





# National Strategy for the Conservation and Sustainable Use of the Threatened Shea Butter Trees in Uganda









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#### National Strategy for the Conservation and Sustainable Use of the Threatened Shea Butter Trees in Uganda

**MARCH 2015** 

#### **FOREWORD**

Biodiversity forms the basis for human wellbeing and national development. But loss of biodiversity and ecosystem services is a threat to the continuous flow of these benefits especially for the future generations. In Uganda, biodiversity is being lost at all the three levels namely species, genetic and ecosystem diversity. Addressing the underlying causes of biodiversity loss is fundamental in reducing or halting loss of biodiversity and ecosystems. In Uganda poverty is one of the underlying causes contributing to biodiversity loss including the shea butter trees in northern Uganda.

Government has put in place interventions to improve livelihoods of the poor and especially the local communities who are the custodian of biodiversity and ecosystem services. His Excellency the President of the Republic of Uganda Yoweri Kaguta Museveni launched Vision 2040 on 18<sup>th</sup> April 2013. The National Vision 2040 aims at transforming the Ugandan society from a peasant to a modern and prosperous country within 30 years.

The National Strategy for the Conservation and Sustainable Use of Threatened Shea Butter Trees has been developed by Government to contribute to the achievement of the following:

- a) Vision 2040, the National Development Plan II, the National Biodiversity Strategy and Action, the Strategic Plan for Biodiversity 2011-2020 adopted under the Convention on Biological Diversity (CBD) and the Sustainable Development Goals;
- b) The Presidential Directive of 2006 on the protection of the shea butter trees and valuation addition to shea products:
- c) Mobilization of financial resources to support actions on enforcement, awareness, tree planting, restoration and support to local communities on value addition;

I call upon relevant Government ministries, departments and agencies; the academia and research institutions; local governments; NGOs and the private sector to make use of this Strategy to protect and promote sustainable use options for the shea butter trees to secure the vital ecosystem services that they provide national development and for the benefit of the present and future generation.

Hon. Flavia Munaaba Nabugere

MINISTER OF STATE ENVIRONMENT

#### **ACKNOWLEDGMENT**

The National Environment Management Authority (NEMA) is required under section 41(2) of the National Environment Act Cap 153, in consultation with the relevant lead agencies, to issue guidelines and prescribe measures for the conservation of biodiversity by among others:

- a) specifying national strategies, plans and programmes for the conservation and sustainable use of biodiversity;
- b) determining the component of biodiversity that is threatened with extinction; and
- c) identifying potential threats to biological diversity and devise measures to address them.

Loss of biodiversity and ecosystem services in Uganda is greatest outside protected areas. The shea butter trees are a component of biodiversity and loss of the tree due to destructive use results in loss of the species, genes and ecosystem services associated with the shea trees. The shea butter trees are among the biodiversity that occur outside protected areas in communal and private lands in northern Uganda. This is a big challenge.

NEMA has since 2008 engaged relevant stakeholders at the national, district and local communities level in the shea belt districts on the protection and sustainable use of this very important tree. The engagement has culminated in the development of the National Strategy for the Conservation and Sustainable Use of the Shea Butter Trees in Uganda. Another outcome of the consultation is the GEF support to Uganda for a project in the Kidepo Critical Landscape with component on supporting local communities on value addition on shea products to sustainable use of the shea butter tree resources.

I take this opportunity to sincerely thank all those who contributed to the development of the Strategy. It is a job well done. In a special way I thank Mr. Sabino Francis Ogwal for coordinating the development of this Strategy on behalf of NEMA.

Dr. Tom .O. Okurut EXECUTIVE DIRECTOR

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

#### **ACRONYMS**

CBD	Convention on Biological Diversity
BFP	Budget Framework Paper
CFR	Central Forest Reserve
CHM	Clearing House Mechanism
FSSD	Forest Sector Support Department
GEF	Global Environment Facility
GoU	Government of Uganda
LFRs	Local Forest Reserves
LGs	Local Governments
MoU	Memorandum of Understanding
NAADS	National Agricultural Advisory Services
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NCRI	National Chemotherapeutic Research Institute
NCRI	National Chemotherapeutic Research Institute
NCRI NEMA	National Chemotherapeutic Research Institute  National Environment Management Authority
NCRI NEMA NES	National Chemotherapeutic Research Institute National Environment Management Authority National Export Strategy
NCRI NEMA NES NUSAF	National Chemotherapeutic Research Institute National Environment Management Authority National Export Strategy Northern Uganda Social Action Fund
NCRI NEMA NES NUSAF PCE	National Chemotherapeutic Research Institute National Environment Management Authority National Export Strategy Northern Uganda Social Action Fund Policy Committee on Environment
NCRI NEMA NES NUSAF PCE PES	National Chemotherapeutic Research Institute National Environment Management Authority National Export Strategy Northern Uganda Social Action Fund Policy Committee on Environment Payment for Ecosystem Services
NCRI NEMA NES NUSAF PCE PES PRDP	National Chemotherapeutic Research Institute National Environment Management Authority National Export Strategy Northern Uganda Social Action Fund Policy Committee on Environment Payment for Ecosystem Services Peace, Recovery and Development Programme
NCRI NEMA NES NUSAF PCE PES PRDP SDGs	National Chemotherapeutic Research Institute National Environment Management Authority National Export Strategy Northern Uganda Social Action Fund Policy Committee on Environment Payment for Ecosystem Services Peace, Recovery and Development Programme Sustainable Development Goals

#### **EXECUTIVE SUMMARY**

The shea butter trees are very important biodiversity resource for the local communities in north and north-eastern, the people of Uganda in general and the global community. The most important product of *Vitellaria paradoxa* is shea butter. Shea butter is a butter obtained from the nuts of Shea butter trees. Traditionally most of the shea nuts collected are processed into shea butter for home consumption and to meet local market demand. The fruits from shea trees are important source of food for local communities. The fruits of the shea trees ripen just before the harvest of crops and therefore greatly supplement the diet of the local communities.

The most important traditional uses of shea butter are for cooking, dressing hair, protection against the weather and sun, as a rub to relieve joint pains, to heal wounds and swelling and bruising, skin problems such as dryness and dermatitis and to massage pregnant women and small children. The shea oil is also eaten in a sauce which also forms one of the most treasured traditional dishes in northern Uganda. Roots and root bark are ground to a paste and taken orally for the treatment of diarrhea and stomach-ache. The tree is much sought after for placing hives in traditional apiculture,

Today, shea nuts are important internationally and are sold to European and Japanese food industries. The refined fat is sold as baking fat and margarine. Shea-butter, or shea-oil, is used in modern factories to produce baking fat, margarine, cocoa butter substitutes and various moisturizing beauty and pharmaceutical products. Dermatologists are starting to recommend it to their patients for treatment of eczema, rashes, burns and severely dry skin. Shea butter is rapidly becoming one of the top moisturizing agents in use today. Shea butter soap is manufactured in Togo and other West African countries.

