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SHEA BUTTER PRODUCTION, USE AND APPLICABLE REGULATIONS UNDER CODEX ALIMENTARIUS AND THE EUROPEAN UNION

Contract No.: AID-624-C-13-00002-00

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ACRONYMS

ACTE	Africa Competitiveness and Trade Expansion Initiative
CBE	Cocoa Butter Equivalent
ECOWAS	Economic Community of West African States
EU	European Union
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FDA	Food and Drug Administration
FFA	Free Fatty Acid levels
GRAS	Generally Recognized As Safe
IMO	International Maritime Organization
SB	Shea Butter
UEMOA	Economic and Monetary Union of West Africa
USAID	United States Agency for International Development
USDA FAS	United States Department of Agriculture Foreign Agriculture Service
WHO	World Health Organization

EXECUTIVE SUMMARY

The history of shea butter (SB) as an inter-regionally traded commodity can be traced back to Ancient Egypt, where SB was used to protect hair and skin against sunshine and dry winds. The use of SB in food and cosmetic applications has resulted in its growing worldwide trade. SB-relevant standards for vegetables/fats and derivatives exist for the globe within Codex Alimentarius, for some regional economic communities (such as the EU), and in many individual countries (such as the USA and India). All of these standards, and often accompanying regulations, affect trade for food and cosmetic purposes, as well as the permissible uses. Certain changes in such standards—starting with Codex--could expand the potential market. That would benefit not just those who are directly involved in the value stream, but also rural economies in source countries.

With that in mind, this report first provides an overview of the SB supply chain, the composition of SB and SB fractions, its produced and traded volumes and its food safety and nutritional characteristics. Next, it discusses whether and how SB could be classified as a standard vegetable fat/oil, considers how shea for use in chocolate and chocolate products is treated under Codex, and then summarizes arguments that would support shea as a vegetable fat/oil and a substitute in chocolate.

Originally planned to be presented in separate short documents, it was agreed during the course of the work to combine the topics into a single report. A third topic - Challenges and recommendations with respect to codex standards for standard vegetable oils/fats as well as for SB and derivatives in chocolate and chocolate products – is not included. During the course of execution of the assignment, the Global Shea Alliance, which is the intended beneficiary of this exercise, felt that it was sufficiently advanced on these questions on its own as to render them unnecessary.

SB differs from other vegetable fats by its high level of unsaponifiable components (i.e. do not form soap when combined with lye). These components are associated with bio-active properties in skin care. Since the 1960s, SB has also been used as an ingredient in chocolate products. In most applications, the solid fraction of SB after fractionation (Shea stearin) is used as chocolate ingredient. In the EU, SB is one of the six vegetable fats (other than cocoa butter) that are permitted to be added to chocolate products (ref. 1, EU Directive 2000/36/EC).

General findings of the report are:

- In Central Africa, SB has been used since ancient times as a cooking fat, for skin and hair protection, and candle fat.
- About half of the current Shea nut production (which is 600,000 – 700,000 MT per annum) is used locally and the other half is exported.
- SB is pressed from seeds of naturally grown stands of trees found in a swath of land that traverses about a dozen African countries, just below the Sahel. The seeds are collected by women in rural areas.
- Due to the long time between planting and harvesting, it is unlikely that shea nuts will ever be grown in plantations.

- When processed and handled commercially in a responsible manner, the risk of contamination with chemical or biological hazards in the supply chain is low, and SB has no toxic minor components, hence product safety risk is minimal.
- SB is characterized by a high level of stearic and oleic acid and a relative high content of unsaponifiables. The triglyceride composition can be further improved by fractionation to make it suitable as ingredient in cocoa butter equivalents (CBE). The unsaponifiables are associated with bio-active properties in skin care.
- The fraction of saturated fatty acids in SB is similar to that of palm oil (around 50%). SB contains mainly stearic acid while palm oil contains mainly palmitic acid as saturated fatty acid.

1. INTRODUCTION

Technical assistance and training activities that support the shea industry derive from the USAID/West Africa's overall goal of advancing the social and economic well-being of the same region. That high level goal is supported by several development objectives, including "broad-based economic growth and resilience advanced through West African partners."

