UTILIZATION OF SHEA BUTTER (*Vitellaria paradoxa Gaertn C. F.)* AMONG SELECTED HOUSEHOLDS IN OKE-OGUN, OYO STATE, NIGERIA.

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Abstract

This study was carried out to assess shea butter utilization among agrarian communities of Oke- Ogun Area of Oyo State. The data for the study was collected with the aid of structured questionnaires and interview guide. A purposive sampling procedure was used to select a hundred and fifty respondents in Atisbo, Saki East and Saki West Local Government Areas. The data were analysed using descriptive statistic and Ordinary Least Square (OLS) multiple regression. The result revealed that majority of the respondents (79.33%) were female, 28% had secondary education. Years of usage reveals that 35.3% respondents had used shea butter close to four decades. The multiple regression results show that age (0.000, p >0.01), has a significant relationship with shea butter consumption. There is an inverse relationship between the consumption of shea butter and educational level (0.003, p >0.01). All the respondents (100%) use shea butter as food and cream. Forest fire and land ownership/ tenure are the major challenges militating against the availability of the *Vitellaria paradoxa* trees. It is recommended that the various uses as discovered in this research study of shea butter should be given its widest publicity nation-wide judging from the many uses of its potentials in the study area.

Keywords: Agrarian community, Households. Utilization, *Vitellaria paradoxa.*

Introduction

Shea butter is an ivory-coloured fat extracted from the nut of African Shea tree (*Vitellaria paradoxa* formerly *Butryspermum paradoxum, Butryspermum parkii* and *Butryspermum aradoxa*) (Alfred, 2002). Shea tree grows naturally in the wild of the dry savanna belt of West Africa, from Senegal in the West to Sudan in the East and onto the foot hills of the Ethiopian mountains (Samuel, 2005, Mahmood, 2008). The West African shea trees are classified as the sub-species *"Vitellaria paradoxa"* and the East African one as *"Vitellaria nilotica"* (Ferris *et al*., 2001, Mbaiguinam *et al.,* 2007). It is edible and used as cooking fat in Africa. The saponifiable fraction of Shea butter is composed primarily of stearic and oleic acids with lesser amounts of palmitic, linoleic and arachidic acids while the unsaponifiable fraction of Shea butter is composed of bioactive substances that are responsible for shea butter's medicinal properties (Esuoso, *et al*, 2000).

Shea butter is a solid at room temperature and melts at human body temperature. It is therefore useful for skin care as it has sun screening properties and acts as an emollient and skin moisturizer. Topical use of Shea butter has also demonstrated anti-aging and anti-inflammatory properties. Dietary intake of shea butter has hypocholesterolemic effect and reduces serum and organ protein concentrations (Malachi *et al*, 2014). It is considered a sacred tree by many communities and ethnic groups and plays important roles in religious and cultural ceremonies where it is also believed to have some spiritual protective powers (Agbahungba *et al.,* 1989, Pretaorius, 2001). Shea butter has been claimed to possess potentials to improve nutrition, boost food supply during off-farm season (Master *et al.,* 2010).

Shea butter is renowned for its use as a component of cosmetic formulations (Akihisa *et al*., 2010). Shea butter is a great emollient and moisturizer for the skin, scalp and hair even without further processing (Hee, 2011). However shea butter is usually found as active component of processed moisturizers (Kraft, and Lynde, 2005). In addition, fractionated shea butter especially olein fraction is easily formulated in creams or surfactant based products such as bath products and shampoo to provide the skin, scalp, and hair with well-maintained or increased moisture (Alander, 2004, Hee, 2011, Rogers and Lenick, 2009]. Shea butter melts at body temperature, acts as a "refatting" agent, has good water-binding properties and absorbs rapidly into the skin; making it useful for skin care (Hemat, 2003). The scientists reported that shea butter not only demonstrated anti-inflammatory benefits, but one compound, lupeolcinnamate, also prevented tumor development in a carcinogenesis test, a procedure in which cancer cells are literally "grown" in a culture dish (Akihisa *et al*., 2010). Shea butter are absorbed, there is evidence to suggest that cinnamic acid esters in shea fat help to prevent skin damage from ultraviolet radiation (Prasad *et al*., 2009). Even though the major market of shea butter has been found in the chocolate and confectionary industries, there is a fast-growing, popular market in cosmetics and personal care product industry.

It serves as a substitute for cocoa butter in chocolate industries (Ogbonnaya and Adgidizi, 2008), although the taste is noticeably different (Fold, 2000). Shea butter is used by local healers as a treatment for rheumatism, inflammation of the nostrils, nasal congestion, leprosy, cough, and minor bone dislocation (Tella, 1979, Goreja, 2004 and Olaniyan and Oje, 2007). It is also used as raw material for the production of margarine, soap, detergent and candle (Russo, 2001). Shea butter has also been used for soothing and accelerating healing after circumcision, and for preventing stretch marks in African pregnant women and as an insect repellent, providing protection against *Simulium* infection (Goreja, 2004, Hee, 2011). In addition, the trees are used in agroforestry systems that play an important role in the adaptation to climate change such as contribution to soil fertility (Rao *et al*., 2007). For these reasons, shea butter tree generates significant incomes for households. The aim of this study is to examine the socio-economic characteristics of shea butter consumers in the study area, assess the various uses of shea butter in the study area, examine the factors influencing the utilization of shea butter in the study area and identify the problems militating against shea butter utilization in the study area.

