller ones with no perforation are needed for this exercise. The three smaller pots are buried half-way and arranged close to each other, while the bigger pots with perforated bottoms are placed on the smaller ones. The bottoms of the big pots are lined with fine nets to prevent the ashes from dropping into the smaller pots during the processing. The three big pots are filled with ashes mixed with water which gradually drains into the smaller ones. The three big pots are numbered 1-3 and all of them are filled with the ashes from the active ingredient while water is added to the ashes in the first pot. This will filter into the smaller pot. The filtered drain collected from the first pot is transferred to the second pot and that of the second pot is transferred to the third pot. At this point, the filtrate would have been highly concentrated. The concentrated filtrate (mordant water or ash water) is locally called “*eyin aro*” or “*omi aro*”.

Heating of the base oil: The base oil should be thoroughly heated over low heat until it is melted.

Mixing of base oil and mordant water: The concentrated filtrate “*eyin aro*” is poured into the heated base oil and stirred rigorously; more base oil is added until the desired shade of dark brown or black is achieved. Stirring continues over low heat until the mixture is smooth and forms a paste.

Soap formation: This involves pounding, melting and moulding the soap. The paste is transferred into a mortar where it is pounded to make a smooth paste. The smooth paste is transferred to a pot for further boiling and stirring until it starts to melt and rise (a process that takes 1 or 2 hours). In the process of stirring, a frothy, waxy substance begins to form at the surface. This is the soap and should be scooped from the surface of the boiler as it forms. The soap is ready to be shaped either in moulds or allow to cool down and be moulded by hand into round ball shapes and fine ash is sprinkled on each soap ball to prevent sticking. This finished product can be used immediately or packaged for sales.

In the light of the 9th Sustainable Development Goal (SDG) which seeks to build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation (United Nations Office for Outer Space Affairs, 2022; FAO, 2022), it is obvious that there can be no sustainable development without infrastructure, industrialisation and innovation. Infrastructure provides the basic physical systems and structures essential to the operation of an enterprise. Innovation advances the technological capabilities of industrial sectors and prompts the development of new skills. Industrialisation is the driver of economic growth because of its potentials for job creation and poverty reduction (United Nations Office for Outer Space Affairs, 2022). Targeting employment diversification into non-agricultural activities like black-soap enterprise and active involvement of

rural households are essential to accelerating poverty reduction in rural areas of Nigeria where a good proportion of the population reside, hence, this study.

The study therefore, aimed to assess the rural households' involvement along the indigenous black-soap value chain in Oyo State, Nigeria. It specifically described the selected socio-economic characteristics of respondents; examined their reasons for involvement and willingness to continue in the indigenous black-soap enterprise; identified various activities respondents were involved in at each stage along the value chain; and determined their levels of involvement along the enterprise value chain. One hypothesis was formulated to test for significant difference in rural households' level of involvement in the enterprise across the selected LGAs.

Experimental

Study area

The study was carried out in Oyo State. The State is located in the South-West geopolitical zone of Nigeria and covers a total of 27,249 square kilometres of land mass with a population of 5,591,589 by the 2006 national population census. It lies between latitude 7° 30' 0" N and longitude 4° 30' 0" E. It is bounded in the south by Ogun State, in the north by Kwara State, in the west it is partly bounded by Ogun State and partly by the Republic of Benin, while it is bounded in the East by Osun State. The state is homogenous and comprises the Oyos, the Ibadans and the Ibarapas, all from the Yoruba ethnic group. The climate in the State favours the cultivation of crops like Maize, Yam, Cassava, Millet, Rice, Plantain, Cocoa tree, Palm tree and Cashew.