The West African Trade and Investment Hub ("WATIH" or "Trade Hub"), under whose auspices the present assignment was carried out, was designed to contribute to this development objective by achieving two critical intermediate results:

1. Improving the capacity of West Africa's farmers and firms in targeted regional and global value chains
2. Improving the business enabling environment by addressing transport constraints and trade barriers affecting the efficiency of the region's corridors and borders

WATIH works through regional private sector associations and regional governmental entities to help channel all partners' efforts to address critical constraints to trade competitiveness, capture opportunities to expand trade, demonstrate West Africa's productive potential to investors, and facilitate greater investment in the region. The project's intended results include a significant increase in both: 1) regional trade in key agricultural commodities, which is a critical Feed the Future (FTF) indicator, and 2) value-added global exports, a targeted indicator for the Africa Competitiveness and Trade Expansion (ACTE) Initiative. The shea industry is important to both sets of results.

The Trade Hub also strives to build the capacity of several key groups of African partners—regional private sector associations and alliances, ECOWAS, the Economic and Monetary Union of West Africa (UEMOA), a multi-donor funded Transport and Facilitation Observatory, and Global Development Alliances with private sector companies. As the Trade Hub works with associations and regional alliances (such as the Global Shea Alliance), it strives to help them serve as leaders in promoting reforms, attracting buyers and investors, and adopting improved practices.

The Trade Hub's major components are:

- Regional staple foods development (livestock and grains)
- Global value chain development (targeted agro-processing and manufactured consumer goods, which include SB)
- Finance and investment
- Transport and the trade enabling environment
- Capacity building
- Communications
- Administration and management, including grants administration

2. THE SHEA BUTTER SUPPLY CHAIN

The Shea tree (Vitellaria Paradoxa) is indigenous to the savannas and dry forest areas from Senegal in West Africa to Uganda in East Africa (see figure 1). Shea trees start to produce fruits after 15 years, reach maturity after 45 years and continue to produce shea nuts for up to 200 years. The nuts are collected from naturally grown stands of trees. Due to the long (15 year) period between planting and when trees bear their first nut, shea trees have never been grown commercially as a plantation crop.

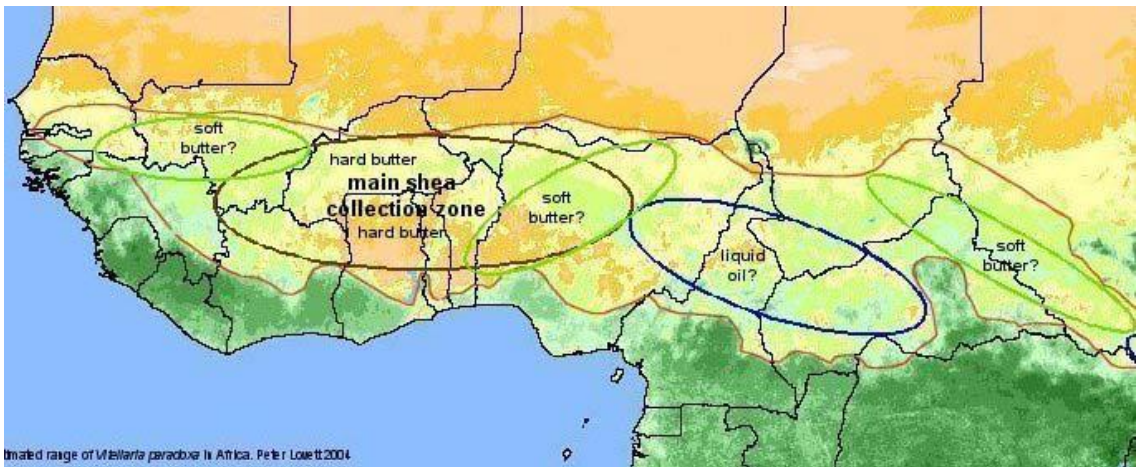

Figure 1: The growth area of Vitellaria paradoxa (Lovett, 2004)

Shea trees blossom between February and March, ripen in June and July, and are harvested from June – September. When the ripe fruits fall from the trees, they are collected by women. The pulp is removed by fermentation or manual peeling (the pulp is edible). The kernels are first heated by boiling or roasting to deactivate the enzymes that catalyze hydrolyses leading to the high free fatty acids (FFA) content of the SB. After boiling, the nuts are dried, cracked to remove shells and further dried by roasting or sun drying (ref 2: Lovett 2004).

The extraction of SB is traditionally done at village level by pounding, kneading and boiling. This SB is sold unrefined in local markets. Dried shea nuts can also be exported to customers in other continents where the SB is extracted in large scale industrial plants before further refining and fractionation. Alternatively, local oil mills extract SB by pressing and export unrefined SB. The export market is shifting to shipping unrefined SB instead of dried shea nuts.

