

**ASSESSMENT OF THE CONTRIBUTION OF SHEABUTTER PROCESSING TO POVERTY REDUCTION
AMONG WOMEN IN KWARA STATE, NIGERIA**

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ABSTRACT

Means of livelihood, existing processing techniques, output of sheabutter, level of income, and constraints hindering sheabutter processing by women in Kwara State were examined. Multi stage random sampling technique was used to select 180 women processors as respondents. Data were analysed using percentages and frequencies. The results revealed that 47.8% of processors were between the ages of 30-39 years with an average of 35.5 years. Majority 92.7% of the respondents relied on sheabutter processing as means of livelihood. 64.4% of the respondents use traditional method of processing while 83.9% produce between 1-25kg of sheabutter monthly with an average of 21.7kg/month. Similarly, the average income realised by the processor was N434 or \$2.7 per day. This is higher than the critical poverty income level of US\$1 reported by African Development Bank. Also inadequate supply of sheanuts (80.1%) and high cost of processing equipment (75.8%) were reported as most important constraints to sheabutter processing. It was concluded that sheabutter processing has the potential to remove the processors from vicious cycle of poverty thus allowing agricultural development and sustainability provided the constraints were adequately addressed.

Keywords: Livelihood, Poverty, Income, Processing, Agricultural Development and Sustainability

INTRODUCTION

Shea butter tree is indigenous to sub-Saharan Africa and belongs to the family *Sapotaceae*. Based on distribution, two species of the plant has been identified namely *Vitellaria paradoxa* and *Vitellaria nilotica*. *Vitellaria paradoxa* is produced mainly in the West African sub-region while *Vitellaria nilotica* grows mainly in northern Uganda and southern Sudan. Shea butter tree grows in the wild and has a huge economic and ecological potential (Okullo, 2010) It is a dicotyledonous woody plant. It grows typically in the savannah and naturally stretches over Africa in the Northern hemisphere from southeastern Senegal to Ethiopia and Uganda. The plant thrives naturally in the dry savannah belt of West Africa from Senegal in the west to Sudan in the east, and onto the foothills of the Ethiopian highlands. It occurs in 19 countries across the African continent, namely Benin, Ghana, Chad, Burkina Faso, Cameroon, Central African Republic, Ethiopia, Guinea Bissau, Cote D'Ivoire, Mali, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Togo, Uganda, Zaire and Guinea(FAO, 1998). It covers a swath of the continent, some 5,000km long and 400 – 750km wide.

Nigeria has a comparative advantage in the production and export of shea nut in Africa over her counterparts due to the large available arable land and suitable climatic conditions for its production. Out of the 923,766 square kilometers or 92, 376, 600 million hectares of the land area of the country, about 45 percent, that is 415,694.7, is suitable for the growth of the plant. It currently grows in the wild in many states including Niger, Nasarawa, Kebbi, Kwara, Kogi, Adamawa, Benue, Edo, Katsina, Plateau, Sokoto, Zamfara, Taraba, Borno and Oyo. Although it appears to be a rather obscure wild specie growing side by side with arable crops, it is widely known, valued and exploited by the natives in all the areas where it grows. The English call it shea, while the french call it Karate. In Nigeria, the Igbos call it Okwuma; Yorubas call it Orioyo while Hausas call it markade(Odebiyi, 2004). The production of shea nut in West African is estimated at 600,000mt which is based on traded volume. This estimate is less than actual production since it does not include nuts not collected from the wild and those consumed locally. Nigeria accounts for over 50 percent of the production in West Africa with a total trade value of \$400,000.

The major uses of the plant to local communities and industries include consumption of fleshy pulp locally like mango, the fruit when very ripe can be eaten raw; trunk, bark, cortex, roots and leaves are used in preparation of herbal remedies; trunk makes excellent charcoal and is also useful as building material. In addition butter is extracted from the kernel. The butter is also locally used in traditional medicines and cosmetics, chocolates, candle and pastries as cocoa butter substitute. It is also used in pharmaceuticals and cosmetics because it is naturally rich in Vitamins A, E, and F. Furthermore shea butter is widely utilized for domestic purposes such as cooking, skin moisturizer, edible products (Alander, 2004). Traditionally, Shea butter are used as cream for dressing hair, protecting skin from extreme weather and sun, relieving rheumatic and joint pains, healing wounds/swelling/bruising, and massaging pregnant women and children. It is also used in treatments of eczema, rashes, burns, ulcers and dermatitis. In Europe and Japan, shea butter is prized for its superb healing and moisturizing properties. It is an ingredient in creams, sun screens, conditioners and in the treatment of burns and muscle pains. Lovett (2004) concluded that Shea butter is a high-value export to Europe and the United States, where it is considered a luxury. In the international market, the price per ton for Shea butter packed in 20 pound dark plastic sacks or 50 kilo dark plastic