Study population, sampling, data collection and analysis

The state consists 33 Local Government Areas (LGAs). A multi-stage sampling

technique was used to select the respondents for the study. In the first stage, seven LGAs with the predominance of the black-soap enterprise were purposively selected. These were: Afijio, Ibarapa Central, Ibarapa East, Itesiwaju, Ogo Oluwa, Kajola and Lagelu. At the second stage, two communities each with a high concentration of black-soap enterprise were purposively selected from each LGA to make a total of fourteen communities. In the last stage, convenient sampling technique was used to select 15 households each from the 14 communities from which one member (respondent) each was selected making a total of 210 respondents. The sample size was obtained using Yamane's formula for estimating sample sizes. Yamane formula: $n = N / (1 + Ne^2)$, where n represent sample size, N represent population size and e represent the standard error (0.05). Both quantitative and qualitative data were collected using an interview schedule and Focus Group Discussion (FGD) respectively. Data collected were described using frequency counts, means and strand deviation while Analysis of Variance (ANOVA) was used to test the hypothesis.

Results and discussion

Socio-economic characteristics of respondents

Results in Table 1 show that respondents engaged in multiple occupations with the main occupation connoting their major source of households' livelihood while the minor occupations were used to augment. The majority (85.2%) of the respondents indicated black-soap as their main occupation followed by farming (17.6%), artisan (15.7%), trading (13.8%) and civil service (2.4%). On the other hand, some (46.7%) indicated farming as their minor occupation followed by trading (19.0%) and black-soap (14.8%). The finding implies that rural households in the study area diversify their means of livelihood and is in line with Ellis (2000) who reported that

rural households have diversified sources of income. The finding is contrary to Aina (1995) who reported that more than 80% of the people involved in indigenous cottage industries had no income from other sources. Also, 42.4 percent of the respondents have been involved in black soap business for a period of 21 – 40 years, some (29.5%) had less than 20 years of experience, some (25.7%) had between 41 – 60 years of experience while few (2.4%) had more than 60 years of experience. The mean years of experience in the enterprise were 32.96 ± 16.61 years implying that many of the respondents have been in the experience for more than 3 decades. Most of the respondents claimed that they were born into the enterprise which implies that their years of experience is a function of their age. The finding is similar to Adewusi & Akanle (2020) who observed that the majority of the participants in their study have been in the black soap business for more than two decades. It is also in line with Ogunbor (2016), who reported that black-soap business as indigenous entrepreneurship is often passed from one generation to the other.

Almost half (47.6%) of the respondents could produce the quantity of soap that can satisfy customers demand outside their local government areas within the State while about one-third (34.8%) produced for buyers outside the State and few (13.8%) produced for export to neighbouring countries like Cotonou. The fact that few of the respondents exported their produce outside the country is an indication

that this indigenous commodity could become an export product if well developed.

Results in Table 1 show further that the respondents had multiple sources of obtaining their business capital with the majority (97.6%) relying on their savings followed by contributions (33.3%), cooperative societies (20.5%) and family and friends (16.2%). The finding implies that informal sources of credit were the most accessible to these indigenous entrepreneurs and could constitute a limitation to their scope of operation. This is in line with Oluwalana *et al* (2016) who reported that rural households depend more on their savings for their enterprise operations. Some (37.1%) started their black soap enterprise with initial capital between ₦1,001 to ₦10,000, some (27.6%) with less than ₦100, some (16.2%) with between ₦10,001 to ₦50,000, some (15.2%) with between ₦101 to ₦1,000 and few (2.9%) with above ₦50,000 while the mean initial capital was ₦12,817.63. An in-depth analysis revealed that the respondents that started with less than ₦100 were those that have been in the business for more than 50 years ago when the Nigerian currency was stronger than the US dollar. The finding shows that the indigenous black-soap enterprise is not capital-intensive, therefore, is an affordable business opportunity for the resource-poor households in the rural areas. The result is in agreement with Ukwendu (2019) who reiterated that the production of black soap requires little capital.

TABLE 1
Socio-economic characteristics of respondents.