Shea nuts are normally shipped in trucks for in-land transport and containers for overseas shipping. Unrefined SB should be transported in foodstuff-dedicated road tankers for in-land transport and in parcel tankers or tank containers for overseas shipping. The International Maritime Organization (IMO) working group on the evaluation of safety and pollution hazards of chemicals has included SB containing less than 15% FFA in the category vegetable/animal oils (ref. 3: IMO ESPH 2005).

Around 90% of the overseas shipped SB is used in foodstuffs, and the remaining 10% in cosmetics (ref. 4, Reynolds 2010). The processing routes for both applications are different:

- **Foodstuffs:** the SB is dissolved in a solvent followed by degumming and neutralization. The neutralized oil/solvent mixture is fractionated into a solid fraction (stearin) and a liquid fraction (olein). After desolventizing, bleaching and deodorizing, the stearin is mainly used as component of CBE and confectionary fats. Refined shea olein is also used to replace liquid seed oils in food product applications.

- **Cosmetics:** A part of the unsaponifiable components that are desolventized are enriched by the fractionation process in the olein fraction (ref.5: Alander 2004). This makes it an interesting raw material for use in cosmetic products.

3. CHARACTERIZATION OF SHEA BUTTER AND SHEA BUTTER FRACTIONS

The oil extracted from the shea nuts is characterized by the general physical/chemical characteristics, the fatty acid profile and the composition of the minor components. The stearin fraction is characterized by the triglyceride composition.

Table 3-1: General physical/chemical characteristics of shea butter

Characteristics	Shea butter (Butyrospermum parkii)
Relative density (15.5 °C/water at 20 °C)	0.870 – 0.917
Refractive index (ND 40 °C)	1.465 – 1.475
Saponification value (mg KOH/g)	237 – 261
Iodine value (mg I_2/100 g)	78 – 85
Unsaponifiable matter (%)	4 – 11

Sources: Ref. 3: IMO 2005, ref. 6: Olaniyan 2007

The quality parameters (shea's moisture, FFA, Peroxide value and impurities level) all depend strongly on the freshness and ripeness of the nuts, the extraction method used and the handling of the SB. UEMOA has established a draft standard with three quality grades to accommodate for these differences.

Table 3-2: Quality characteristics and grades of unrefined shea butter.

	Grade 1		Grade 2		Grade 3	
	Min.	Max.	Min.	Max.	Min.	Max.
Moisture content (%)	0	0.05	0.06	0.2	0.2	2.0
FFA (%)	0	1.0	1.1	3.0	3.1	8.0
Peroxide value (meq/kg)	0	0.05	0.06	0.2	0.2	2.0
Insoluble impurities (%)	0	0.09	0.1	0.2	0.21	2.0

Source: Ref. 7: UEMOA 2006

The wide range in Iodine Value also indicates a wide range in the fatty acid composition. This is mainly caused by regional variations in the tree variety, harvesting conditions and extraction method. The central location in the Shea production zone produces a more saturated SB than the west and east locations. The more saturated SB is harder, contains more solids at equal temperature and gives a higher stearin yield in fractionation. Table 3-3 shows examples of these regional variations in fatty acid composition.

Table 3-3: Regional variations in fatty acid composition

Origin	Palmitic 16:0	Stearic 18:0	Oleic 18:1	Linoleic 18:2
Benin	3.8	44.1	43.8	6.7
Burkina Faso	3.8	44.1	44.0	6.4
Ghana	4.0	45.6	43.3	6.3
Côte d'Ivoire	6.6	46.8	51.4	8.4
Mali	3.3	43.3	44.6	6.0
Nigeria	3.4	43.8	44.3	5.8
Chad	5.4	32.3	54.8	5.4
Uganda	4.2	28.9	57.8	6.3

Source: ref.8: Nahm 2011

The content of unsaponifiables in SB is considerably higher than in other vegetable oils. The unsaponifiables contain approximately 65% triterpene alcohols, approximately 8% sterols and approximately 27% hydrocarbons. This includes components similar to caoutchuk such as kariten (French name for SB = Beurre de Karité). Table 4 gives the typical composition of sterols and other fractions of the unsaponifiables of unrefined SB.

The crystallization performance of a fat is mainly determined by the triglyceride (or triacylglycerol) composition of the saturated fraction. This is also an important characteristic for the Shea stearin fraction when this is used as component of cocoa butter equivalent (CBE).

