



THINK NAMIBIA Sustainable Forest Management

FACT SHEET ON:

Basics of Sustainable Forest Management

The purpose of this fact sheet is to outline the basics of Sustainable Forest Management in Namibia.

INTRODUCTION

Namibia is endowed with an abundance of natural resources. The northern and north-eastern regions, especially, contain large plains of hardwood forests [See Fact Sheet #2: *Vegetation in Namibian Forests*]. These forests represent important livelihood resources for many communities both on a subsistence and commercial level.

Many rural communities depend, not only on wood resources, but also on non-timber forest resources. Moreover, the wide array of ecosystem services that forests offer is crucial not only at the local level but also for its contribution to national biodiversity and the national economy [See Poster #1: *Forest Ecosystem Services*].

Over the past decade Sub-Saharan Africa at large, including Namibia, has experienced a significantly increased demand for hardwood. The profits accumulated from Namibia's annual timber harvest have been limited due to the undervaluing of domestic wood compared to international price trends, while many hardwood resources have been harvested unsustainably. The concept of Sustainable Forest Management is a potential solution to safeguard against the environmental and economic threats posed by unsustainable timber use and uncontrolled deforestation.

WHAT IS SUSTAINABLE FOREST MANAGEMENT?

Sustainable Forest Management is the practice of regulating the resources of a forest to supply the current and future goods and services needed by society and industry and, at the same time, preserving the health of the forest. It is also known as sustainable forestry.



The United Nations defined Sustainable Forest Management as a “dynamic and evolving concept, which aims to maintain and enhance the **economic, social and environmental** values of all types of forests, for the benefit of present and future generations”.



Sustainable Forest Management therefore seeks to strike a balance between the vitality of the forest and the demand for the natural resources of the forest.

Sustainable development further refers to the “stewardship and use of forests and forest lands in such a way and at a rate that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the near future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems”.

Various factors should be taken into account for appropriate forest management. For large forests, these factors are often assessed by a forest manager or forester. A forester is responsible for managing the balance of the commercial, environmental, and recreational viability of a forest.

RELEVANCE OF SUSTAINABLE FOREST MANAGEMENT FOR NAMIBIA

Sustainable Forest Management is of high relevance to Namibia as it can contribute to enhancing the value of forests and improving forest conservation. Furthermore, it can counteract unsustainable exploitation of Namibian forests.

The objectives of Sustainable Forest Management in Namibia are mainly to:

- Maintain Namibia's forests and the ecosystem services provided, including biodiversity.
- Encourage sustainable extraction and use of timber and non-timber forest products.
- Generate income for the country through selling of forest products at fair prices.
- Provide continuous supply of poles and wood for community consumption.

THE THREE PILLARS OF SUSTAINABLE FOREST MANAGEMENT

The concept of Sustainable Forest Management is based on three (3) pillars, namely the economic, environmental, and social pillar. Successfully implemented Sustainable Forest Management has to maintain the balance among these three pillars in order to optimise the benefits derived from forest resources.



ECONOMIC SUSTAINABILITY

- Forestry activities that are economically viable and profitable and can withstand the down periods of business cycles.
- Activities that have positive economic impacts on stakeholders.



SOCIAL SUSTAINABILITY

- Forestry activities that are socially acceptable and supported by the benefiting society and stakeholders.
- Activities that are operated in harmony with locals and neighbours.



ENVIRONMENTAL SUSTAINABILITY

- Forestry activities that ensure the use of forest resources and management of such resources for current and future generations to benefit from.
- Activities that ensure the continued regeneration of forests and prevent deforestation and overharvesting.

Figure 1: The three pillars of Sustainable Forest Management

THE SEVEN CRITERIA FOR SUSTAINABLE FOREST MANAGEMENT

CRITERION 1: Maintenance and Improvement of Forest Resources and their Contribution to Global Carbon Cycles

INDICATORS

- Total area of natural forests.
- Total woody biomass of natural and planted forests.
- Total tree volumes in various areas.



CRITERION 5: Maintenance of Forest Health and Vitality

INDICATORS

- Area of forest affected by biotic factors such as insects and alien invasive species.
- Area of forest affected by abiotic factors such as fires or floods.