Shea butter is used as a base for many commercial preparations. Increasingly, cosmetics, especially those that prevent skin drying and good-quality lipsticks, use shea butter. Shea butter is naturally rich in Vitamins A and E as well as a number of other vitamins and minerals. Vitamins A and E help to soothe hydrate and balance the skin. Shea butter has a fatty composition similar to that of cocoa butter, so is often used as a

substitute for cocoa, and in pastry because it makes highly pliable dough. The shea fruit has enormous nutritional benefits that are also important for health purpose.

Before the civil war in northern Uganda, shea butter trees were sustainably used and protected by the local communities – only fruits collected, pulp eaten and oil processed for local use. Anyone found cutting a live shea tree would be summoned by the local leaders and punished. However during the civil war that begun in 1986 and lasted for nearly two and half decades shea butter trees were cut for charcoal production. The charcoal is apparently very good compared to other tree species because of the thick layers of the wood developed over many years (some over 300 years). As people return to their homes from IDPs, there is massive cutting of the shea trees for charcoal production.

Thus despite the importance of shea butter trees to both Ugandans and the international community, the resource is under serious threat due to the high demand for charcoal from the tree. This is taking place in all the districts where shea butter trees are found. This Strategy has been developed and put in place by Government to provide a framework for coherent planning and implementation of measures aimed at eliminating destructive utilization of the shea butter trees while promoting sustainable use options of the resource. The implementation of this Strategy contributes to implementation of the Presidential Directive on shea nut trees; Vision 2040; the National Development Plan II; the National Biodiversity Strategy and Action (NBSAP) 2015-2025; the global Strategic Plan for Biodiversity 2011-2020 and the Sustainable Development Goals (SDGs).

Furthermore the Strategy provides the opportunity for Government to mobilize needed financial resources for co-financing and up-scaling of the GoU/GEF project on the Conservation and Sustainable Use of Threatened Savannah Woodland in north eastern Uganda. This project is a pilot covering only 4 (Abim, Otuke, Agago and Kitgum) out of the 16 shea belt districts. More resources to cover the other twelve districts where destruction of the shea butter trees is taking place is of utmost importance.

The Strategy has guiding principles, goal, mission, objectives, strategies and targets, activities, outputs and outcomes. The guiding principles are:

- a) Biodiversity loss in Uganda is highest outside protected areas and urgent measures are needed to halt or reverse this trend.
- b) Every individual in the shea belt districts and Uganda as whole has a Constitutional responsibility to ensure clean and healthy environment.
- c) Community-based approach to the protection and sustainable use of shea butter trees is vital for the success of the interventions used.
- d) Enforcement of environmental laws, ordinances and by-laws and awareness creation is necessary to halt further destruction of the shea butter trees.
- e) Traditional knowledge and practices on the use and protection of shea butter trees must be recognized and integrated into the interventions/ measures for sustainable use of shea butter trees.
- f) The participation of the private sector in the protection and sustainable use of shea butter trees is crucial and must be promoted.
- g) Livelihood improvement for local communities is an area that needs to be addressed during the implementation of this strategy. Therefore economic incentives should be promoted to complement regulatory measures.
- h) Support from development partners and donors are vital for implementation of this Strategy and must therefore be explored.
- The shea butter trees in Uganda occur in the fragile savannah ecosystems that should be protected from destruction to avert irreversible environmental damage.

#### The goal

Shea butter trees are managed and used sustainably for livelihood improvement and enhancement of environmental quality and productivity

#### The mission

To halt destructive use of shea butter trees and promote sustainable use options.

#### **Objectives**

The Strategy has five strategic objectives:

 To enhance compliance to environmental laws, ordinances and by-laws relating shea butter tree resources;

- To support tree growing and shea butter tree regeneration for enhancement of environmental quality and livelihood improvement of local communities;
- To enhance the marketing of products from shea butter trees at the local, national and international levels:
- d) To support/strengthen research on sustainable management of shea tree resources, utilization and value addition to shea products;
- e) To strengthen coordination and collaboration at local, national and international levels.

Implementation of the strategy will not be possible without adequate financial resources. Implementation of the strategy is estimated at a total to cost of US\$ 21, 650,000 over the 10-year period. Implementation of the first five years is estimated at a cost of US\$ 12, 650,000 which is US\$ 2,530,000 per annum while the last five years (second phase) is estimated to cost US\$ 9,000,000 which is US\$ 1,800,000 per annum.

Government of Uganda (GoU) and local governments are expected to provide financial resources for implementing the Strategy. Government agencies will also take advantage of existing Government programmes such as PRDP and NUSAF for leveraging funds. Development partners; multi-lateral agencies; Payment for Ecosystem Services (PES) and initiatives under international climate change funds are another entry points for resource mobilization for implementing the Strategy.

The strategy is divided into five chapters. The distribution, utilization and status of shea butter trees are highlighted in Chapter one. Chapter two presents the strategy for the conservation and sustainable use of shea butter trees. The guiding principles, goal, mission, objectives, activities and outputs, expected outcomes and life span of the strategy are described in this chapter. Chapter three is on resource mobilization for implementation of the strategy.

Chapter four gives a description of the institutional arrangement for implementation of the strategy. Monitoring, reporting and evaluation are covered in Chapter five. NEMA will coordinate, monitor and supervise implementation of the Strategy on behalf of Government.

# DISTRIBUTION, UTILIZATION AND STATUS OF SHEA BUTTER TREES

#### 1.1 Distribution of shea butter trees

The shea butter tree (*Vitellaria paradoxa*) is indigenous to Sub-Saharan Africa. The tree came to the attention of the scientific world only at the end of the 18<sup>th</sup> century. However, as early as the 14<sup>th</sup> century, there were reports of shea butter as a traded commodity. The travel notes of the explorer Mungo Park, published in 1779, spoke in glowing terms of shea butter.

