



LIVING WITH WILDLIFE:
IMPROVING LIVELIHOODS
IN THE MOLE ECOLOGICAL
LANDSCAPE



Nature &
Development
Foundation



SHEA ROLLER TRAINING MANUAL

LIVING WITH WILDLIFE

Improving Livelihoods in the Mole Ecological
Landscape.

Figure 1; Woman carrying shea nuts

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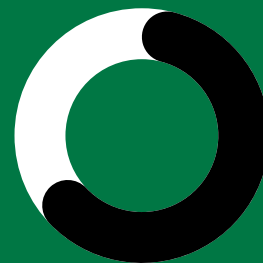
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FOREWORD

To ensure value for money and avoid duplication of effort, this manual for training on shea nut roller technology is developed for use by all interested persons without restriction. It is concise and user friendly.

I therefore recommend this manual for persons who will be leading training on sustainable shea nut collection with the objective to increase quality and quantity of the nuts collected.

In the long run, the application of knowledge acquired through the usage of this manual will not only increase the safety of women but also on the quantities collected with the benefit of increasing income of women in the shea landscape.

The expectation is to develop this nature-based solution to poverty and ecosystem services that anchor rural economic growth and sustainable living in the Mole Ecological Landscape.



MUSTAPHA SEIDU

EXECUTIVE DIRECTOR
NATURE AND DEVELOPMENT FOUNDATION



PREFACE

In the heart of communities where shea trees flourish, the humble shea nut has long been an economic lifeline. The rich oil extracted from these nuts, known as shea butter, has not only played a vital role in traditional skincare and culinary practices but has also emerged as a valuable commodity in global markets.

Yet, the process of harvesting shea nuts has often been labor-intensive, physically demanding, and fraught with challenges.

This training manual represents a significant step towards addressing these challenges by introducing the concept of the Shea Nut Roller—a tool designed to revolutionize the collection of shea nuts from the ground.

By promoting a more sustainable, efficient, and user-friendly approach to shea nut collection, this manual aims to empower communities and individuals who rely on shea nut harvesting as a means of livelihood.

"Empower communities with the Shea Nut Roller—an innovative tool transforming shea nut collection. Revolutionizing harvests for sustainability, economic growth, and ecosystem conservation. A collaborative step towards a brighter future."

BAMBILLA MIDAS

Community Development Consultant

Throughout these pages, you will find a wealth of information on the Shea Nut Roller, from its components and assembly to maintenance and usage.

Additionally, we've provided practical guidance on preparation, rolling techniques, and safety precautions, ensuring that those who use this tool can do so effectively and safely.

We believe that the adoption of Shea Nut Rollers has the potential to enhance not only the economic prospects of shea nut collectors but also the conservation of shea tree populations and their ecosystems.

The benefits of this tool extend far beyond convenience; they encompass sustainability, quality preservation, and the reduction of physical strain.

This manual is a testament to the power of innovation and collaboration. It is the result of efforts from diverse stakeholders—local communities, experts, and organizations—that share a common goal: to improve the lives of those involved in shea nut collection.

We hope that this manual serves as a valuable resource for all those who seek to optimize their shea nut harvesting practices and contribute to the preservation of this extraordinary natural resource.

By embracing the Shea Nut Roller, we take a step towards a more sustainable and prosperous future for all.



INTRODUCTION

TRADITIONAL VRS SHEA ROLLER METHODS OF SHEA NUT COLLECTION.

While hand-picking shea nuts is a traditional method that has been used for generations, it does come with certain disadvantages, particularly when compared to more modern methods like using shea rollers. Here are some disadvantages of picking shea nuts by hand:

Labor-Intensive: Hand-picking shea nuts can be physically demanding and labor-intensive, especially when the grasses are tall, this will always demand more hands to pick more quantities. This can lead to fatigue and an increased risk of injuries.

Slower Process: Hand-picking is generally slower compared to using mechanical tools like shea rollers. This can lead to longer working hours and reduced efficiency, especially in areas with high shea nut production.

Lower Yield: Hand-picking may result in a lower yield of shea nuts as it can be challenging to reach all the nuts within the tree canopy. Some ripe nuts may remain uncollected, leading to potential economic losses.

Quality Issues: Hand-picking increases the risk of damaging shea nuts during the harvesting process. This can reduce the quality of the nuts and affect the oil yield during processing.

Safety Concerns: Picking shea nuts by hand-pick can be hazardous, particularly if safety precautions are not taken. It makes you prone to snakes, scorpion bites, and other dangerous insects or animals which may lead to injuries.

Contamination: When shea nuts are hand-picked from the ground, they may encounter dirt, leaves, and other contaminants, which can affect the quality and cleanliness of the nuts.