Inspite of the vast benefit of Shea butter, its core benefit is largely unknown for both domestic and commercial purposes. There is need to sensitize the populace about the vast benefit accruable to the users. In the cosmetic industry products with non-natural ingredients pose health hazards to users likewise in the pharmaceutical industries, most drugs are presented with contraindications, side effect and in some cases adverse effect. In Africa, there have been under utilization of shea butter partly because of the odour of unrefined form and low level of awareness. The economic potentials of most of this non- timber trees in agriculture are not fully recognized and most times subject to wrong use and gross mismanagement. Most of the non-timber trees are not domesticated, or established in plantation as their counterpart timber species and effort to maintain their abundance in the natural environment are not put in place. They are therefore endangered. The wood of the shea butter tree is used for charcoal, furniture and construction, and the latex for glue making

The shea butter is one of the several non-wood forest products. It is important economically but its potentials are not widely documented in Nigeria. Previous studies focused on production, processing, marketing and value chain of shea butter, not much research had been carried on the utilization of shea butter, and this study seeks to fill this gap. The study seeks to address how the various uses and potentials of shea butter in the study area could be given a wider publicity. The commonest of its uses is for treatment of skin infections and irritations as it contains an ingredient called cinnamic acid which provides natural protection against the sun's damaging ultraviolet rays. It is also an excellent agent for softening skin, moisturization, hair and serves as an excellent natural product for maintaining both body and hair vitality.

Methodology

The Study Area

The study was conducted in Oyo state, Nigeria. The state is located in the Southwestern part of Nigeria which lies between Latitudes 7^{o} 51^{1} North and Longitude 3^{o} 55^{1} East and has a total population of 5,591,589 (NPC, 2006). There are 33 local government areas in the state. It is bordered in the North by Kwara, east by Osun State and south by Ogun state. In the west, it is bothered by Ogun state and partly by the Republic of Benin. The state has an annual rainfall range of 1000 mm-1400 mm coupled with vast area of fertile land that is suitable for the production of crops such as the vegetables, yam, cassava, cowpea, tomatoes, maize and perennial crops such as, cashew.

There are 33 local government areas (LGAs) out of which three LGAs were purposively used for the study (Atisbo, Saki East and Saki West). The reason is because shea butter production and utilization were predominant in the area.

Sampling Procedure

The study was carried out in Oke Ogun area of Oyo State. One hundred and fifty questionnaires were administered in the study area. A purposive sampling procedure was used to select 150 respondents in the study area. These were selected from three local governments, namely Atisbo, Saki East and Saki West. Three communities were selected (Tede, Oje-Owode and Saki),and 45, 50 and 55 respondents were sampled respectively using Diaw *et al* (2002)'s sampling method was used, were 10%, 5%, 2.5% sampling intensity were used to choose respondents from 500 and below, between 500 and 1000 and 1000 respectively.

Data were analysed using descriptive statistics such as tables and frequencies, and Ordinary Least Square method. The model is specified as follows:

Dependent Variable: Consumption of shea butter

$Y = f(X_1, X_2 \ldots xn)$

Y = Consumption of shea butter

x_1 = Gender

x_2 =Age

x_3 =Marital status

x_4 =Household size

x_5 =Educational level

x_6 =Ethnicity

x_7 =Religion

x_8 =Occupation

x_9 =Monthly income

Results and Discussion

Socio-economic Characteristics of the Respondents

Table 1 revealed that (79.3%) of the respondents were female while (20.6%) were male. This implies that more females are involved in the utilization of Shea butter than males. Also majority, (61.33%) of the respondents are married. This can be attributed to the fact that the married have to take care of the homestead by treating members of their households of coughs, colds, heat rashes, dry scalps, burns and more with shea butter. This is line with the work of Ademola *et al*, (2012) that the married have responsibilities of their households to meet. Moreover, (48 %) had primary education. About (28%) had secondary education, (10%) had tertiary education while only (2%) had no education. This implies that majority of the respondents had minimum education, which can make the users to stick to the existing indigenous knowledge about shea butter and in addition to this, learn more by reading information leaflets and through social media. The educated ones are usually more cosmopolitan and this get them exposed to various sources of information about shea butter benefits. This conforms to the study of Chalfin (2004) that education is a variable that determines the ability of a respondent to access and understand information Also, about (56.6%) of the respondents were traders, (28.6%) had farming as their primary occupation, (5.3%) were civil servant, (6.0%) were while (3.3%) engaged in other livelihood activities.