CRITERION 2: Maintenance of Productive Capacity of Forests

INDICATORS

- Regeneration of key forest species.
- Forest areas with management plans for sustainable wood production.
- Annual removal of timber compared to sustainably determined amount.
- Annual volume of non-timber forest products removed.
- Area and percentage of growing stock of local and exotic species in plantations.



CRITERION 6: Maintenance and Enhancement of Socio-Economic Benefits of Forests and Other Wooded Lands

INDICATORS

Production and Consumption

- Value and volume of wood and wood products.
- Value of non-timber forest products collected.
- Income generated from forest-based environmental services.
- Consumption of wood and wood products in roundwood equivalents.
- Total consumption of non-timber forest products.
- Value and volume of roundwood exported or imported.
- Value of exports and imports of non-timber products.
- Exports as a share of wood and wood products production, and imports as a share of wood and wood products consumption.



Investment in the Forest Sector

- Value of capital investments and annual expenditure in forest management.
- Annual investment and expenditure in forest research, extension, and education.
- Employment in the forest products sector.
- Average annual wage rates, income, and injury rates in major forest sectors.
- The resilience of forest-dependent communities.
- Area and percentage of forests used for subsistence purposes.
- Distribution of revenues derived from forest management.



CRITERION 3: Maintenance of Protective Functions of Forests including Conservation of Soil and Water Resources

INDICATORS

- Forest areas managed for the protection of soils and water resources.
- Forest management activities that promote soil conservation.
- Areas with significant soil degradation.
- Forest management activities that meet best practice to protect water resources.



Recreation and Tourism

- Forest areas available and managed for recreation and tourism.
- Number, type, and geographic distribution of visits and tourism facilities.
- Forest areas managed to protect cultural, social, and spiritual values.
- The importance of forests to people.



CRITERION 4: Conservation and Maintenance of Biological Diversity of Forests and Other Wooded Lands

INDICATORS

Ecosystem Diversity

- Forest areas by forest ecosystem types, ownership, or tenure.
- Forest areas in protected areas.

Species Diversity

- Fragmentation of forests.
- Number of indigenous species.
- Number and status of indigenous species at risk.
- Conservation efforts focused on species diversity.

Genetic Diversity

- Number and geographic location of species at risk of losing genetic variation.
- Population levels of species to describe genetic diversity.
- Conservation efforts focused on genetic diversity.



CRITERION 7: Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Management

INDICATORS

- Extent to which the legal framework supports the conservation and sustainable management of forests.
- Extent to which the institutional framework supports the conservation and sustainable management of forests.
- Extent to which the economic framework supports the conservation and sustainable management of forests.
- Capacity to measure and monitor changes in the conservation and sustainable management of forests.
- Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services.



Figure 2: The seven criteria of Sustainable Forest Management (Canadian Council of Forest Ministers, 2008; Directorate of Forestry, 2004)

MEASURING SUSTAINABLE FOREST MANAGEMENT

Certain tools are available to measure the success and effectiveness of Sustainable Forest Management approaches. These tools come in the form of criteria and indicators having the following characteristics:

- Feasible and objective.
- Scientifically valid.
- Compatible with sustainable development goals.
- Comprehensive.
- Applicable to all approaches to Sustainable Forest Management.
- Applicable at both local and national levels.
- Relevant for decision making, monitoring, and reporting.

Several international meetings have proposed the use of seven (7) criteria for measuring Sustainable Forest Management. Namibia has also developed criteria that are aligned with the international ones.

Criteria and indicators can be implemented at regional, national, and forest levels. They further help in strengthening stakeholder relations and informing policy development, which is important for ensuring successful Sustainable Forest Management.

CERTIFICATION AS PART OF SUSTAINABLE FOREST MANAGEMENT

Forest certification [See Poster #2: Forest Certification in Namibia] is an important tool in Sustainable Forest Management as it helps create the balance between the social, economic, and environmental aspects of sustainability.

Certification provides support for forest trade and industry through standardised branding and marketing of forest products.

It is important to make sure that certification is complemented by good institutional support. This ensures that forests are well managed and that the livelihoods of the forest dependants and other stakeholders are sustained.