Efficiency: Hand-picking may not be as efficient as using tools like shea rollers, especially in large-scale shea nut collection operations. This can negatively impact the overall productivity in the shea nut industry.

Physical Strain: Prolonged hand-picking can lead to physical strain and discomfort, particularly in the neck, shoulders, and back. This can have long-term health implications for the harvesters.

However, the use of shea rollers in picking shea nuts offers several advantages over traditional hand-picking methods. Shea rollers are particularly beneficial for improving efficiency, reducing physical strain, and increasing the overall yield and quality of harvested shea nuts.

Here are some key reasons why shea rollers are advantageous:

Economic Benefits: The use of shea rollers can lead to increased income for communities engaged in shea nut collection. The efficiency and higher yield can translate into more nuts to sell or process into value-added products like shea butter, soap, and many other medicinal products.

Efficiency: Shea rollers allow for quicker and more efficient collection of shea nuts compared to hand-picking. This is especially valuable in areas with a high volume of shea nut production, as it can significantly reduce the time and labor required for harvesting.

Higher Yield: Shea rollers can often reach more shea nuts on the floor within the tree canopy, which might be challenging to access by hand. This means that more of the ripe shea nuts can be collected, increasing the overall yield.



Figure 2: Women Drying shea nuts.

Reduced Physical Strain: Hand-picking shea nuts can be physically demanding, particularly for women who are typically responsible for this task. Shea rollers are designed to reduce strain on the body, making it a more comfortable and less stressful method for collection of shea nuts, especially for long hours of work.

Less Damage to Nuts: When shea nuts are hand-picked, there is a higher risk of damaging the nuts, which can reduce their quality and oil yield. Shea rollers are designed to minimize such damage, ensuring that the nuts remain intact with higher quality.

Safety: Shea rollers are equipped with long handles and collection containers that reduce the need for pickers to bend down with their hands to collect the nuts. This can enhance safety by reducing the risk of snake bites on the hands and other injuries associated with manual collection.



Figure 3: Women gathering shea nuts.



Figure 4; Shea Rollers in action

CONCEPT OF THE SHEA NUT ROLLER

The concept of shea nut roller is a practical and sustainable tool designed for the efficient collection of shea nuts from the ground. This tool is particularly valuable in regions where shea trees are abundant, and their nuts are a vital economic resource. Here's a breakdown of the key components and benefits of the shea nut roller:

COMPONENTS OF THE SHEA NUT ROLLER

Two Metallic Cylinders: The shea nut roller consists of two metallic cylinders. These cylinders are typically cylindrical in shape and are designed to rotate freely.

Handle: A nicely shaped wooden handle is attached to the metallic cylinders, allowing users to grasp and manipulate the tool easily.

FUNCTIONALITY OF THE SHEA NUT ROLLER

Collection from the Ground: The primary purpose of the shea nut roller is to collect shea nuts from the ground. It is a non-intrusive method that doesn't require the use of hands to collect them directly.

Rolling Action: To collect the nuts, users roll the shea nut roller back and forth over the ground surface. As the tool moves, the metallic cylinders rotate, catching the shea nuts in the grooves or gaps between them.

Efficient and Non-Damaging: The design of the shea nut roller allows for efficient collection without damaging the nuts. It minimizes the need for manual labor and reduces the risk of injuries associated with hand-picking.

When using shea nut rollers, it is important to take some safety precautions.

These include:

- Always wear Wellington boots and hand gloves to protect your skin from the sharp edges of the rollers.
- Be careful not to roll over your feet or other body parts.
- If you are using the rollers in a remote area, be sure to let someone know where you are going and when you're expected to be back.

ASSEMBLY

Assembling shea nut rollers is a straightforward process, and following these steps will help ensure that they are properly assembled and ready for use:

1 Attach the Metallic Cylinders to the Handle

- Take the handle of the shea nut rollers.
- Locate the two metallic cylinders that will serve as the rollers.
- Slide one end of each metallic cylinder onto the handle. They should fit snugly onto the handle.

2 Ensure Tight and Secure Fit

- After attaching the metallic cylinders to the handle, check to ensure that they are tightly and securely attached. There should be no wobbling or looseness

3 Test for Smooth Rolling

- Hold the assembled shea nut roller in your hands.
- Roll them back and forth on a flat surface or your palm to test their functionality.
- Ensure that the rollers move smoothly without any obstructions or unevenness.
- By following these assembly steps and conducting a test for smooth rolling, you can be confident that your shea nut rollers are correctly assembled and ready for efficient shea nut collection.