containers or coated steel drums ranges from USD1,800 to 2,800/MT depending on the quality while the local market price ranges from NGN180,000.00 to NGN250,000.00 (that is \$1,125-1,562.5/ton) ex Lagos delivery.

Nigeria, the leading producer of Shea butter in the world with a production capacity of about 600,000 metric tons is yet to fully realize her potentials in the processing and export of shea butter. Unlike other agricultural products like ginger, sesame seed, peanuts whose export potential are well known, the export potential of shea butter is not well documented by National Bureau of Statistics, Central Bank of Nigeria and National Export Promotion Council.

Nigeria is an oil exporting country and is the second largest economy in sub-Saharan Africa with a population of about 140million (Ukeje, 2003). In Kwara State, Nigeria, the total population is 2,365,353 out of which about half of the population 1,171,570 are female(Annual Abstract of Statistics,2009). As an agrarian society, about 70 percent of her population is engaged in agricultural production (National Bureau of Statistics, 2006). Kwara State and the nation at large have abundant human and natural resources. As a result, the nation has the potential to build a prosperous economy and provide for the basic needs of all of the population. However, Nigeria is among the poorest countries in the world with about 90 percent of her population living on less than US-\$1 a day (Ukeje, 2003).

Agriculture, the largest sector in the Nigerian economy accounts for nearly 40 percent of Gross Domestic Products(GDP) and provides employment for the bulk of the labour force. The slow growth of agriculture and food production has resulted in growing food imports and food insecurity. Households spend up to 70percent of their income on food yet nearly 50percent of the children are malnourished (Ukeje, 2003).

According to Okuneye, 2000, Nigerian agricultural system as elsewhere, consists of production, processing, storage marketing, extension and research. While production is a result of the combined factors of land, labour, capital and entrepreneurship, its magnitude and efficiency from farm gate to the consumer depends on handling and preservation as well as the process of making the products readily available and affordably consumable by the end users. The achievement of agricultural development in order to reduce poverty and bring about improvement in the existing food insecurity in a sustainable way, all products of shea nuts from the fleshy pulp which is consumed locally to the butter itself must be utilized efficiently and accordingly.

Although women are acknowledged as mostly involved in processing ventures, they are systematically denied the resources and information they need to fulfill their responsibility (Brandth, 2004). Shea butter processing is done by village women and is regarded as an “opportunistic business” for them. They relied on crude methods that were passed down through generations. Moreover, there is no estimate of the overall balance between cost of input and the economic output of shea butter, as the processing is not only arduous, labour-intensive and time consuming, it also requires large amounts of water and firewood. Bonkougou (2005) estimated that the traditional processing of 1kg of Shea butter takes one person 20-30 hours, from collection to final product. It is also estimated that 8.5-10.0kg of fuel-wood is needed to produce 1kg of Shea butter.

Eneh (2010) reports that most of the shea butter (products) produced in Nigeria are of very low market value compared to cocoa butter due to very poor quality. Quality is critical to the trade at the upstream end of the supply chain. Shea nut is

processed primarily through the traditional method which involves minimum mechanical inputs, heavy drudgery. The shea butter thus produced is considered unsuitable for export, because it is difficult and expensive to store as it deteriorates very rapidly. The locally produced butter is therefore consumed locally thereby fetching low price for the producers. Equally, the demand for locally and mechanically extracted shea butter for the edible market depends on the demand for locally and traditionally extracted shea butter for the cosmetics export market. Unfortunately, the grass root operators have no access to quality training materials. The inefficiency of the processing techniques lowers the quantity of shea butter available in the market. Furthermore, all the plants are still in the wild, there is no meaningful scientific evidence to reduce the maturity or gestation period of the plant. Despite this, there is the increase rate of felling shea butter trees for charcoal production in Nigeria.