Table 3-4: Typical composition of sterols and other fractions of the unsaponifiables of shea butter

Component	Area %
Sterols	--
Cholesterol	--
Brassicasterol	--
Campesterol	14.8
Stigmasterol	5.6
β-Sitosterol	40.5
Isofocusterol	3.2
4-Methylsterols	--
Obtusifoliol	0.7
24-Methylenelophenol	1.0
Cycloeucalenol	1.4
Citrostadienol	0.9
4,4'-Dimethylsterols or tritperenes	--
β-Amyrin	9.2
Butyrospermol	0.0
Cycloartenol	7.1
α-Amyrin + lupeol	7.3
24-Methyleneparkeol	1.2
24-Methylenecycloartanol	2.7
ψ-Taraxasterol	2.7
Cycloartanol	0.0
Unknown	1.7

Source: Ref. 9: Soulier et al, 1990

Table 3-5 gives the triglyceride composition of SB and shea stearin for the three main triglycerides:

- POP = palmitic, oleic, palmitic at the 1, 2, and 3 positions of the triglyceride
- POS = palmitic, oleic, stearic at the 1, 2, and 3 positions of the triglyceride
- SOS = stearic, oleic, stearic at the 1, 2, and 3 positions of the triglyceride

The quality and food safety characteristics of refined SB and refined SB fractions are equal to those given in CODEX-STAN 210-19f99.

Table 3-5: Triglyceride composition of shea butter and shea stearin

	Shea butter	Shea stearin
POP	< 1	1
POS	5 – 8	7
SOS	30 – 40	69 - 74

Source: Ref. 5: Alander 2004, ref. 10: Steward and Kristott 2004

4. VOLUMES AND TRADE

SB is a low volume product compared to the main globally-produced oils and fats. 2014 production of the nine main oils and fats amounted to about 176 million MT, according to USDA's Foreign Agricultural Service (USDA FAS). Total production of shea nuts is believed never to have represented even one percent of this volume.

Data on shea production, import and export are not available in global databases of significance such as Oil World and USDA FAS. While the Food and Agriculture Organization of the United Nations (FAO) does present statistics on shea nut production ("Karité nuts") in the African region (FAOSTAT3), this data is considered to be inaccurate since it is based on imprecise national statistics. With that caveat in mind, total African production of shea nuts reported for 2000 – 2013 by FAO is given in Figure 2 for comparison with the data presented later in this section.

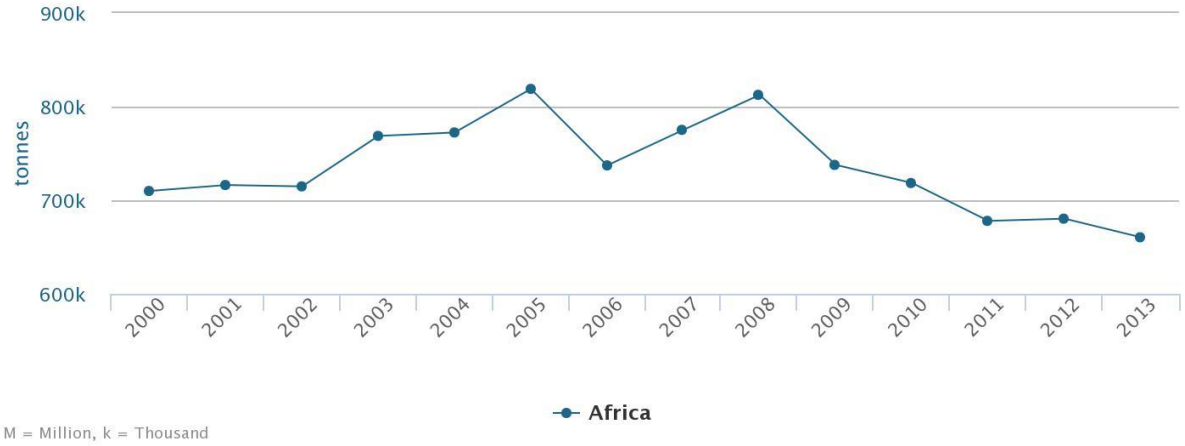

Figure 2. The total African production of shea nuts as given by FAO statistics (FAOSTAT3).

Several published production, export and import data sets are based on the estimates by Dr. P. Lovett, a research scientist who has worked for several shea development projects in Africa. He estimates a total potential annual shea production in Africa of 1.3 million MT, based on a counting of mature trees. Half of this, or around 600,000 MT, is collected (the remaining trees are too far from villages) of which around 50% is consumed within the producing countries. The export (calculated as dry nut equivalent) increased from 50,000 MT in 1994 to 150,000 MT in 2004 to 350,000 MT in 2008. Exports apparently halved in 2009, probably due to the financial crisis (ref.4, Reynolds 2010). All eight producing countries in the central zone contributed to this export. Before 2000, mainly nuts were exported (90%). Later, the share of nuts decreased to 65%. The shea nut price peaked in 2008 at $800/MT but decreased to $250/MT in 2010. The value of 350,000 MT exported in 2010 was about $87.5 million.