Shea butter trees are found in unbroken belt approximately 6,000 km long by 500 km wide from Senegal to Uganda and Ethiopia. The species is of African origin. Shea tree occurs in 19 countries across the African continent namely: Benin, Ghana, Chad, Burkina Faso, Cameroon, Central African Republic, Democratic Republic of Congo, Ethiopia, Guinea Bissau, Guinea, Cote D'Ivoire, Mali, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Togo and Uganda (Fig 1). In Uganda the trees are found in a belt covering the following districts: Lira, Otuke, Alebtong, Pader, Agago, Dokolo, Soroti, Serere, Amuria, Katakwi, Abim, Moyo, Arua, Kitgum, Nebbi and Nakasongola (Fig. 2)



Figure 1: Distribution of shea butter trees in Africa (green colour)

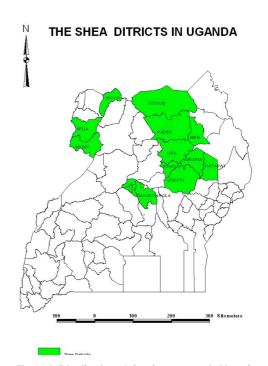


Figure 2: Distribution of shea butter trees in Uganda

Shea butter trees prefer dry and sandy clay soils with a good humus cover but also tolerate stony sites. The plant survives in areas of 600 -1400 mm rainfall per year and an altitude of between 100-1200m a.s.l. It has a thick bark which protects it from bush fires. Shea trees grow naturally in the grasslands and do not need irrigation, fertilizer, or pesticides. Shea butter tree is one of the Africa's most sustainable natural resources.

The hermaphroditic flowers are usually cross-pollinated, but can be self-pollinated. Insects, especially bees, are important for pollination. Flowering lasts 30-75 days and the fruit takes 4-6 months to develop, reaching maturity early in the rainy season. The sugary pulp of the fruit makes it attractive to a wide range of animals. A large variety

of birds and primates, including humans, eat them, dispersing the seed in the process.

Existing tree populations remain essentially unmanaged with the annual crop of kernels being collected from what are, in effect, wild trees. The shea tree is a light-demanding species of open sites and parkland savannah forming extensive pure stands in some areas but often also associated with other trees. The extensive root system is essential for survival in the 5 to7-month dry seasons of savannah climate.

Shea butter trees grow very slowly and start bearing fruit after 15 to 20 years and continue to do so every year for the rest of its life span. The average life of the shea butter tree is estimated to be more than 300 years. Shea butter tree is a deciduous tree, about 10 to 15 meters in height. Mature trees are preserved during land clearance for farming and thus form part of the indigenous farming system. The trees benefit from the agronomic practices employed for the annual crops such as weeding.

Ripe fruits from shea trees that fall directly to the ground germinate easily if the soil is moist, but many seedlings succumb to drought and bush fires. Germination is cryptogeal; that is, the shoots arise from belowground even though the seed germinate on the surface. In terms of propagation and management, fresh seeds germinate well. Growing directly in situ is sometimes recommended because of the long taproot and transplanting difficulties. Seedlings raised in pots should be out-planted after 14-24 weeks. Wide spacing, site preparation and elimination of weed competition as well as protection against fire and browsing are essential.

#### 1.2 Utilization of the shea trees

Shea butter trees are a very important resource due to its significant ecological and economic potential for livelihood improvement. The fruit pulp can be eaten by both humans and animals. It plays a significant role in the livelihoods of many parkland communities. All the tree parts such as fruit, roots, leaves and bark are very useful. The shea fruit is very important because of the shea butter/oil extracted from it. Shea oil has enormous nutritional and health benefits besides income. In Uganda the shea fruits are collected between April - July each year and mainly by women and children. Shea fruits have very short shelf life of just 2 days.

#### 1.2.1 TRADITIONAL USE

The most important product of *Vitellaria paradoxa* is shea butter. Shea butter is a butter obtained from the nuts of Shea nut trees. Traditionally most of the shea nuts collected are processed into shea butter for home consumption and to meet local market demand. The fruits from shea trees are important source of food for local communities. The fruits of the shea trees ripen just before the harvest of crops and therefore greatly supplement the diet of the local communities.

The most important traditional uses of shea butter are for cooking, dressing hair, protection against the weather and sun, as a rub to relieve joint pains, to heal wounds and swelling and bruising, skin problems such as dryness and dermatitis and to massage pregnant women and small children. The shea oil is also eaten in a sauce which also forms one of the most treasured traditional dishes in northern Uganda. Roots and root bark are ground to a paste and taken orally for the treatment of diarrhea and stomach-ache. The tree is much sought after for placing hives in traditional apiculture.

#### 1.2.2 COMMERCIAL USE

Shea butter products are increasingly becoming popular globally and it is envisaged that as the demand grows there will be need for sustainable management of the shea butter trees. When aggregated, Africa has a potential of exporting about 263,000 metric tons of shea products annually. However, only about 150,000 metric tons of dry shea kernels are currently exported. The current commercial enterprises dealing in shea products include Guru Nanak Oil Mills located in Lira Town, Covol Uganda Ltd located at Adwari Trading Centre in Otuke District, Wings of Time in Kampala, Nile Women Imitative, a women group based in Moyo district, Blessed Organic in Pader and Beads for Life.

Today, shea nuts are important internationally and are sold to European and Japanese food industries. The refined fat is sold as baking fat and margarine. Shea-butter, or shea-oil, is used in modern factories to produce baking fat, margarine, cocoa butter substitutes and various moisturizing beauty and pharmaceutical products. Dermatologists are starting to recommend it to their patients for treatment of eczema, rashes, burns and severely dry skin. Shea butter is rapidly becoming one of the top moisturizing agents in use today. Shea butter soap is manufactured in Togo and other West African countries. Shea butter

extracted from the nuts is one of the most affordable and widely used vegetable fats in the Sahel.