The yield per hectare of the tree is an average of 15 –20kg of fruits or 3 – 4 kg dry nuts annually. Some trees in suitable environment can yield up to 50 – 100kg per annum. In favourable environment, phonological germination of the nut takes place within 7 – 10 days. In places where nuts are planted the growth is slow and seedlings take 2 - 3 years to reach field planting. Gestation period lasts for 15 – 20 years which makes domestication difficult. Flowering starts at the age of 20 years, and the plant matures at the age of 40 – 50 years and can fruit for more than 200 years.

This may result into inadequate productive trees which at the long run has potential to drastically reduce the quantity and quality of butter extracted. The low quality of shea butter is thus a concern, as it falls below international standard. Export figure is low despite higher production, implying more of local consumption. In 2002, only 1.25% of world's total export was recorded; only shea nuts were exported; specific policies and support programmes for the industry are still being expected; not much support has been received from international agencies, apart from preliminary investigations that were conducted. Nigerian Export Promotion Council (NEPC) views shea nuts and butter as new export commodities for which support for collection, distribution and export is to be provided. This is in recognition of the need to find substitute for the rather expensive cocoa butter (Taiwah, 1994).

In Burkina Faso, for instance, a non Governmental Organization (NGO), an affiliate of United Nations(UN) has stepped into helping Burkina Faso processors to improve economic returns from sheabutter by strengthening the access of the women processors to the valuable nuts while sustaining the trees from uneconomic exploitation. In the same vein, most of the products are packaged and shipped to meet rigorous demands of the US cosmetics markets. Through West African Trade Hubs(WATHs) interventions, two Ghanaian entrepreneurs, Madam Comfort and Gladys currently fill orders for more than 12,000 shea soaps and 4,000 creams to US markets. In addition to boosting their revenues, the order will also provide employment for the women who supply the sheabutter to the two businesses.

Nigeria is currently the highest producer of sheanuts to the world market, identifying the potentials in shea butter processing among women would bring about an increased mobilization of processors towards poverty reduction, *through improvement in the quality and quantity of sheabutter production thereby providing an immense accrued profit for the women processors thus empowering them, thereby bringing about agricultural development and sustainability in Nigeria.* Kwara State in

particular and the national government would be convinced to plan and implement appropriate strategies towards solving problems and initiate appropriate support programmes for women processors. It is therefore apt at this material time when majority of rural women are engulfed with extreme level of poverty to delve into the contributions of sheabutter production towards poverty reduction among women in Kwara state.

The main objective of this study was to assess the contributions of sheabutter processing towards poverty reduction among women in Kwara state while specific objectives were to

- a. determine the socio-economic status of women involved in sheabutter processing
- b. identify the means of their livelihood
- c. identify the existing processing techniques
- d. determine the level of production of sheabutter by the women processors
- e. ascertain the level of income of sheabutter processors
- f. assess the constraints encountered by the women respondents in sheabutter production.

MATERIALS AND METHOD

The study was carried out in Kwara state, Nigeria. The State was created on 27th of May, 1967 along with eleven other states in the federation when the Nigerian Republic was split into twelve states structure. It falls within the North Latitudes 11° 2' and 11° 45'. It situates between longitudes 2°45' and 6°40' east of Greenwich Meridian (i.e. Longitude '0'). The State has 16 Local Government Areas. These in Alphabetical order are Asa, Baruten, Edu, Ekiti, Ifelodun, Ilorin East, Ilorin South, Ilorin West, Irepodun, Isin, Kaiama, Moro, Oke-Ero, Offa, Oyun, Patigi Local Government Areas. The state has boundaries in the south with Oyo, Ekiti and Osun State. It is bounded in the West by Benin Republic while in the North and the East; it is bounded by River Niger, and Kogi State respectively.

Kwara State has a land Area of 32,500 square kilometers (3,250,000 hectares). It has a temperature range of between 30°C and 35°C. The State has two distinct climatic seasons: the wet (rainy) and the dry (Harmattan) seasons (Kwara ADP, 2004).

The rainfall both in amount (1000-1500mm per annum) and duration (8 months) favour the growth of shea nut tree in virtually all the Local Government Areas of the state. The population of the state is 2,365,353 comprising 1,193,783 male and 1,171,570 female (ABS, 2009). However, the females were engaged in processing of agricultural products such as locust beans, sheabutter, cassava chips et cetera.