In 2008, the United States International Trade Commission determined factors affecting trade patterns of selected industries in Sub-Saharan Africa through interviews (ref. 11, Yinug & Fetzer 2008). They reported African exports between 265,000 and 445,000 MT in dry nut equivalent. The contribution of crude SB in 2005 was equal to 26%, which increased to 35% in 2010. From 2000 – 2005, the total export of shea nuts in weight equivalent increased by 35%. This growth was strongly driven by new markets such as Eastern Europe, Russia, Brazil, and Oceania.

SB is in the EU mainly used to produce the fraction shea stearin, which for the EU is an allowed component of CBE. The by-product shea olein is used as vegetable oil without specific added value (except for use in cosmetics). In 2006, LMC International (ref. 12, LMC 2006) estimated the import of shea nuts and SB into the EU-15 for the period 1996 – 2005, based on Eurostat statistics and West African export data. The results are shown in figure 3.

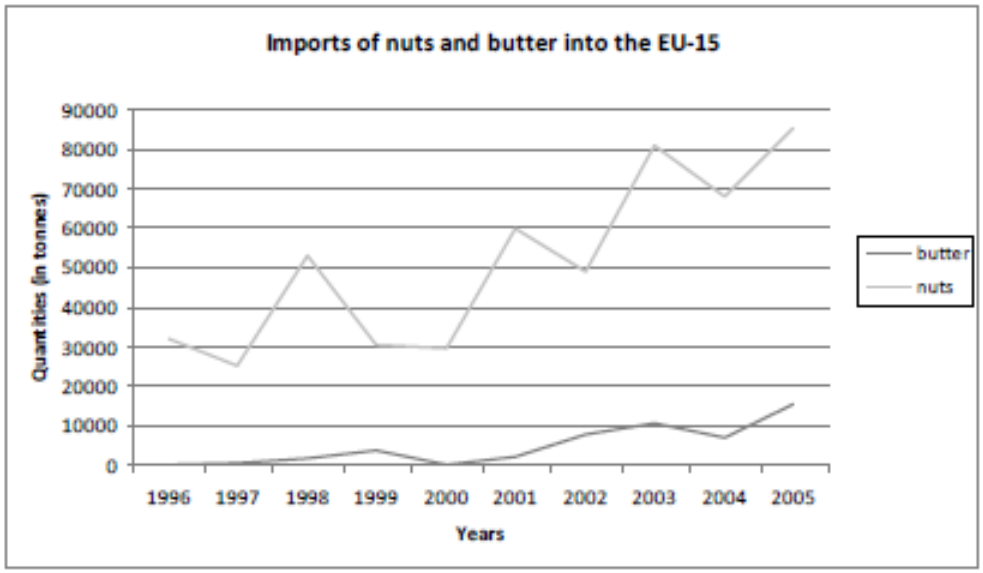

Figure 3: The imports of nuts and butter into the EU-15 (LMC study).

The data shows an increase of imports into the EU after the introduction of the EU chocolate directive in 2003 (ref 1, EU Directive 2000/36/EC). Imports increased from an average of 40,000 ton nut equivalent from 1996 -2002 to 100,000 ton nut equivalent in 2005. The potential maximum of the shea use in the EU can be calculated from chocolate consumption, assuming that all chocolate confectionary contains 5% CBE. The chocolate confectionary production in the EU27, Switzerland and Norway in 2012 was 2,826,627 ton (Caobisco annual report 2013). All chocolate confectionary containing 5% CBE is 140,000 ton CBE per annum. The shea stearin content of CBE varies from 30 to 60%. Hence, the estimated maximum of the stearin use is 40,000 – 80,000 ton per annum. The data presented by P. Lovett indicates that on average 150,000 ton dry kernel is needed to produce 18,000 ton of stearin. This implies that the potential maximum volume of shea nut that can be used in chocolate is 300,000 – 600,000 tons per annum. This is still 3 to 6 times higher than the EU import of 100,000 ton per annum reported by LMC.