Table 1: Socio economic Characteristics of Respondents in the Study Area

Variables	Frequency	Percentage
Gender		
Male	31	20.67
Female	119	79.33
Total	**150**	**100**
Marital Status		
Single	31	20.67
Married	92	61.33
Divorced	6	4.0
Widowed	21	14.0
Total	**150**	**100**
Educational Level		
No formal	18	12.0
Primary	72	48.0
Secondary	42	28.0
Tertiary	15	10
Others	3	2.0
Total	**150**	**100**
Age		
	45	30.0
31-40	65	43.3
41-50	32	21.3
Above 50	8	5.33
Total	**150**	**100**
Household size		
1-4	21	14.0
5-10	115	76.6
>10	14	9.3
Total	**150**	**100**
Years of Usage		
⩽10	20	13.3
11-20	35	23.3
21-30	28	18.6
31-40	53	35.3
41-50	10	6.6
51-60	2	1.3
61-70	2	1.3
Total	**150**	**100**
Monthly Income		
⩽ 20000	15	10.0
20001-40000	25	16.6
40001-60000	60	40.0
60001-80000	22	14.6
80001-100000	22	14.6
⩾ 100000	6	4.0
Total	**150**	**100**

Table 2 : Regression

Coefficients	Beta	Standard error	T=ratio	Significance
CONSTANT	-4.090	8.303	-493	.624
GENDER	1.837	2.192	.838	.404
AGE	.827	.096	8.580	.000
MARITAL STATUS	1.420	1.960	.745	.458
HOUSEHOLD SIZE	.019	.230	.083	.934
EDUCATION LEVEL	-3.265	1.084	-3.011	.003
ETHNICITY	-1.487	1.478	-1.006	.317
RELIGION	1.944	1.721	1.129	.262
OCCUPATION	.629	.753	.836	.406
MONTHLY INCOME	-2.052	.730	-2.811	.006

Source: field survey, 2017

Table 2 revealed that age, educational level and monthly income are significant at 1% (P= 0.01). This implies that age, educational level and income have a significant effect on the consumption of shea butter .There is an indirect but significant relationship between the educational level and consumption of shea butter. For the educated ones, their level of education could affect the consumption of shea butter, the more education they have, the more alternatives they have at their disposal, hence, a decrease in their consumption of shea butter. Monthly income: is significant but has an indirect relationship with the consumption of shea butter in the study area. This implies that an increase in monthly income of the correspondents lead to a unit decrease in the usage of shea butter .Once the income increases the consumer or respondents may opt out from using shea butter and decide to use other refined cosmetics. There is a positive and significant relationship between the consumption of shea butter and age of respondents i.e. as age increases, the consumption of shea butter increases. The coefficient of determination R-square is 0.597 implying that about 59% of the independent variables i.e socio-economic variables explain the consumption of shea butter at 59.7% and is significant $P<0.01$, $F=17.15$.

Table 3 below revealed that all the respondents (100%) used shea butter as food while (94.9%) used shea butter as cream, 100% used it as fodder, (100%) used oil, while (100%) as soap.

Table 3: Other Uses of the Shea Butter

S/N	Usage Type	Frequency	Percentage
1	Food	150	100.00
2	Cream	142	94.66
3	Oil	150	100.00
4	Soap	150	100.00

Source: field survey, 2017

Table 4 revealed that majority (100%) of the respondents reported that farming activities, house construction, forest fire and land ownership/tenure are the major challenges that affect the availability of *Vitellaria paradoxa* trees. This implies that trees are cut down for farming activities and house construction to take place. Also forest fire reduces the population of *V. paradoxa*, land ownership/tenure is also a major factor affecting the availability of *Vitellaria paradoxa*. Also (98%) of the respondents used *V. paradoxa* in mortal production, which implies that the trees are fallen for this purpose, *V. paradoxa* about 99.8% used *V. paradoxa* as art craft, while only 35.4% used *V. paradoxa* in charcoal production. The conservation and preservation is ensured, if the challenges of shea tree are identified. Hence, the continuity in the production and consumption of shea butter is assured.

Table 4: Challenges Affecting the Availability of the Shea Tree

Challenges	Frequency	Percentage
Farming	150	100.00
Charcoal production	53	35.33
Mortal production	147	98.00
Art & craft	119	79.33
House construction	150	100.00
Forest fire	150	100.00
Land ownership/tenure	150	100.00

Source: field survey, 2017

Conclusion and Recommendation

It is concluded that majority of the respondents are females, married, middle-aged, with large household size and had little education. Age, educational level and income have a significant effect on the consumption of sheabutter. All the respondents used sheabutter as food. Majority of the respondents reported that farming activities, house construction, forest fire and land ownership/tenure are the major challenges that affect the availability of sheabutter trees.

It is recommended that the various uses as discovered in this research study of Shea butter should be given its widest publicity nation-wide judging from the many uses and the potentials in the study area. Federal government should curb importation of cosmetics to enable local industries increase their demand for Sheabutter as raw material. This will lead to the commercialisation of the subsector

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