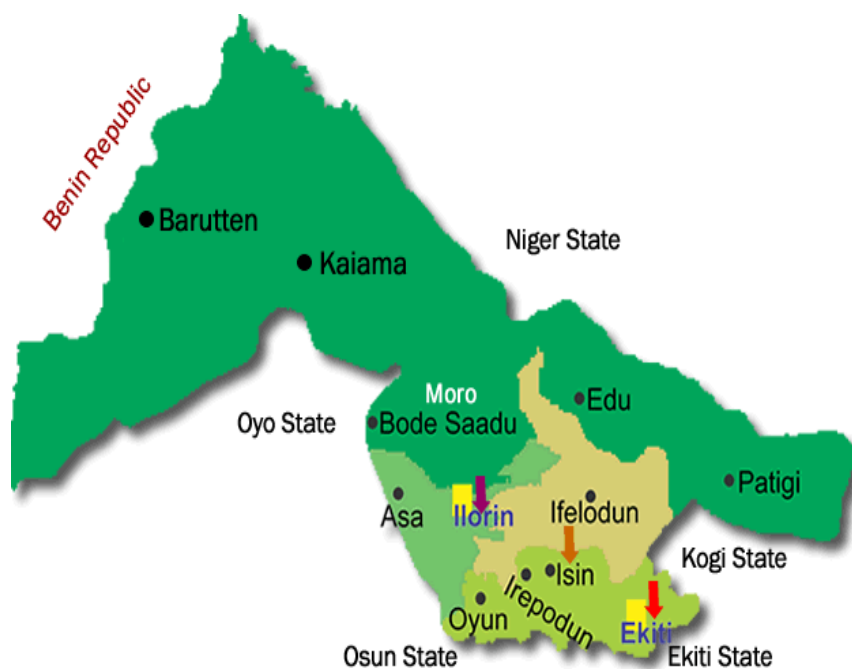
Sampling Procedure and Sample Size

The target population for the study was women involved in sheabutter processing in the sixteen Local Government Areas of Kwara State. Multi stage sampling technique was used to select respondents for the study. Kwara state is divided into four agricultural zones based on ecology and farming system. These include: Zone A, comprised Kaiama and Baruten LGAs; Zone B, consisted of patigi and Edu LGAs; Zone C, comprised of Ilorin South, East, West and Asa LGAs and Zone D, which is made up of Offa, Oyun, Ifelodun, Irepodun, Ekiti, Isin and Oke-ero LGAs. Stage one of the sampling procedure involved a

random selection of one LGA in each of the agricultural zone of the state. This resulted in the selection of Kaiama, Patigi, Ilorin South and Ifelodun LGAs for Zone A, B, C and D respectively. The second stage involved the random selection of three communities from each of the selected Local Government Areas. Thus Nanu, Nuku, and Tinga Aboki were selected from Kaiama LGA. Similarly, Lade, Muntekun and Tankpafu were randomly selected from Patigi LGA; Omode, Apa-ola and Kajola were selected from Ilorin South while Iloa, Idofian and Share were randomly selected from Ifelodun LGA. The final State was the random selection of fifteen (15) female sheabutter processors from each of the twelve communities. Thus a total of 180 sheabutter processors were selected as respondents for the study. A structured interview schedule was used to elicit information from the respondents.

Data were analyzed with the use of frequencies and percentages

Fig.1 Map of Kwara State, indicating the sixteen Local Government Areas



RESULTS AND DISCUSSION

Socio-economic characteristics of sheabutter processors in Kwara state

Results of the study (Table 1) revealed that 72.2% of the respondents were in the age bracket of 20- 39 years of age. Less than 1% of the respondents were sixty years of age and above. The average age of the respondents was 35.5years. In the same vein, more than half (57.2%) of the processors were in the shea butter processing ventures for a period of 20 years and below. It was a small proportion of the processors that have spent 31-40 years in shea butter production. The average years of experience was 19.3years. This indicated that the processors were in their youthful age with full of energy and zeal. *The implication is that these energetic and agile youths could power sheabutter production on the basis of promoting its value in a sustainable manner.* The report showed low involvement of aged women, 55 years and above in shea butter processing. (Ismaila et al.2010) reports that most of the people of over 55 years are unwilling or unable to work, especially when the farm

is far from the house, or when working in low trend ecologies as in rice production. It was averred that shea butter production is arduous which might be difficult for the aged women to carry out. Hence, low participation of aged women in shea butter production. Majority (82.8%) of the respondent were married. Shea butter production is labour intensive. Marriage might be a strategy to facilitate optimum supply of family labour (70.6%), more so that shea butter production is labour intensive.