Summing up, the above-mentioned publications are not in conflict among themselves with respect to reported volume data. These are the average volumes that can be extracted or derived from the reported data (all in dry shea nut weight equivalent):

- Actual shea production in African region 600000 – 700000 MT per annum
- Total exported volume by 9 exporting countries 300000 – 400000 MT per annum
- Total EU import > 100000 MT per annum

5. PRODUCT SAFETY AND NUTRITION

Although the focus of this report is on SB, rather than the raw products that serve as raw material, both safety and nutritional value begin in the field, so it makes sense to begin there as well.

Borrowing from the "African Standard for Shea Kernel", which was published in 2011 by the African Organisation for Standardization and then issued as an edict (Ref. 13, ARS, 2011), the term "shea nut" refers to depulped fruits of the tree *Vitellaria paradoxa* Cf Gaertn, while "shea kernels" refers to the decorticated (shelled) nut of the same tree. Damaged nuts or kernels refers to those that have either been damaged mechanically or by mold or weevils, as well as those that exhibit internal discoloration of kernels which affects the quality. Symptoms include mildew, germination, hardening, blackening, or decomposition. According to the standard, both shea nuts and kernels should be free of impurities, filth, and insect infestation. The tolerance for damaged product is 0.5% m/m and for moldy or decayed product 2%.

The AOS Standard also defines and provides tolerances for various contaminants. Shea kernel shall not contain heavy metals in amounts that may present a hazard to human health and shall not exceed the limits specified as follows: Lead 0.1 mg/kg, Arsenic 0.1 mg/kg, Iron 5.0 mg/kg, and Copper 0.4 mg/kg. In addition, the aflatoxin content of shea kernels shall not be more than 4Jlg/kg. Pesticide residues in shea nuts/kernels shall be in accordance with CAC/MR 2001

A. Safety in Food Products

The consumption of fats and oils typically presents two main types of food safety hazards, which must be examined with the peculiar properties of SB in mind:

1. **Toxic minor components in oils and fats originating from the oil crop**.

   SB differs from "normal" oils and fats by its high level of unsaponifiables. Hence, toxicity evaluation of SB usually concentrates on the health effects of the unsaponifiables. During fractionation, the unsaponifiables concentrate in the olein fraction. A reproduction study in rats fed with Shea olein showed no findings of toxicological significance (Ref. 14, Baldrich et al., 2001). Assessment of carcinogenic potential in rats fed with Shea olein showed no tumorigenic potential (Ref 15, Carthew, P. et al., 2001). Presence of allergenic reaction promoting proteins was not detected (Ref. 16, Chawla, K.K. et al., 2011).

2. **Contaminants introduced in the supply chain**. The main contaminants in oils and fats are: (a) pesticides used during crop growing or to protect the oil crop after harvesting; (b) poly aromatic hydrocarbons absorbed from exhaust gases or smoke during drying of the oil crop; (c) mycotoxins introduced by molds or fungus during growing or after harvesting, (in tropical areas mainly aflatoxins) and (d) hydrocarbons of mineral origin from previous cargoes in transport and storage, or from leaking lubricant and hydraulic oils.

The collection of shea nuts from naturally growing stands of trees, mostly in very rural and undeveloped areas, greatly reduces the possibility of pesticide contamination by application or drift, unless perhaps if fungicides are applied to control diseases such as molds - but the latter seems never to have been reported in West Africa with respect to shea.

As far as aflatoxins are concerned, their negative human health effects are well documented in the literature, especially with respect to liver cancer and co-morbity with Hepatitis A, and also in terms of immunosuppression, increased susceptibility to communicable disease, and arguably gut health (tropical enteropathy). At the same time, it is widely acknowledged that shea nuts and kernels may become contaminated from naturally occurring aflatoxins—particularly since the nuts are collected from the ground, and the causal organisms *Aspergillus flavus* and *A. parasiticus* are first and foremost soil-borne organisms. Yet no literature could be found to support the possibility that Aflatoxin contamination has been found in commercially handled shea nuts or kernels, and it is not known whether or how any initial contamination of nuts and kernels that does exist might persist after fractionation.

The risk of poly aromatic hydrocarbon contamination is minimized by promoting sun drying, while proper housekeeping in the supply chain should be applied to prevent contamination with hydrocarbons of mineral origin.

On balance, the food safety risks appear to be low as long as SB originates in a controlled supply chain in which the handlers test and control for heavy metal or aflatoxin contamination, look for products of rancidity, and prevent filth.