Variable	Frequency	Percentage	Mean	Standard Deviation
*Major occupation				
Black-soap business	179	85.2		
Farming	37	17.6		
Artisan	33	15.7		
Trading	29	13.8		
Civil service	5	2.4		
Others	4	1.9		
*Minor occupation				
Farming	98	46.7		
Trading	40	19.0		
Black-soap business	31	14.8		
Artisan	10	4.8		
Civil service	5	2.4		
Years of experience				
≤ 20	62	29.5		
21 – 40	89	42.4	32.96	16.61
41 – 60	54	25.7		
61 and above	5	2.4		
Production capacity				
Within the community	6	2.9		
Outside the community but within LGA	2	1.0		
Outside LGA but within the State	100	47.6		
Outside the State but within the country	73	34.8		
Outside the country	29	13.8		
*Sources of credit				
Personal savings	43	20.5		
Cooperative	70	33.3		
Contribution	34	16.2		
Friends and family	58	27.5		
Initial capital (₵)				
≤ 100	32	15.2	12817.63	22375.58
101 – 1,000	78	37.1		
1,001 – 10,000	34	16.2		
10,001 – 50,000	6	2.9		
Above 50,000	1	0.5		

Results in Table 2 show that some (31.9%) of the respondents were doing the work alone while many (63.8%) engaged between 1 to 5 people to assist them with the mean number of workers as 2 people. The implication is that with very few workers, the enterprise was still operating on a very small scale in the study area. This agrees with Sani & Danwanka (2011), who re. More so, a majority (89.0%) used family labour while apprentices

(14.3%) were least engaged showing that indigenous enterprises like black-soap are usually operated as family businesses. This is in line with Adewusi & Akanle (2020) who reported that the majority of black-soap business owners in their study area were not favourably disposed to the idea of engaging apprentices or employees in their businesses. Results Table 2 further reveal that the mean monthly income of the respondents from all

their multiple occupations was ₵32,018.63 ± ₵25,832.27 while their mean monthly income from black-soap enterprise was ₵21,953.03 ± ₵19,326.13. Comparing the two means shows that black-soap enterprise contributed more than two-thirds of the total monthly income of the respondents implying that the enterprise

is a major source of livelihood for rural households in the study area. The finding also agrees with Fayomi (2015) that indigenous enterprises owners in rural areas realised an annual income between ₵300,000 and ₵500,000 translating to ₵25,000 and ₵40,000 per month.

TABLE 2
Respondents' work force and income.

Number of workers				
Working alone	67	31.9		
Engaged 1-5 people	134	63.8	2	2
Engaged 6-10 people	9	4.3		
*Sources of labour				
Household members	187	89.0		
Apprentices	30	14.3		
Hired labour	46	21.9		
Cooperative labour	41	19.5		
Total monthly income (₵)				
Not disclosed	66	31.4		
≤ ₵40,000	114	53.3	₵32,018.63	₵25,832.27
₵40,001- ₵80,000	42	20.0		
Above ₵80,000	5	2.4		
Black soap monthly income				
Not disclosed	12	5.7		
≤ ₵40,000	161	76.7	21,953.03	19,326.13
₵40,001- ₵80,000	34	16.2		
Above ₵80,000	3	1.4		

Reasons for involvement in the enterprise

Table 3 shows that with the cut-off point of 2, reasons such as black-soap enterprise is a means of livelihood for the households (mean = 2.91), black-soap enterprise is profitable (mean = 2.80), promotes self-reliance (mean = 2.28), sustains family tradition (mean = 2.21), fulfils personal ambition (mean = 2.09) and helps in income generation during farming off-season (mean = 2.05) were more important to respondents' involvement in the enterprise; while other reasons such as the opportunity to combine work and child care (mean = 1.99), lack of other preferable jobs (mean = 1.79), contribution to the community development (mean = 1.62) and providing a job for relatives

(mean = 1.37) were less important. The finding implies that the enterprise was profitable and a reliable source of income for rural households. This agrees with Okezie *et al.* (2013) who observe that entrepreneurship plays important role in generating employment, income and societal changes, particularly in transition economies like Nigeria. Also, it agrees with Adewusi & Akanle (2020), who specifically identified high profitability and employment creation opportunities as two major economic benefits of black soap enterprise. However, the following FGD excerpts revealed that despite the advantages of the enterprise, rural households in the study area did not prefer the enterprise as a means of job opportunity for

their relations because of the stress involved, rather they preferred white-collar jobs. “Although profitable but who would wish his or her family members to be passing through the stress of this black-soap, inhaling smoke

and the eye balls turning red due to the smoke; we also want our relations to be doing white collar job, sitting inside air-condition and making monies with their pen” A discussant at Ajara community.