Shea butter is used as a base for many commercial preparations. Increasingly, cosmetics, especially those that prevent skin drying and good-quality lipsticks, use shea butter. Shea butter is naturally rich in Vitamins A and E as well as a number of other vitamins and minerals. Vitamins A and E help to soothe hydrate and balance the skin. Shea butter has a fatty composition similar to that of cocoa butter, so is often used as a substitute for cocoa, and in pastry because it makes highly pliable dough. The shea fruit has enormous nutritional benefits that are also important for health purpose. Studies carried out by Natural



The shea fruit

Chemotherapeutic Research Institute (NCRI) have established that shea fruit contains the following:

- a) Crude fat 1.5-3.5 g/100g.
- b) Crude protein 3-4 g/100g.
- c) Total carbohydrates 60-64g/100g.
- d) Vitamin C 80-120mg/100g.
- e) Vitamin E alpha tocopherol -30-50mg/100g
- f) Essential mineral
- g) Ca (35.18-95.58 mg/100g)
- h) K (42.04-63.55 mg/100g)
- i) Mg (18.14-24.21mg/100g)
- j) Na (7.07-18.12 mg/100g) & Fe (3.41-3.76 mg/100g)



Shea butter

Shea oil is yellow or brown when hot and has a unique characteristic aroma aroma with a Reflective Index (R.I)

of 1.467-1.469, viscosity of 2.4-2.8 cP (at a melting point of 35°C), Acid value of <5.0 mgKOH/kg, Peroxide value of <3.0mEqkg, Saponification value of 160-195mKOg/g, Iodine value of 36-60 1<sub>2</sub>, and Vitamin E-alpha tocopherol-30-50mg/100g. Analysis of fatty acid composition of the shea oil by NCRI shows that it has the following: Palmitic acid- 6-8%; Stearic acid -28-30%; Oleic acid-55-57%; Linoleic acid- 6-8% and Arachidic acid -0.6-1%.

When properly dried shea kernel has a moisture content of 12%. Traditionally, the dry kernels are mainly stored in houses, granaries and kitchen. The shelf life of kernel is between 9 - 12 months. From laboratory experiments carried out by NCRI, the kernels contain 40-54% shea oil yield. The oil sold by local communities to generate income. Other products derived from shea are mosquito repellent and larvicide, oil for cultural functions, local salt, preservative, traditional medicine for wounds and medicine for treating chicken disease known as twakatwaka in Lango.

The wood of a shea tree is brownish-red, darkens readily on exposure; strong, hard, heavy, durable, resilient, and weathers and wears well. Despite its hardness, it saws and planes well, takes an excellent polish, and glues, nails and screws well, but preboring is advisable to prevent splitting. Wood is used in engineering structures, house posts and support poles, also in ship building, for shingles, stakes and fencing, sleepers, medium and heavy-duty flooring, joinery, seats, household utensils, durable platters and bowls, pestles and mortars and tool handles. It is termite resistant.

#### 1.3 Status of shea butter trees in Uganda

Before the civil war in northern Uganda, shea butter trees were sustainably used and protected by the local communities – only fruits collected, pulp eaten and oil processed for local use. Any one found cutting a live shea tree would be summoned by the local

leaders. However during the civil war that begun in 1986 and lasted for nearly two and half decades shea butter trees were cut for charcoal production. The charcoal is apparently very good compared to other tree species because of the think layers of the wood developed over many years (some over 300 years). Buyers demand for charcoal from shea trees. As people return to their homes from IDPs, there is massive cutting of the shea trees for charcoal production due to the increasing demands.

Thus despite the importance of shea butter trees to both Ugandans and the international community, the resource is under serious threat due to the high demand for charcoal from the tree. This is taking place in all the districts where shea butter trees are found. This is not only leading to loss of the species but also degradation of the fragile parkland savannah

ecosystems and loss of ecosystem services provided by the shea buttere trees. Already northern region is expressing increase in the dry spells especially in areas where there is heavy destruction of the shea butter trees.

Nearly all the shea butter trees are now known to have been **decimated in Nakasongola district** for charcoal production. A degraded environment especially along the shea belt (a fragile savannah ecosystem) will in turn affect agricultural production, undermine poverty eradication efforts and render local communities more vulnerable to the adverse impacts of climate change. The future cost of restoration from inaction now will be much higher for society and Government if action is not taken now to stop destruction of the shea butter trees.







Fig. 3 (above): Cutting of the shea butter trees in Otuke and cutting of the tree in Agago. The trees are cut for charcoal production (Photo credit: Sabino Francis Ogwal and Ebong Bonny)

In order to protect the remaining shea butter trees, the National Environment Management Authority (NEMA) has since 2008 been involved in enforcement and awareness activities aimed at securing the trees. Lira and Otuke districts were the pilot districts were the enforcement and awareness was carried out in collaboration with the district and local authorities. This began with field inspections and consultations with the district leadership and technical staff in April 2008. Law enforcement officers including the police were trained on environmental laws to equip them with knowledge and understanding of environmental laws to enhance enforcement activities.

Training of the enforcement officers was carried out in December 2009, followed by awareness messages that run on radio stations informing people of the benefits of shea trees to the local communities, the people of Uganda and the global community as well as the income that can be obtained from selling the products from sustainable use of shea butter trees

both locally and internationally to fight poverty. A follow up meeting of law enforcement officers was held in September 2010 to assess progress of enforcement activities.

It was noted during the meeting that significant progress had been made and the radio messages promoted voluntary compliance. The meeting resolved that enforcement should be strengthened and also a regional workshop should be carried out to bring all the districts where the shea butter trees are found in order to come up with a regional approach to halt destructive use of shea butter trees in the shea belt districts. A regional workshop organized by NEMA was held in January 2011 to identify key elements for the development of a national strategy for the conservation and sustainable use of shea butter trees in Uganda. Chapter two describes the National Strategy for the Conservation and Sustainable Use of Shea Butter Trees in Uganda.

# THE STRATEGY FOR THE CONSERVATION AND SUSTAINABLE USE OF SHEA BUTTER TREES

#### 2.1 Rationale

The shea butter trees are very critical biodiversity resource for the local communities in the shea belt districts, the people of Uganda and the international community. This strategy has been developed and put in place by Government to provide a framework for coherent planning and implementation of measures aimed at eliminating destructive utilization of the shea butter trees while promoting sustainable use options the resource. The implementation of this Strategy contributes to implementation of the directive of His Excellency Yoweri Kaguta Museveni, the President of the Republic Uganda on the Protection of Shea nut trees (see Annex 1). Vision 2040, the National Biodiversity Strategy and Action (NBSAP) 2015-2025 and the global Strategic Plan for Biodiversity 2011-2020 and its Aichi targets especially Aichi target 12 on preventing extinction of threatened species.

The shea butter trees provide very important ecosystem services that are beneficial to human being and thus must be protected. This strategy will assist Government in ensuring that the shea butter trees do not become extinct and also to include products from shea butter trees in the National Export Strategy (NES). The strategy has guiding principles, goal, mission, objectives, strategies and targets, activities, outputs and outcomes.