2. Safety in Cosmetic Products

According to the American Shea Butter Institute (ASBI), industry actors involved in using SB as an ingredient in personal care products such as cosmetics commonly distinguish between the Bioactive Fraction (which is not more than 10%) and the Moisturizing Fraction, which is the remainder. Only in recent years has industry acknowledged and exploited the fact that the Bioactive Fraction contains myriad substances with known (mostly beneficial, in reasonable quantities) health effects: vitamins A, E, and F; phytosterols, and other phytonutrients. Whether or not these chemicals have their potentially positive effects depends in part on the percentage of the Bioactive Fraction that remains after the refining process. ASBI asserts that products that contain say 5 or 6% are more beneficial than ones that contain only 3%. It also asserts that voluntary certification based on independent sampling and testing, coupled with grading, can help ensure not only a high share for the Bioactive Fraction but also acceptably low levels of the other contaminants mentioned previously. (Ref. 17, ASBI, 2015)

3. Nutritional Value in Food Products

Generally speaking, the main nutritional effects of oils and fats in food are related to the fatty acid composition. Figure 4 shows the fatty acid composition of Shea in comparison with other important oils

and fats. Similar to palm oil, cocoa butter and coconut oil, SB is high in saturated fatty acids. Saturated fats are correlated with a negative impact on cardiovascular diseases. The current nutritional recommendation is to limit the intake of saturated fatty acids to less than 10% of the daily energy intake (see WHO technical report series 916: Diet, Nutrition and Prevention of Chronic diseases, page 56). This is well above the maximum daily intake of SB or SB fractions in food.

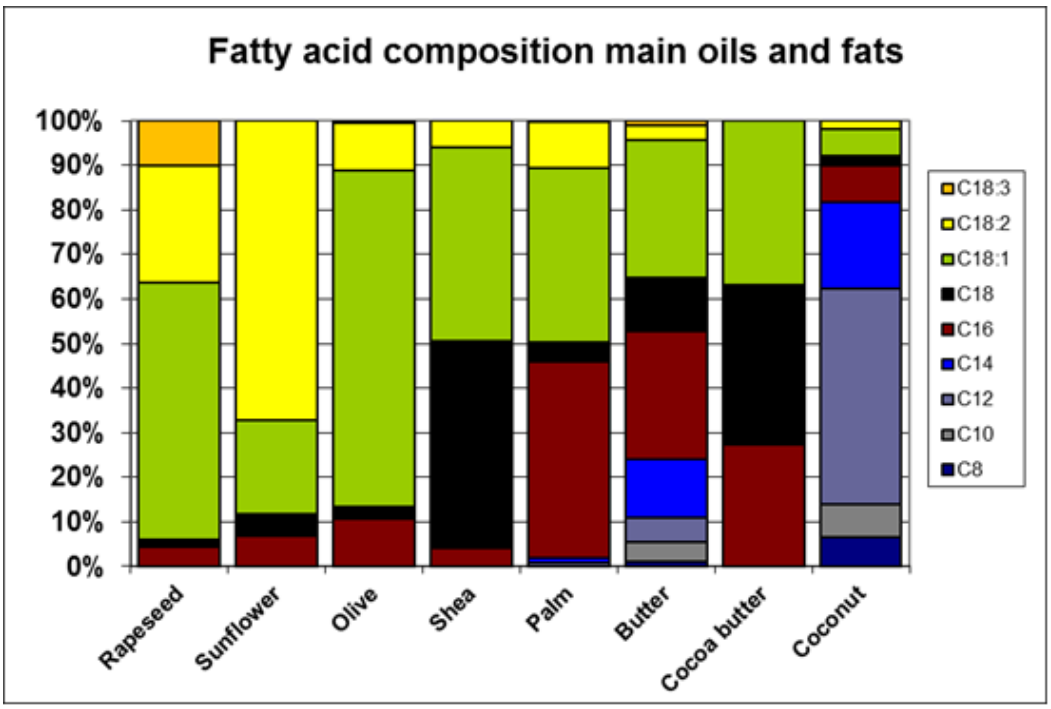

Figure 4: The fatty acid compositions of SB in comparison with some other oils and fats.

On basis of the identity and specifications, the manufacturing process, the common use before 1958, and safety information, The FDA affirmed the GRAS status of Shea oil in 1998 (Federal Register/vol. 63 No 101, May 27, 1998).

ANNEX

Terms of Reference
Trade Hub Network Project

Shea Specialist

1. Introduction

USAID/West Africa's Mission-wide goal is the West-African led advancement of social and economic well-being. This goal is supported by several development objectives, including "broad-based economic growth and resilience advanced through West African partners." The Trade Hub and African Partners' Network Project (the "Trade Hub") will contribute to this development objective by achieving two critical intermediate results:

1) Improving the capacity of West Africa's farmers and firms in targeted regional and global value chains.