FOREST INVENTORY AS PART OF SUSTAINABLE FOREST MANAGEMENT

One of the key aspects in the use of forest resources is to quantify the resources that are available in a forested area. This quantification is usually done through a forest inventory [See Fact Sheet #3: Forest Inventory]. It helps in assessing forest degradation and deforestation while increasing indirect benefits to the environment and people. Forest management would not be sustainable without a forest inventory as there would be insufficient information for planning and implementation. The importance of inventories as part of Sustainable Forest Management should not be underestimated as they also provide information for silviculture treatments [See Fact Sheet #5: Silviculture of Natural and Planted Forests] and timber harvesting [See Poster #3: Timber Harvesting in Namibia].

SILVICULTURE AS PART OF SUSTAINABLE FOREST MANAGEMENT

Silviculture is essential for successful Sustainable Forest Management. It is the process of controlling the establishment, growth, composition, and health of a forest. Silviculture aims mainly at increasing the production of wood and other forest products, but also at improving the social and ecological functions of the forest.

Thus, Sustainable Forest Management is impossible without proper silviculture.

CHALLENGES IN IMPLEMENTING SUSTAINABLE FOREST MANAGEMENT

Sustainable Forest Management faces challenges that could limit the implementation of the approach and its benefits. Being aware of them makes it possible to address them.

Table 1: Challenges in implementing Sustainable Forest Management (African Union Commission, 2020)

Category	Challenge
Institutional	<ul style="list-style-type: none">• Limited capacity building.• Poor coordination of activities between institutions.• Low participation from civil society in forestry related activities.
Socio-economic	<ul style="list-style-type: none">• Gender equality issues.• Communication barriers.• Limited understanding of Sustainable Forest Management.• Undefined benefits sharing approaches.• Rapid population growth.
Environmental	<ul style="list-style-type: none">• Low regeneration rates of species.• Increased deforestation and forest degradation.• Challenges to forest health, including fires and floods.• Impacts of climate change and climate variability.
Technical	<ul style="list-style-type: none">• Lack of or limited monitoring of forest resources.• Limited professional capacity to carry out inventories and monitoring.• Inadequate data storage facilities.
Policy and governance	<ul style="list-style-type: none">• Developing legislation for Sustainable Forest Management is a lengthy process.• Corruption and illegal exploitation.• Limited approaches for acquiring domestic funds to support the sector.• Undefined resources ownership.

CONCLUSION

The Namibian forestry sector continues to make strides and improvements towards Sustainable Forest Management. The country has notable policies and regulations [See Fact Sheet #8: Legal Framework of Forest Management in Namibia], and institutional support at various levels to implement Sustainable Forest Management. These policies and regulations need however to be combined with providing a larger number of regional forestry staff and equipping them with necessary resources to carry out their tasks. More intensive capacity building for forestry staff, institutions, and other local stakeholders also needs to be offered, with a greater measure of decentralisation of services.

Furthermore, with programmes such as community forestry [See Poster #4: Management of a Community Forest] and Community Based Natural Resources Management, communities are being integrated into forest management. This is crucial as it helps communities in meeting their basic needs through forest ecosystem services, in developing resilience to climate change, and in continuing to contribute to socio-economic development.

Moreover, to overcome deforestation, Namibia should implement afforestation and reforestation [See Fact Sheet #4: Afforestation and Reforestation] programmes; their common goal is to plant enough trees in an area to classify it as a forest (again). Also, agroforestry [See Fact Sheet #7: Agroforestry] is an approach which is more sustainable than forestry or agricultural monocultures, through combining trees, plants, and animals.

Through the involvement of all forestry stakeholders [See Fact Sheet #6: Different Roles of Forestry Stakeholders in Namibia] in Sustainable Forest Management, there is great potential to improve on managing local forest resources, including regulating timber harvesting and trade.

GLOSSARY

Community Based Natural Resources Management:

An approach that allows local communities to be directly involved in the conservation and management of natural resources, thereby supporting development, poverty eradication, and income generation.

Criteria:

Are the essential elements against which an approach (in this case sustainability) is assessed.

Ecosystem diversity:

A variety of habitats, communities of organisms, and ecological processes.

Indicators:

Parameters or variables that can be measured and relate to a particular criterion.

Monoculture:

The cultivation or planting of one type or species of plant in a given area.

Roundwood equivalent:

A measure of the volume of logs (roundwood) used in the manufacture of wood-based products (including wood pulp, paper, wooden furniture and plywood).

Species diversity:

The variety of different species that occur in an area.

Genetic diversity:

Different types of genetic composition within a species.

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