#### 2.2 Guiding principles

The following key principles shall guide the implementation of this Strategy:

- 1. Biodiversity loss in Uganda is highest outside protected areas and urgent measures are needed to halt or reverse this trend.
- 2. Every individual in the shea belt districts and Uganda as whole has a Constitutional responsibility to ensure clean and healthy environment.
- 3. Community-based approach to the protection and sustainable use of shea butter trees is vital for the success of the interventions used.
- 4. Enforcement of environmental laws, ordinances and by-laws and awareness creation is necessary to halt further destruction of the shea butter trees.
- Traditional knowledge and practices on the use and protection of shea butter trees must be recognized and integrated into the interventions/ measures for sustainable use of shea butter trees.
- 6. The participation of the private sector in the protection and sustainable use of shea butter trees is crucial and must be promoted.
- Livelihood improvement for local communities is an area that needs to be addressed during the implementation of this strategy. Therefore economic incentives should be promoted to complement regulatory measures.
- 8. Support from development partners and donors are vital for implementation of this Strategy and must therefore be explored.
- The shea butter trees in Uganda occur in the fragile savannah ecosystems that should be protected from destruction to avert irreversible environmental damage.

#### 2.3 The goal

Shea butter trees are managed and used sustainably for livelihood improvement and enhancement of environmental quality and productivity.

#### 2.4 The mission

To halt destructive use of shea butter trees and promote sustainable use options

#### 2.5 The objectives, strategies, activities and outputs

The strategy has the following five strategic objectives:

1. To enhance compliance to environmental laws,

- ordinances and by-laws relating shea butter tree resources.
- To support tree growing and shea butter tree regeneration for enhancement of environmental quality and livelihood improvement of local communities.
- 3. To enhance the marketing of products from shea butter trees at the local, national and international levels.
- 4. To support/strengthen research on sustainable management of shea tree resources, utilization and value addition to shea products.
- 5. To strengthen coordination and collaboration at local, national and international levels.

The strategies, targets, activities and outputs for each of the above five strategic objective are provided below.

Strategic objectiv	ve 1: To enhance compli	ance to environmental laws, ordinances and	by-laws relating shea butter tree resources
Strategy	Target	Activities	Outputs
Strengthen sensitization programmes	Voluntary compliance increased	a) Hold radio talk shows     b) Conducts workshops and meetings     c) Develop awareness materials in     English and local languages     d) Carry out awareness (in schools, communities, churches)	<ul> <li>a) Awareness and education materials developed.</li> <li>b) Number of radio talk shows held.</li> <li>c) Number of voluntary compliant individuals.</li> <li>d) Number of community meetings.</li> <li>e) Number meetings and workshops held.</li> </ul>
2. Capacity building	Critical mass of personnel equipped with knowledge and understanding of environmental laws increased	a) Carry out a training needs assessment     b) Design and implement a training     programme     c) Conduct targeted training of     law enforcement officers/local     environment committees (LECs) and     community/cultural leaders	<ul> <li>a) Training programme designed and implemented.</li> <li>b) Number of law enforcement officers. LEC, community/cultural leaders trained.</li> </ul>
3. Strengthen enforcement	Number of non- compliant individuals significantly reduced	<ul> <li>a) Develop instrument for declaring shea butter trees as protected species</li> <li>b) Carry out environmental inspections</li> <li>c) Arrest and prosecute non-compliant individuals</li> <li>d) Enact and enforce ordinances and by-laws</li> </ul>	<ul> <li>a) Shea butter trees declared a protected species.</li> <li>b) Number of inspections carried out.</li> <li>c) Number of individuals arrested and prosecuted successfully.</li> <li>d) Number of ordinances and bye-laws enacted.</li> </ul>

Strategic objective 2: To support tree growing and shea butter tree regeneration for enhancement of environmental quality and livelihood improvement of local communities

Strategy	Target(s)	Activities	Outputs
promote     tree growing     and re-     forestation	At least 50ha of Trees planted in degraded areas in each district per year	a) Training community groups, institutions in tree nursery establishment and management     b) Establish tree nurseries at community level     c) Support community groups tree planting     d) Raising shea butter tree seedlings from seeds/cutting	a) Number of community groups/ institutions trained b) Number of tree nurseries established c) Area (ha) planted with trees d) Number of shea butter tree seedlings raised and planted e) Area (ha) of degraded shea areas planted f) Number of household/institutions planting trees
2. Promote alternative energy sources	Support households on pilot basis to establish and use alternative energy	<ul> <li>a) Training households establishment and use of alternative energy sources</li> <li>b) Establish public private partnership</li> <li>c) Develop awareness and training materials.</li> <li>d) Support households (on a pilot basis to use alternative energy</li> <li>e) Training of trainers in construction, use and maintenance of fuel efficient usage</li> </ul>	a) Number of household trained b) Number of Public-private sector partnerships engaged in energy efficient technologies c) Awareness and training materials d) Number of household using alternative energy e) Number of TOTs

Strategic objective 3: To enhance the marketing of products from shea trees at the local, national, regional and international levels

Strategy	Target(s)	Activities	Outputs
Strengthen marketing of shea products	Marketing of shea products enhanced	a) Training on value addition and marketing and post harvest handling b) Develop guidelines on good practices for marketing organic products from shea trees c) Lobby for shea products to be included in the National Export Strategy (NES) d) Upgrade existing local industries for processing shea products to improve value addition e) Establish community based industries/factories for processing shea products f) Establish marketing network and information	a) Number of training carried out. b) Guides on good practices for marketing shea products c) Shea products included in NES. d) Number of local industries upgraded e) Number of new local industries/ factories established f) Marketing networks and Information systems in place
2. Promote cooperative farmer groups	Cooperative groups for marketing of shea products established in all sub-counties	a) Establish and support cooperative groups     b) Training local communities on management of cooperative groups     c) Develop materials for farmers on the management of cooperative groups     d) Exchange visits farmer groups	a) Number of cooperative group established and functional at subcounty levels     b) Number of training conducted     c) Materials for management of cooperative groups     d) Number of exchange visit conducted and learning points generated and implemented
3. Promote awareness on the products from shea at district and national levels	Number of people using shea products increased	a) Hold district and national exhibitions     b) Farmer field days     c) Shea nut newsletter     d) Upload shea information to the national CHM website     e) Develop a standard radio spot and jingles     Integrating the shea into NAADs structures	a) Number of exhibitions held     b) Number of farmer field days held     c) Number shea nut newsletter produced and uploaded     d) Number of radio spots and jingles developed and run on radio stations     e) Shea strategy integrated into NAADs programe