In addition, more than half (53.3%) of the respondent had no formal education. The aged processors have to be replaced with vibrant and educated youth. Low level of educational attainment would impede their ability to access and adopt new technologies that could enhance shea butter production. Ekoja (2004) shows that significant difference exists among farmers in the adoption of innovations on account of educational qualifications. Low level of educational attainment would limit respondents' access of information which might be of immense assistance to the processors especially in the adoption of new processing techniques and exploitation of market opportunities.

Table 1: Socio-economic characteristics of shea butter processors in Kwara State

Characteristics	Frequency	Percentages	Average
Age (Years)			
20-29	44	24.4	
30-39	86	47.8	
40-49	38	21.1	35.5
50-59	11	6.1	
60 and above	1	0.6	
Marital Status:			
Single	15	8.3	
Married	149	82.8	
Divorced	7	3.9	
Widowed	9	5.0	
Household size			
3-7	9	5.0	
8-12	127	70.6	
13-17	44	24.4	
Educational Status:			
No formal education	96	53.3	
Quranic education	41	22.8	
Primary school uncompleted	22	12.2	
Primary school completed	7	3.9	
Secondary school uncompleted	7	3.9	
Secondary school completed	5	2.8	
Attended tertiary Institution	2	1.1	
Processing Experience(Years):			
1-10	38	21.1	
11-20	65	36.1	
21-30	47	26.1	19.3
31-40	30	16.7	

Source: Field survey, 2013

Means of Livelihood of Shea Butter Processors

Table 2 showed that majority (92.7%) of the respondents had shea butter production as their major means of livelihood. However, 1.9%, 1.4%, 1.3% of the respondents were involved in yam flour processing, tailoring and gari processing

activities probably during the off season when shea nuts are not available for processing.. *Since the processors were mostly involved in shea butter production and they are majorly youths, this signifies high prospect for sheabutter production and the tendency to promote agricultural production and sustainability in Nigeria through efficient sheabutter processing.*

Table 2: Means of livelihood of shea butter processors in Kwara State.

Means of livelihood	Frequency	Percentage (%)
Trading	2	1.1
Tailoring	3	1.4
Sheabutter Processing	167	92.7
Yam flour processing	3	1.9
Gari processing	2	1.3
Fish processing	2	1.1
Civil service	1	0.5

Source: Field survey, 2013

Data revealed in table 3 shows that majority(64.4%) of the respondents use the traditional processing method. This may be due to the fact that they have no knowledge about the modern method and this justifies the points said earlier on that the product is unsuitable for exportation as a result of lots of impurities and are rather consumed locally thereby fetching low income for the processors.

Table 3: Processing techniques used by sheabutter processors.

Techniques	Frequency	Percentage
Traditional	116	64.4
Mechanized	9	5.0
Both	55	30.6
Total	180	100

Source field survey, 2013

Table 4 reveals the level of shea butter production in the study area in 2013. Majority (83.9%) of the respondents produced between 1-25kg per month or 12-300kg per annum. This gives an average production of 21.7kg per month or 260.4kg/annum.

This level of output of shea butter is low for a sustainable income. This finding agrees with Ademola (2012) that reported a similar level of shea butter production of between 252kg to 480kg per annum in Atisbo Local Government Area of Oyo state. Using the upper limit of average production, that is, it was overt that there was a downward trend in shea butter production on

account of inadequate supply of shea nuts. *This implies that, given optimum supply of shea nuts and cost effective processing technologies, there is a large room for increase in shea butter production in the study area and thus increase in their level of income, improvement in their standard of living thereby enhancing agricultural development and sustainability.*

Table 4: Quantity of shea butter production in Kwara state

Quantity(kg)	Frequency	Percentage	Average/month
Below 15	40	22.2	21.7
16-25	111	61.7	
26-35	15	8.3	
36-45	12	6.7	
46 and above	2	1.1	

