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TOPIC: SHEA BUTTER EXTRACTION AND PROCESSING

BY  
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# Introduction

- Shea butter is obtainable from the shea nut tree. In 1799, the Mungo Park made the first botanical drawings of the shea tree and gave it a scientific name dubbed *Butyrospermum parkii*.
- The Shea tree grows naturally in the wild dry Savannah belt of West Africa. Thus, 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.

# Introduction Cont'd

- In Ghana, Shea trees are found almost in the entire area of Northern Ghana which covers about 77,670 square kilometers in Western Dagomba, Southern Mamprusi, Western Gonja, Lawra, Tumu, Wa and Nanumba with Eastern Gonja having the densest stands.
- Also, there are sparse shea trees found in Brong Ahafo, Ashanti, Eastern and Volta regions.
- The shea tree's fruit is one of the naturally discovered fruits in Northern part of the country. The tree begins to bear fruits at maturity and start flowering by early November, with picking or gathering lasting from April to August every year.

## Importance of Shea Fruit to Man and the Nation

- It is a high income generated activity. It is usually referred to as the “Northern cocoa” because of its international export value. Thus, it is used in countries for pharmaceutical, cosmetics confectionaries, and for lubrication purposes.
- It serves as an improvement in the livelihood of our highly deprived poor women in the North since the money earned is used to buy food, clothes, pay school fees and medical bills
- It also serve as a source of foreign exchange products thus sold to wholesalers in exchange of other important goods
- It has granted some independence to women as they are now free to operate and access their own funds and avoid segregation from their male counterparts
- The waste products after kneading and separation act as a source of fire and medicine and further use to drive away mosquitoes
- It also serve as subsistence purposes (cooking oil, pomade, medicine and spiritual uses) for almost every citizen

## Measures Adopted to Protect Shea Tree

- There are bye-laws passed by the Municipal/ District Assemblies placing a ban on felling of Shea trees
- the Upper East Regional House of Chiefs have directed every chief in the region to initiate measures on the Shea tree. For example, the Chief of Bongo (Shea tree Ambassador) is credited with charging each culprit a cow with a pledge to plant and take care of trees to replace the destroyed ones
- NGOs such as ISODEC, TradeAid Integrated AND ActionAid are collaborating with the Ministry of Agriculture to educate people on the importance of the shea fruit and the need for its preservation and growth
- Government through Ghana Cocoa Board are constructing roads leading to cocoa and shea nut growing areas to enable easy extraction and transportation of products to avoid waste
- The product has gone through modernised rebranding, designing and packaging to add value to it

## **SHEA Butter Extraction Process**

- Shea butter is an activity that is typified by teamwork. This activity is carried out using traditional small-scale manual method. The method involves several stages:

- **Sorting or Gathering**

The ripe fruits fall from the trees and are picked by women therefore they sort the nuts to remove the black and moldy ones. Hence, some processors think the black nuts contain more oil

- **Washing**

Due to open transportation and storage methods, shea nuts become dusty by the time they are sold or used for shea butter extraction. Therefore, the shea nuts are washed with clean water to remove any dust. The flesh is removed and the wet nuts are par-boiled and sun dried to remove any excess water

## **SHEA Butter Extraction Process Cont'd**

- **Crushing**

Shea nuts are broken into smaller pieces to enable uniform roasting because it releases the butter from the cells of the shea nuts to enable high levels of extraction. It is usually done manually by hitting one or two nuts with a wooden mallet.

- **Roasting**

Traditionally, the roasting is done in open pans over open fires. Only small quantities can be handled at a time. The roasters can handle up to 80kg at a time and roasting/frying is completed in less than one hour per batch (for almost one hour duration). It

- **Milling**

After roasting, it is spread on the ground to cool. The cooled shea pieces are milled to a fine paste to enable mixing with water for separation of the butter. In the past it used to be done on stone querns. However, it is currently done in the local grinding mills.

## Shea Butter Extraction Process Cont'd

- **Kneading and Separation of Butter**

Kneading is the practice of beating the mixture of shea paste and warm water to separate crude butter from the mixture. After beating the mixture for 20 to 30 minutes or sometimes longer, the crude semi-solid butter emerges and floats on the water. This is scooped into pots and clarified later by boiling. The amount of butter released varies and this is related to the natural shea butter content of the nuts used, the effectiveness of roasting, and the temperature of the water during floatation of the crude butter.

- **Boiling to Clarify the Butter**

- The crude fat is semi-solid with high content of water, plant residue, carotenes and some phenolic compounds. The residue of mass from the nuts however, are impurities and are usually removed during boiling. The crude butter is placed in a boiling container (usually clay or iron pots) over fire and heated gradually until it simmers. This vaporises the water, causes the residue to settle at the bottom and the liquid oil to float.



## Shea Butter Extraction Process Cont'd

- **Filtration**

Some of the fine-sized impurities still remain after decanting. To remove these, processors must have access to water filters to adapt these for the filtration of the liquid oil while it is still slightly warm. This reduces the presence of impurities to a minimum; the market accepts 1% or less

- **Cooling and Conditioning**

Shea butter solidifies at room temperature. However, in order to achieve a smooth texture, the oil is stirred frequently during cooling. Containers used for this include clay pots, pans and calabashes. This stage may take up to 24 hours, depending on ambient temperatures.

# Conclusion

- Processing of sheanuts into butter is by individuals and family labour whereas in urban centres, it is mainly organised by cooperative groups under various facilitating non-governmental organisations.
- Most often, processors purchase their shea nuts from open market containing a mixture of shea nuts of varying quality.