4.	Promote appropriate technologies for processing shea products	Appropriate modern technology used in the processing of shea products	a) Research on new technologies     b) Training on the application of new technologies     c) Formulation of new products and packaging     d) Documentation of shea tree value	a) Information on new technologies     b) Number of industries trained and are applying the new technologies     c) Number of reports/publications on shea tree value
5.	Promote investment in the processing of shea products	Adequate financial resources available for the shea as a sub- sector	a) Production of awareness materials on the products from shea and market opportunities     b) Information on the contribution of the shea products to national economy and poverty eradication.     c) Establish public private sector partnership in shea processing	a) Materials on the products of shea trees and the contribution of shea products to national economy and poverty eradication     b) Financial resources available for investment in shea sub-sector     c) Number of Public-Private sector Partnerships engaged in shea nut processing
6.	Standardize shea products	Enhance compliance to international standards	Dissemination of information on standards at the national and international level	Standard quality shea products produced

#### Strategic objective 4: To support/strengthen capacity research on sustainable management and utilization of shea tree resources

Strategy	Target	Activities	Outputs
Support management oriented research	Information for proper decision making available through research	<ul> <li>a) Identifying priority areas for research and develop a research programme</li> <li>b) Funding research activities</li> <li>c) Establish Memorandum of         Understanding (MoU) between NEMA and research institutions     </li> <li>d) Support research on documentation of traditional knowledge and practices on sustainable use of shea butter trees</li> </ul>	a) Research programme     b) Number of research activities supported     c) Number of MoUs developed, signed and implemented     d) Number of research reports published
2. Strengthen collaborative research	Capacity of national researchers and research institutions improved	Coordinate and support collaborative research at national and international level	a) Number of projects researchers and research institutions supported.     b) Number of research papers published

#### Strategic objective 5: To strengthen coordination and collaboration at local, national and international levels.

Strategy	Target	Activities	Outputs
Strengthen information sharing	Information generated during the implementation of this Strategy shared	a) Hold regular meetings b) Establish committees at national, district and local levels on shea c) Establish website or using existing websites for sharing information d) Prepare evaluation reports every after 5 years e) Preparation of regular shea butter newsletter/talk f) Hold a shea butter sub county, district and national forum for sharing information annually g) Hold public lectures on shea conservation	a) Number of meetings held b) Reports from the committees c) Number of website used for information sharing d) Evaluation reports with recommendations e) Number of shea butter newsletter produced and uploaded f) Number of fora held g) Number of public lectures held

#### **2.6** Expected outcomes

Implementation of the Strategy is envisaged to have the following outcomes:

- Implementation of the Presidential Directive on shea butter trees enhanced and is contributing the protection of shea butter trees and value addition to shea products.
- 2. Government and development partners increase funding for protection of shea butter trees and value addition to shea-based products
- Activities for the conservation and sustainable use of shea butter tree are prioritized for funding and integrated in local government development programmes.
- Partnerships with the private sector for resource mobilization established and are contributing financial resources for the implementation of the Strategy.
- 5. Implementation of the Strategy contributes to achievement of Vision 2040 targets on environment; the National Development Plan II; the NBSAP national biodiversity targets; the global Strategic Plan for Biodiversity 2011 2020 and the SDGs.
- 6. Shea products listed in the National Export Strategy (NES) and are facilitating marketing of the shea products to the international markets.
- 7. Environmental quality and productivity in the shea belt district improved as cutting of the shea trees

- is eliminated and areas degraded from cutting of shea butters trees are restored.
- 8. Viable populations of the shea butter maintained to build resilience of the fragile savannah ecosystems in the shea belt districts and local community adaption to climate change.
- The quality of life of the local communities improved as better markets become available for marketing improved and better quality shea products.

#### 2.7 Life span of the strategy

The Strategy will have an initial life span of ten years beginning July 2015 to June 2025. Implementation will be carried out in two phases of five years in each phase. The first phase will begin in July 2015 up to June 2020 while the second phase will start from July 2020 to June 2025. The Strategy shall be reviewed after the first five years of implementation, in any case not later than July 2020 to ensure that the strategy captures prevailing conditions and addresses gaps as appropriate. Very critical to implementation is availability of adequate and reliable financial resources as well as appropriate institutional arrangement. Chapter three gives the estimate of the total resource envelope needed for implementation of the first ten years of the Strategy while Chapter four spells out the intuitional arrangement for implementation.

# RESOURCE MOBILIZATION FOR IMPLEMENTATION

#### 3.1 Introduction

Implementation of the strategy will not be possible without adequate financial resources. Implementation of the strategy is estimated at a **total to cost of US\$ 21, 650,000**. Implementation of the **first five years** is estimated at a cost of **US\$ 12, 650,000** which is **US\$ 2,530,000** per annum while the last five years (second phase) is estimated to cost **US\$ 9,000,000** which is **US\$ 1,800,000** per annum. Details of the cost are provided under section 3.2

Government of Uganda (GoU) and local governments are expected to provide the funds for implementation of the project. Thus activities from this strategy will be included in the Budget Frame Paper (BFP) as part of the part of annual budget planning process. This will help Government and local governments to capture activities that need to be supported annually from GoU and local governments. Government agencies will also take advantage of existing Government programmes such as PRDP and NUSAF for leveraging funds.

Development partners and multi-lateral agencies like the World Bank, Global Environment Facility (GEF); United Nations Development Programme (UNDP); United Nations Environment Programme (UNEP) are the potential resources of resource mobilization. Payment for Ecosystem Services (PES) and initiatives under international climate change funds is another entry point for resource mobilization.

# 3.2 Estimated cost for each strategic objective

Strategic objective 1: To enhance/promote compliance to environmental laws, ordinances and by-laws relating shea tree resources

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Strategy	Target	Activities	Outputs	Estimated cost USD	st USD	Funding source	Actors
				2015-2020	2020-2025		
1. Strengthen sensitization programmes	Voluntary compliance increased	Hold radio talk shows Conducts workshops and meetings Develop awareness materials Carry out awareness	Awareness and education materials developed Number of radio talk show held Number of voluntary compliant individuals	200,000	400,000	GoU LGs Development partners/ agencies Private sector	NEMA LGs
2. Capacity building	Critical mass of personnel equip with knowledge and understand on environmental laws increased	Carry out a training needs assessment Design and implement a training programme Conduct targeted training of law enforcement officers/local environment committees (LECs) and community/cultural leader	Training programme designed and implemented Number of law enforcement officers. LEC, community/cultural leaders trained	500,000	400,000	GoU LGs Development partners/ agencies Private sector	NEMA LGs
3. Strengthen enforcement	Number of non-compliant individuals significantly reduced	Develop instruments for declaring shea butter trees protected species Carry out environmental inspections and enforcement Arrest and prosecute noncompliant individuals Enact and enforce ordinances and by-laws	Shea butter tree declared a protected a species  Number of inspections carried out  Number of individuals arrested and prosecuted  Number of ordinances and byelaws enacted	1,200,000	800,000	GoU LGs Development partners/ agencies Private sector	NEMA NFA LGs