2) Improving the business enabling environment by addressing transport constraints and trade barriers affecting the efficiency of the region's corridors and borders.

The Trade Hub will work through regional private sector associations and regional governmental entities to help channel all partners' efforts in a way that will address critical constraints to trade competitiveness, capture opportunities to expand trade, demonstrate West Africa's productive potential to investors, and facilitate greater investment in the region. Its results will include both an increase in 1) regional trade in key agricultural commodities, a critical Feed the Future (FTF) indicator, and in 2) value-added global exports, a targeted indicator for the Africa Competitiveness and Trade Expansion (ACTE) Initiative, which ultimately aims to increase Africa's share of world trade.

The project will build the capacity of several key groups of African partners—regional private sector associations and alliances, the Economic Community of West African States (ECOWAS), the Economic and Monetary Union of West Africa (UEMOA), a multi-donor funded Transport and Facilitation Observatory, and Global Development Alliances with private sector companies. As the Trade Hub works with associations and regional alliances, it will help them serve as leaders in promoting reforms, attracting buyers and investors, and adopting improved practices. Eventually, the Trade Hub's partners will act independently and take on even greater leadership roles.

The Trade Hub's major components are:

- Regional staple foods development (livestock and grains)
- Global value chain development (targeted agro-processing and manufactured consumer goods)
- Finance and investment
- Transport and the trade enabling environment
- Capacity building

- Communications
- Administration and management, including grants administration

2. Context for this Assignment

This assignment is to provide technical assistance in support of an important initiative of the Global Shea Alliance, a key Trade Hub partner. GSA is a membership organization with 350 member shea producers and suppliers. One of its objectives is to open new markets for shea products. The Alliance is pursuing an initiative to modify the Codex standard to include shea as a named vegetable oil. Many countries already use shea ingredients in their products, but having shea listed as a vegetable oil in the Codex standard will expand the market for shea-based ingredients in countries that utilize the standard. GSA is also lobbying for the Codex standard to define shea as a non-cocoa vegetable fat that can be added to chocolate and chocolate products. The European Union already defines the chocolate standard this way, but other countries interpret the standard otherwise. This modification will open the market for shea to chocolate and chocolate products. GSA has a strong advocacy and legal team and seeks technical assistance from an industry-based consultant to provide technical coordination in the background and justification for these Codex modifications.

3. Objectives

The main objectives of this assignment are for the consultant to:

a) Assist the GSA in providing information and advocacy in support of a change in the Codex standard that would define shea as a vegetable fat.
b) Assist the GSA in providing information and advocacy to change the definition of chocolate and chocolate products in the Standard to model the European Union definition, which includes shea as a non-cocoa vegetable fat substitute, thereby expanding the international use of shea in chocolate products.
c) Assist the GSA to create technical documents that will provide the background and justification for shea as a standard named vegetable fat and oil, and its use in chocolate. The technical documents will be submitted to the World Trade Organization (WTO) upon completion.

4. Expected Results or Deliverables

The expected deliverables are three 6-page technical documents:

- One document that justifies the definition of shea as a standard vegetable fat/oil in the Codex standard.
- One document that details the background on the use of shea in chocolate, particularly the European Union definition for use in chocolate.
- One document to engage WTO members on the definition of chocolate and chocolate products in the Codex standard.

5. Methodology

The consultant will:

- Research the background for the use of shea as a vegetable fat/oil and as a substitute in chocolate products

- Utilize his technical experience and networks in the lipids and shea industry to formulate a justification on its definition as a standard vegetable fat/oil.
- Utilize his technical knowledge of European Union standard definitions to justify the definition of shea in chocolate and chocolate products in the Codex standard.
- Draft and submit three 6-page technical documents supporting shea as a vegetable fat/oil and a substitute in chocolate.

6. Schedule and Level of Effort (six days/week)

Location	Task	On/about	LOE
Home base	• Preparatory work – research and outreach for background and justifications	Jan 12-14, 2015	3 days
Home base	• Draft and complete technical documents	Jan 15-18, 2015	3 days
Total			**6 days**

7. Reporting Relationships

The consultant will report to Abou Fall during this assignment and liaise with Joe Funt of the Global Shea Alliance. This will include regular email and phone check-ins through the 6-day period.

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Ref. 17: American Shea Butter Institute, Frequently Asked Questions (2015)