TABLE 3

Distribution of respondents by the reasons for their involvement in black soap enterprise.

Reasons for involvement	Mean score	Rank
Serves as means of livelihood for households	2.91	1 st
It is Profitable	2.8	2 nd
Promotes self-reliance	2.28	3 rd
Sustenance of family tradition	2.21	4 th
Fulfilment of personal ambition	2.09	5 th
Income generation in farming off season	2.05	6 th
Opportunity to combine work and child care	1.99	7 th
Lack of other preferable job	1.79	8 th
Contribution to community development	1.62	9 th
Providing ready job for the relations	1.37	10 th

Cut-off point = 2

Willingness to continue in black-soap enterprise

Results in Figure 1 show that many (57.6%) of the respondents indicated their willingness to continue in the black-soap enterprise even if provided with an alternative livelihood option while 42.4 percent were not willing to continue if they have better options. This implies that many of the respondents were involved in the enterprise not because there were no other livelihood options available but for some other personal reasons. For instance, some of the respondents claimed that since it was a job they inherited from their parents and have been doing since childhood, they cannot part with it.

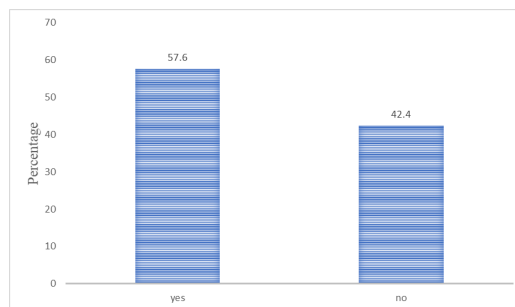


Fig. 1: Respondents' willingness to continue in black-soap enterprise.

Respondents' involvement along black-soap value chain

The black soap value chain investigated in this study comprises four different stages namely: supply of raw materials, production, value addition and marketing.

Raw materials supply stage

Results in Table 4 show that at the raw materials supply stage, respondents were highly involved in activities such as the supply of palm oil (mean = 3.37), supply of ash (mean = 3.12), supply of firewood (mean = 3.12), production of mordant water (mean = 3.11) and selection of base oil (mean = 2.62) with the cut-off point of 2.5 while they were less involved in activities like the supply of palm nut (mean = 2.39), supply of palm kernel oil

(mean = 2.19), burning of agricultural waste to ash (mean = 2.06) and drying of cocoa pods (mean = 2.03) among others. In addition, activities like sourcing for plantain bunch, drying of plantain bunch, drying of shea bark, sourcing for shea butter and sourcing for coconut did not apply to the respondents implying that these materials were not used for black soap making in the study area which was against Jolayemi (2016) who reported that they were part of the materials used in black-soap production. Detailed analysis in Table 4 shows that when respondents' involvement scores were categorized using equal intervals, 42.9 percent were moderately involved at the raw materials supply stage of the enterprise, 36.1 percent were highly involved and 21.0 percent have a low level of involvement.

TABLE 4

Activities involved in at the raw materials supply stage and level of involvement.

Raw materials	Mean	Rank
Supply of palm oil	3.37	1 st
Supply of ash	3.12	2 nd
Supply of firewood	3.12	2 nd
Production of mordant water	3.11	4 th
Selection of base oil	2.62	5 th
Supply of palm nut	2.39	6 th
Supply of palm kernel oil	2.19	7 th
Burning of agro wastes to ash	2.06	8 th
Drying of cocoa pod	2.03	9 th
Drying of palm bunch	1.69	10 th
Sourcing for firewood	1.68	11 th
Sourcing for cocoa pod	1.64	12 th
Sourcing for ash	1.60	13 th
Sourcing for cassava plant	1.17	14 th
Sourcing for mordant water	1.16	15 th
Sourcing for palm bunch	1.05	16 th
Sourcing for plantain bunch	0	17 th
Drying of plantain bunch	0	17 th
Drying of shea bark	0	17 th
Sourcing for shea butter	0	17 th
Sourcing for coconut	0	17 th
Involvement score	Percentage	Level
Below 21	21.0	Low
21-42	42.9	Moderate
Above 42	36.1	High