Strategic objective 2:	To support tree growing and	Strategic objective 2: To support tree growing and shea butter tree regeneration for enhancement of environmental quality and livelihood improvement of local communities	nancement of environmental qualit	y and livelihod	od improveme	nt of local comm	unities
Strategy	Target	Activities	Outputs	Estimated cost USD	ost USD	Funding source	Actors
				2015-2020	2020-2025		
promote tree growing and reforestation	Trees planted in all degraded areas Number of household planting trees increased	Training communities in tree nursery establishment and management Establish tree nurseries Support community tree planting	Number of communities trained Number of tree nurseries established Area (ha) planted with trees Area (ha) of degraded shea areas planted	2,500,000	3,000,000	GoU LGs Development partners/ agencies Private sector	NEMA LGs NGOs Private Sector
2. Promote alternative energy sources	Support households on pilot basis to establish and use alternative energy	Training households establishment and use of alternative energy sources Establish public private partnership Develop awareness and training materials Support households (on a pilot basis to use alternative energy	Number of household trained Public-private sector partnerships established Awareness and training materials Number of household using alternative energy	500,000	500,000	GoU LGs Development partners/ agencies Private sector	NEMA Private sector NGOs LGs
Strategic objective 3:	Strategic objective 3: To enhance the marketing of	products from shea trees at the local, national, regional and international levels	l, national, regional and internation	al levels			
Strategy	Target	Activities	Outputs	Estimated cost USD	ost USD	Funding source	Actors
				2015-2020	2020-2025		
Strengthen     marketing of shea     products	Marketing of shea products enhanced	Training on value addition and marketing Develop guidelines on good practices for marketing organic products from shea trees. Lobby for shea products to be included in the National Export Strategy (NES)	Number of training carried out Guides on good practices for marketing shea products Shea products included in NES Number of local industries upgraded  Number of new local industries/factories established	4,000000	1,500,000	GoU LGs Development partners/ agencies Private sector	UEPB NEMA LGs Private sector

<u> </u>	Upgrade existing local industries for processing shea products to improve value addition Establish community based industries/factories for processing					
shea produc Establish an groups Training loca managemen Develop mai the manager groups	shea products  Establish and support cooperative groups  Training local communities on management of cooperative groups  Develop materials for farmers on the management of cooperative groups	Number of cooperative group established and functional at sub-county levels Number of training conducted Materials for management of cooperative groups	200,000	300,000	GoU LGs Development partners/ agencies Private sector	UEPB Private sector LGs
old district hibitions	Hold district and national exhibitions	Number of exhibitions held	250,000	250,000	GoU LGs Development partners/ agencies Private sector	UEPB Private sector LGs
Research on I Training on the technologies Formulation of packaging	Research on new technologies Training on the application of new technologies Formulation of new products and packaging	Information on new technologies Number of industries trained and are applying the new technologies	500,000	500,000	GoU LGs Development partners/ agencies Private sector	UEPB Research Institutions NEMA LGs
oduction of the produc arket oppor formation o the shea pr	Production of awareness materials on the products from shea and market opportunities Information on the contribution of the shea products to national economy and poverty eradication.	Materials on the products of shea trees and the contribution of shea products to national economy and poverty eradication  Financial resources available for investment in shea sub-sector	300,000	200,000	GoU LGs Development partners/ agencies Private sector	UEPB NEMA Private sector LGs
issemination andards at th	Dissemination of information on standards at the national level	Standard quality shea products produced	400,000	200,000	GoU LGs Development partners/ agencies Private sector	UEPB NEMA Private sector LGs

Strategic objective 4: To supp	ort/strengthen capacity research on sustaina	Strategic objective 4: To support/strengthen capacity research on sustainable management and utilization of shea tree resources	rces
Strategy	Target	Activities	Outputs
1. Support management oriented research	Information for proper decision making available through research	<ul> <li>a) Identifying priority areas for research and develop a research programme</li> <li>b) Funding research activities</li> <li>c) Establish Memorandum of Understanding (MoU) between NEMA and research institutions</li> <li>d) Support research on documentation of traditional knowledge and practices on sustainable use of shea butter trees</li> </ul>	<ul> <li>a) Research programme</li> <li>b) Number of research activities supported</li> <li>c) Number of MoUs developed, signed and implemented</li> <li>d) Number of research reports published</li> </ul>
2. Strengthen collaborative research	Capacity of national researchers and research institutions improved	Coordinate and support collaborative research at national and international level	a) Number of projects researchers and research institutions supported     b) Number of research papers published
Strategic objective 5: To stre	Strategic objective 5: To strengthen coordination and collaboration at local, national and international levels	I, national and international levels	
Strengthen information sharing	Information generated during the implementation of this strategy shared	<ul> <li>a) Hold regular meetings</li> <li>b) Establish committees at national, district and local levels on shea</li> <li>c) Establish website or using existing websites for sharing information</li> <li>d) Prepare evaluation reports every after 5 years</li> <li>e) Preparation of regular shea butter newsletter/talk</li> <li>f) Hold a shea butter sub county, district and national forum for sharing information annually</li> <li>g) Hold public lectures on shea conservation</li> </ul>	<ul> <li>a) Number of meetings held</li> <li>b) Reports from the committees</li> <li>c) Number of website used for information sharing</li> <li>d) Evaluation reports with recommendations</li> <li>e) Number of shea butter newsletter produced and uploaded</li> <li>f) Number of fora held</li> <li>g) Number of public lectures held</li> </ul>

### INSTITUTIONAL ARRANGEMENT FOR IMPLEMENTATION

#### **4.1 Coordination and supervision**

Overall coordination and supervision will be provided by NEMA with technical support from the Technical Committee on Biodiversity Conservation. The specific functions of NEMA are to:

- Liaise with the relevant Government ministries, agencies and departments, the academia, research institutions and NGOs for effective implementation of the strategy;
- Integrate activities from the strategy in its Budget Framework Paper (BFP) and annual work-plans;
- c) Mobilize resources for implementation of the Strategy;
- d) Build capacity of district and law enforcement officers to effectively carry out their responsibilities;
- e) Support the district and local authorities on the enforcement of environmental laws to protect shea nut trees:
- f) Issue environmental restoration orders to noncompliant individuals and together with the district and local authorities enforce the provisions of the restoration orders issued;
- g) Work with district and local authorities on restoration of degraded areas, tree planting and support for other community based incentives that promote the protection and sustainable use of the shea nut trees;
- h) Liaising with the Uganda Expert Promotion Board, the private sector and other relevant stakeholders in promoting sustainable use of shea nut trees and value addition of the various products derived from shea nut trees;
- i) ensure the Strategy is integrated into the district and sub-county development plans;

- j) assisting in the development and formulation of bye-laws for the protection of shea butter trees;
- k) organizing meetings of the Technical Committee on Biodiversity Conservation to provide technical guidance during the implementation of the strategy;
- coordinating preparation and review of the annual reports on the implementation of the strategy and ensuring that the findings of the report are integrated into the National State of Environment Reports and other regional and international reports;
- m) Review and update the Strategy every five years.