Source: Field survey, 2013

Level of Income from shea butter processing

Earlier on, average shea butter production was estimated at 21.7kgs/month, that is, 0.72kg per day. During the survey, it was revealed that a kilogram of shea butter was sold for N600.00 per kilogram. Therefore, the average income per day for the shea butter processor was N434 or \$2.7 per day. It is overt that this level of income is higher than extreme poverty level of \$1 per day earned by majority of rural dwellers (Edache, 2006). This explains the involvement of West African Trade Hub, an affiliate of United Nation who has stepped into shea butter processors to improve their economic returns from shea butter. Currently, a return of \$2,800/MT was reportedly realizable (Lovett, 2004), this is equivalent to earning of \$7/day provided a processor could increase his production. It follows that all other things being equal, processing of shea nut into shea butter has the potential to empower and alleviate the processors from vicious cycle of poverty. *Therefore, it is desirable that all impediments that are militating against optimum production of shea butter are duly addressed in order to reduce poverty and improve on the prevailing food insecurity in a sustainable manner.*

Constraints of shea butter production in Kwara state

The results of the study as shown in Table 5 revealed the perceived constraints of shea butter production in Kwara State. The result revealed that majority (80.1%) of the respondents reported inadequate supply of shea nuts. The most important input in the production of shea butter is shea nuts. Since the nut was in short supply, optimum production of shea butter could not be guaranteed. The implication is that the level of income of processors would remain stagnated even if there is high demand for the products. Therefore, strategies to increase the supply of the nut should be put in place which in the short run may include enforcing or enacting laws that will restrain the felling of shea nut trees for charcoal production and production of building materials. The long run solution would be to increase tempo of domestication of the crop so as to reduce the gestation/maturity of the plant. This would encourage farmers to cultivate the crop like other tree crops. In addition,

domestication of the crop will allow the principles of genetics to improve yield and shorten the gestation or maturity period of the crop. In the same vein, respondents 75.8% and 75% reported high cost of processing equipment and inadequate extension services as another series of constraints. Shea butter production involved a lot of drudgery, time and materials especially water and fire wood. Unless the processing period is reduced from the present level of an average of about 30 hours, it would be difficult to increase production of shea butter without sacrificing quantity for quality. Processors can harness their financial resources and acquire modern processing equipment which can be jointly used for shea butter production. Kwara state government can also assist processors with loans and subsidy to enable them acquire modern processing facilities.

Table 5: Perceived Constraints of shea butter production in Kwara state

Constraints	SA	A	D	SD	Rank
Inadequate shea nuts	80.1	10.3	4.0	5.6	1
Involvement in non- farm activities	5.6	11.7	13.3	69.4	8
Inadequate finance	35.0	48.3	7.8	8.9	5
Inadequate extension services	75.0	7.8	13.3	3.9	3
High cost of equipment	75.8	29.4	13.3	4.5	2
Inadequate credit facilities	32.2	40.0	15.6	12.2	6
Inadequate source of water	40.6	46.7	8.9	3.8	4
Uncordinated marketing system	6.1	79.4	10.6	3.9	7

Source: field survey, 2013

*SA= Strongly Agree *A= Agree *D=Disagree SD=Strongly Disagree

CONCLUSION

In conclusion, it was discovered that shea butter processing is prosperous, prospective and has the potential to alleviate poverty of women processors. Although the production and level of income of shea butter processors was declining as a result of unavailability of shea nuts which eventually affect the quality and quantity of shea butter produced. Extension agents' contact with sheabutter processors was poor. *The potentiality observed in sheabutter processing would bring about increased agricultural productivity as a result of improved quality and quantity of sheabutter given the role of extension agents in this respect, the energetic youths involved would also be encouraged to remain in the business with the aim of empowering them, removing them from poverty and hence promoting agricultural development in a sustainable form.*

RECOMMENDATION

The production and processing of shea butter could be accelerated if the domestication of shea tree is practiced and supported by the Government so as to provide sufficient sheanuts for the processors hence allowing agricultural development in Nigeria to prevail in a sustainable way. The Nigerian Bureau of Statistics, National Export Promotion Council and Central Bank of Nigeria should make sure that the crop is listed among the export crops. This is to enlist the interest of international agencies on the scientific improvement of the crop, and there should be adequate provision of extension services to sheabutter processors .

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