PREPARATION BEFORE SHEA NUT COLLECTION

Before you start collecting the shea nuts with the roller, you need to prepare.

This involves:

- Take a surveillance walk around the shea tree to observe the nuts on the floor.
- Map out the surveyed area into zones to ensure you don't leave others unpicked.
- Make sure you go with a temporal storage device (sack or basin)
- Pick up the shea nuts from the ground according to the mapped zones.
- Removing any dirt or debris from the nuts.
- Spread the nuts out in a single layer to prevent spoilage and enhance even drying.



Rolling Technique

To roll the shea nuts roller, follow these steps:

- Stand over the nuts and hold the rollers in both hands.
- Roll the rollers back and forth over the nuts.
- Be careful not to apply too much pressure, as it can damage the nuts.
- Continue rolling until all the nuts have been collected.
- Remove the nuts from the roller when the cylinder is full.

STORAGE AND MAINTENANCE

When you are finished using the shea nut rollers, it is important to store them properly. This will help extend their lifespan.

To store the rollers, follow these steps:

- Wipe the rollers clean with a damp cloth.
- Store the rollers in a dry place.
- Avoid storing the rollers in direct sunlight or humid conditions.



TROUBLESHOOTING

- If you encounter any problems while using the shea nut rollers, here are some possible solutions:
- If the rollers are not rolling smoothly, check to make sure that they are tight and secure.
- If the rollers are picking up dirt or debris, try cleaning them with a damp cloth.
- If the rollers are damaging the nuts, try applying less pressure.



FREQUENTLY ASKED QUESTIONS

Here are some frequently asked questions about shea nut rollers:

What are the benefits of using shea nut rollers?

Shea nut rollers are a sustainable way to collect shea nuts. They do not damage the nuts, and they are less labor-intensive than other methods of collection.

They increase quantities collected within lesser periods.

How do I choose the right shea nut rollers?

When choosing shea nut rollers, you need to consider the following factors:

- The size of the rollers. The rollers should be large enough to collect the shea nuts.
- The weight of the rollers. The rollers should be lightweight enough to be easy to use.
- The material of the rollers. The rollers should be made of a durable material that will not damage the nuts.

How do I maintain shea nut rollers?

To maintain shea nut rollers, you need to:

- Wipe them clean with a damp cloth after each use.
- Store them in a dry place.
- Avoid storing them in direct sunlight or humid conditions.

ENVIRONMENTAL BENEFITS OF SHEA RESIDUE FOR SUSTAINABLE SOCIO-ECONOMIC OPPORTUNITIES

In the pursuit of sustainable development, the recycling of agricultural and industrial waste, particularly shea residues (*Vitellaria paradoxa*), is gaining significant attention.

From a socioeconomic perspective, shea is of great value due to the medicinal, culinary, and cosmetic properties of its butter, and it is relatively abundant across many African countries.

In the Republic of Chad, for instance, shea industries yield an annual production of 556,000 tons of almonds. While the nuts are primarily utilized for butter production, the nut shells, which constitute the woodier portion of the fruit, present an alternative resource for the creation of activated carbons.

This innovative use of shea nut shells offers several advantages. Economically, it adds value to what was once considered waste material.

From an environmental standpoint, it contributes to the reduction or near-elimination of greenhouse gas emissions associated with traditional waste disposal practices.

Moreover, in terms of public health and sanitation, it prevents the generation of pollutants that can be harmful to humans

Conclusion



In conclusion, shea nut rollers offer a practical and sustainable solution for collecting shea nuts from the ground. These versatile tools are designed to streamline the harvesting process while ensuring the well-being of shea trees and reducing labor intensity. Key takeaways about shea nut rollers include:

Sustainability: Shea nut rollers contribute to sustainable shea nut collection practices by minimizing the impact on shea tree populations and their ecosystems.

Efficiency: They improve the efficiency of the shea nut collection, making it easier and less time-consuming for harvesters.

Ease of Use: Shea nut rollers are user-friendly and require minimal training, making them accessible to a wide range of individuals, including women who often play a significant role in shea nut collection.

Quality Preservation: These tools are designed to handle shea nuts gently, helping maintain the quality of the harvested nuts, which is crucial for further processing.

Safety: Shea nut rollers eliminate the need for climbing trees, reducing the risk of accidents and injuries during the collection process.

Low Maintenance: They are relatively easy to maintain, ensuring their longevity and continued usability.

Overall, shea nut rollers are a valuable addition to the toolkit of communities engaged in shea nut collection, enhancing both the efficiency of the harvest and the sustainability of this vital economic activity.

Their use contributes to the preservation of shea tree populations and the well-being of those who depend on shea nuts for their livelihoods.



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