#### **4.2** National Forestry Authority

- a) Ensure the conservation and sustainable use of shea butter trees in Central Forest Reserve (CFR);
- b) Carry out training and capacity building on the sustainable management of shea butter trees;
- c) Provide information required for declaration of shea butter trees as protected species;
- d) Provide seedlings for community tree planting programmes;
- e) Carry out regular inventory and mapping of shea butter tree:
- f) Carry out enforcement on the laws that are relevant for the protection of shea butter tree

#### **4.3** Forest Sector Support Department

- a) Support district local government in the conservation and sustainable use of shea butter trees;
- b) Provide information required for declaration of shea butter trees as protected species

- Support districts in the formulation of ordinances and by-laws for the conservation of shea butter trees
- d) Mobilise funds and other resources to support the implementation of activities/programmes on the conservation and sustainable use of the shea butter tree
- e) Support development of guidelines and district/ community management plans for conservation and sustainable use of shea butter trees

#### 4.4 Uganda Export Promotion Board

- a) Develop guidelines on good practices for value addition and marketing of shea products;
- b) Take lead in lobbying for inclusion of shea products in the National Export Strategy
- c) Provide information on markets and market access for the shea products;
- d) Develop guidelines on standards for shea products to enhance compliance to international standards
- e) Liaise with the private sector and relevant organizations to organize annual exhibitions for shea based products at national and international level.

#### 4.5 District Local Governments

- a) Coordinate and implement the Strategy;
- Ensure the conservation and sustainable use of shea butter trees in Local Forest Reserves (LFRs), Community and private forests;
- c) Ensuring that activities of the strategy are mainstreamed in district and sub county annual work-plans and other relevant documents such as District Development Plan and District Environment Action Plan:
- d) Liaising with NEMA and other relevant stakeholders on matters relating to implementation of the strategy and making progress reports to NEMA and Forest Sector Support Department (FSSD);
- e) liaising with the police and other law enforcement agencies for the arrest and prosecution of persons involved in the destruction of shea butter trees and issuing improvement notice;
- f) Promoting awareness about the strategy and ensuring compliance to Environmental Restoration

- Orders issued by NEMA or other relevant Authorities:
- g) identify community based incentives that enhance the conservation and sustainable use of shea butter trees;
- backstopping sub-county authorities and cultural institutions in the enforcement activities under the Strategy;
- Training local communities in the establishment and management of tree nurseries as well as promoting planting and conservation of existing trees;
- Training law enforcement agencies in relevant laws and policies relating to the conservation and sustainable use of shea butter and other protected trees:
- Establish regular check points to monitor and curtail trade in charcoal from shea butter trees;
- I) Develop guidelines and district/community management plans for conservation and sustainable use of shea butter trees
- m) Liaising with the private sector and NGOs to enhance their involvement in the implementation of the strategy;
- n) Perform any other functions as may be described by NEMA or other Government agencies for effective implementation of the strategy.

#### 4.6 The role of the private sector

- a) Contribute resources for implementation of the strategy:
- b) Support and participate in awareness and exhibition programmes under the strategy;
- Liaise with NEMA, districts, local authorities and other relevant institutions on matters concerning the implementation of the strategy;
- d) Support local communities invalue addition of shea butter products and access to national, regional and international markets;
- e) Promote the use of appropriate technologies for processing shea products.

#### 4.7 NGOs

a) Creating awareness on the conservation and sustainable use of shea butter trees;

- b) Support and promote the use of appropriate technologies for processing shea products;
- Support local communities initiatives on value addition of shea products and access to national, regional and international markets;
- d) Assist local communities in the development of projects for support under the strategy;
- e) Liaise with NEMA, districts and other agencies in the implementation of the Strategy.

#### 4.8 Research institution/academia

- a) Develop and support the transfer of appropriate technologies for processing shea products;
- b) Carry out inventory and mapping of population and distribution of shea butter trees;
- c) Carry out market research for shea butter products and disseminate the information to stakeholders;
- d) Carry out research on shea products;
- e) Carry out research on propagation and multiplication of shea butter trees;

#### **4.9 Cultural Institutions**

- a) Create awareness on conservation of shea butter tree:
- b) Enforce conservation of shea butter tree;
- c) Develop and enforce bye-laws on conservation of shea butter tree;
- d) Liaise with districts in the implementation of the strategy;

## MONITORING, EVALUATION AND REPORTING

#### **5.1** Monitoring

The initial period for implementation of this strategy is 10 years. NEMA is responsible for overall monitoring, supervision and evaluation in collaboration with relevant lead agencies and shall report to the policy committee on environment (PCE). At the District local government level, the District Forestry Officer assisted by District Environment Officer and the District Agricultural Officer shall coordinate and monitor at that level. The sub-county authorities shall help the district in coordinating implementation of the strategy at the lower level. Environment committees or any other appropriate committee established at the district and local level shall enhance coordination and monitoring. The key monitoring tools shall include the outputs under each strategic objective mentioned in chapter two.

#### **5.2** Reporting

Annual reports on progress of implementation of the strategy shall be compiled by NEMA. Districts shall prepare quarterly reports and submit to NEMA. These reports shall form the basis for preparation of the annual reports. The reports shall feed into the National State of the Environment Reports, regional and international reports. NEMA shall develop a reporting format in consultation with stakeholders.

#### **5.3 Evaluation**

Baseline information shall be obtained on the planned activities and outputs spelt out in the strategy. NEMA shall hire a consultant to carry out the baseline study. Mid-term evaluation of the progress of implementation shall be done at the end of the first five years of implementation using the baseline information that has been established. Final evaluation shall be carried out before the end of the 10<sup>th</sup> year. NEMA shall engage the services of a consultant for this purpose.

#### **Annex 1: The Presidential Directive on Shea butter tree**

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