Cut-off point= 2.5

Production stage

Results in Table 5 show that with the cut-off point of 2.5, respondents were highly involved in production activities like melting of the soap (mean = 3.03), molding of the soap (mean = 2.91), heating of base oil (mean = 2.59), mixing of base oil and mordant water (mean = 2.54) and extraction of mordant water (mean = 2.52) while they were less involved in pounding of the soap (mean = 1.12). Other activities like addition of cassava flour to the soap (0.37) and addition of dry granulated cassava product (*garri*) (mean = 0.14) were not popular among the respondents implying that these practices were not acceptable in the study area. The following FGD excerpts further buttress the above position.

Addition of garri to black-soap is only done on request (A discussant at Igboora and Ibarapa central).

We used to add little garri to increase the quantity of the soap but when we realised that it is not acceptable to our customers, we have stopped the practice (A discussant at Idere and Ibarapa central).

Addition of cassava flour helps the soap to form well but it is not a common practice in this area (A discussant at Ipapo).

Detailed analysis in Table 5 shows that many (64.8%) of the respondents were highly involved at the black-soap production stage, 34.3 percent moderately involved while few (1.0%) were involved at a low level. This observation may be due to the fact that black soap production was the primary occupation for the majority of the respondents and probably an indication that they produced frequently.

TABLE 5

Activities involved in at the production stage and level of involvement.

Production activities	Mean	Rank
Melting of the soap	3.03	1 st
Moulding of the soap	2.91	2 nd
Heating of base oil	2.59	3 rd
Mixing of base oil and mordant water	2.54	4 th
Extraction of mordant water	2.52	5 th
Pounding of the soap	1.12	6 th
Adding of cassava flour	0.37	7 th
Adding of garri	0.14	8 th
Involvement scores	Percentage	Level
≤ 8	1.0	Low
9-16	34.3	Moderate
≥ 16	64.8	High

Value addition stage

Table 6 shows that respondents were rarely involved in value addition activities comparing the cut-off point of 2.5 with the individual mean scores of the investigated value addition activities namely; addition of preservatives (mean = 0.99), addition of aloe-vera gel (mean

= 0.99), addition of fragrance (mean = 0.99), branding (mean = 0.99), packaging (mean = 0.99), shaping (mean = 0.99) and labeling (mean = 0.99). This implies that respondents might be ignorant of the need to add value to their products or they lack the technicalities of doing it. This might account for the reason

why the enterprise has remained undeveloped despite the fact that it has been in existence long before the advent of modern soap. Detailed analysis in Table 6 shows that all (100%) of the respondents have low levels of involvement in black-soap value addition. This further reveal the scientific innovations and modification of the soap through the addition of beauty enhancing organic compounds aloe-vera and other fragrance was not popular among black-soap entrepreneurs in the study area. This might be due to the fear that the soap can be denatured through the addition of other chemicals. The finding is against Ikotun *et al.* (2018) who experimentally confirmed that modification of black-soap does not denature it chemically, but rather, aided its antibacterial activities. Unfortunately, some industrial soap makers have hijacked black soap enterprise at this stage to produce well packaged refined black soap (such as *dudu osun*) sold for higher prices.

TABLE 6

Activities involved in at the value addition stage and level of involvement.

Value addition activities	Mean
Addition of preservatives	0.99
Addition of aloe-vera gel	0.99
Addition of fragrance	0.99
Branding	0.99
Packaging	0.99
Shaping	0.99
Labelling	0.99
Involvement scores	Percentage
≤ 9	100 (Low)
10-18	-
≥ 19	-

Cut-off point = 2.5

Marketing stage

Results in Table 7 show that respondents were highly involved in marketing activities like transportation of the produce to urban market (3.22), selling of the produce in local

market (mean = 2.85) and indoor selling (mean = 2.70) while they were less involved in hawking of the produce (mean =1.32). The finding implies that most of the products were sold in the urban markets which could be an indication that urban dwellers appreciated the indigenous soap better than the people within the immediate locality. The finding is in line with Adewusi and Akanle (2020) who affirmed that black soap is majorly consumed by urban dwellers. Detailed analysis shows that more than half (54.8%) of the respondents were moderately involved in marketing activities, some (42.4%) were highly involved while few (2.9%) had a low level of involvement. This implies that soap producers also doubled as marketers to wholesalers and retailers in urban and local markets as well as individual buyers in the immediate environment.

TABLE 7

Activities involved in at marketing stage and level of involvement.

Marketing activities	Mean	Rank
Transport to urban market	3.22	1 st
Selling in local market	2.85	2 nd
Indoor selling	2.70	3 rd
Hawking of the products	1.32	4 th
Involvement score	Percentage	Level
Below 8	77.1	Moderate
8-12	5.2	High
Above 12		

Cut-off point = 2.5

Overall level of involvement along the entire value chain

Results in Figure 2 show that on the overall, majority (78.6%) of the respondents were moderately involved along the entire black-soap value chain activities while 21.4 percent had a low level of involvement. This implies

that respondents still need to devote more time to the enterprise by increasing their frequency and quantity of production since they claimed that it was the major source of their households' livelihood.

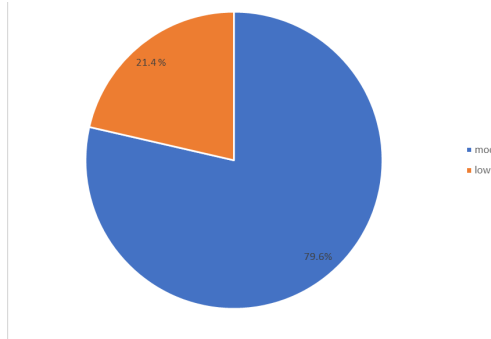


Fig 2: Overall level of involvement of the rural households along black-soap enterprise value chain.

Hypothesis testing: There is no significant difference in rural households' level of involvement along black-soap enterprise value chain across the study area.

Table 8 shows the result of the analysis of variance which reveals a significant difference in the level of overall involvement along the value chain across the selected Local Government Areas ($F = 8.99^{**}$) at $p \leq 0.01$. The data was further subjected to Levene's test of homogeneity of variance and the result shows that at $p \leq 0.01$, there was homogeneity of variance in the level of involvement in black-soap enterprise across the study area.

TABLE 8

Result of Analysis of Variance (ANOVA).

	Sum of Square	df	Mean Square	F	Sig.
Between groups	13356.46	6	2226.08	8.99*	0.000
Within groups	50267.57	203	2647.21		
Total	63624.03	209	247.62		
Test of homogeneity					
Levene's test	df1	df2	Sig.		
11.583	6	203	0.000*		

* Significant at $P \leq 0.01$

Conclusion

Black soap enterprise contributed more than two-third of the total monthly income of rural households involved in the business. Majority produced for sales within the country while few produced for export to neighbouring countries. Apart from serving as a means of livelihood, respondents were willing to continue with the enterprise despite its tediousness because the enterprise is adjudged to be profitable, promotes their self-reliance and enables sustenance of their family tradition. Along black soap value chain,

rural households' members' involvement was moderate at raw material supply stage, high in production stage, low in value addition stage, moderate at marketing stage while the overall involvement was moderate. Significant difference was observed in the overall level of involvement along the enterprise value chain across the study area. It was recommended that the government arm at the grassroot (i.e. the Local government) should provide necessary assistance that will enhance the development of the enterprise since the soap has the potential of becoming an export

product if well developed. This can be in form of provision of modern processing materials to replace the local equipment that involve a lot of stress. Also, capacity building training on improve production techniques and value addition technologies capable of promoting the desirability of the enterprise should be organized by relevant rural development agencies; thereby attracting higher level of involvement among rural women and youth in particular.

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