

## Chapter 16: Forestry.

### 1. Description of the Sector

#### Introduction

1. The forestry sector in Namibia can be defined by its consumption of wood, wood products. Its existence and use of its extensive natural forest habitat. These consist of dry woodlands covering about 20% of the total land area, and a variety of wooded savannahs dominated by various species of acacia, shrubs and grasses, which cover another 64 % of the land area. The woodlands are predominantly on Kalahari sands, which consist of deep ancient Aeolian sand deposits that are predominant in the Tsumkwe, Kavango, Ohangwena, Oshikoto and Caprivi Regions of the North-central and North-East of Namibia. The tallest and most dominant tree species consist of *Pterocarpus angolensis*, *Baikiaea plurijuga* and *Burkea africana* and, in some places, *Terminalia sericea*. The next prominent woodland type is the Mopane Woodlands.

#### *Value of the forest resources to the national economy*

2. The woodlands support the majority of Namibians directly through the supply of energy, construction materials, wild foods and medicines. The wooded habitats provide browse and grazing which underpins livestock farming, a mainstay of the rural economy outside the cropping season. In protected areas such as parks, the woodlands provide valuable habitat for game, which is vital for the tourism industry.

3. The woodland and savannah ecosystems also provide a host of essential ecological services that underpin the health of the environment. These include temperature regulation and microclimate control, which together have a direct effect on evaporation, soil temperature and productivity. Soil binding, which helps control soil erosion; water absorption into soil, which increases soil moisture, groundwater recharge and reduces soil erosion; and ecosystem complexity, which supports biological diversity, and helps to ensure the resilience of the environment.

4. The riverine woodlands along the ephemeral and perennial rivers have immense ecological and economic values, and their protection and sustainable use are crucial. Despite these values, the forest sector is intuitively evaluated on the basis of the commercial timber industry alone. This anomaly is addressed on table 16.3, which depicts the direct use-values of woody vegetation. The greatest value, however, is undoubtedly the ecological services provided by woody vegetation, which has yet to be fully determined. These two sets of values together should form the basis of future natural resource accounting.

#### *Core Functions of the Directorate of Forestry*

5. In partnership with other agencies of Government and various community organizations and traditional authorities the Ministry of Environment and Tourism is responsible for developing appropriate policies, legislation and strategies for the sector. These underpin the sustainable management of all types of forests and woodlands, backed by resource monitoring, assessment, research, education and extension. Furthermore, the control over utilization and processing, the promotion of trade, and conservation for national and global benefits are important responsibilities.

*The forest resources and their utilization*Wood Products

6. The various woodland types and the acacia dominated savannahs are depicted on Tables 16.1 and 16.2. The information provided is from the ongoing forest inventory, which started in 1996 and should be completed by the year 2002. It also includes data on species of shrubs, grasses and other plants to satisfy a broader number of users than has been typical of many forest inventories.

**Table 16.1: Some data on the biomass of various woodland types occurring in Namibia**

(Trees with diameter at breast height (DBH) equal or above 5cm were measured.)

Forest/ Vegetation Type	Area Sampled: District/Region	Area in Ha	Dominant tree species	Tree height (m)	Mean No. of trees/Ha (All species)	Mean tree volume m <sup>3</sup> /Ha (All species) <sup>1</sup>	Mean tree Biomass tons/Ha (All species)
Woodlands 20% of Namibia=s land area	Western Tsumkwe District	607 949	<i>Pterocarpus</i> – <i>Burkea</i>	Max 22.3 Mean 7.9 Min 1.5	99	17.8	12.5
	Caprivi: (Salambala)	18 000	<i>Mopane-Terminalia</i>	Max 20.8 Mean 8.4 Min 2.4	140	48.0	12.8
	Kavango: (Nkurenkuru Concession area)	17 815	<i>Baikiaea</i> – <i>Pterocarpus</i>	Max 13.2 Mean 8.0 Min 1.0	114	38.0	20.6
	Caprivi Region	2 009 527	<i>Baikiaea</i> – <i>Burkea</i> – <i>Mopane</i>	Max 23.8 Mean 9.6 Min 0.7	87	21.4	17.7
	Caprivi State Forest	1 46 100	(Degraded) <i>Baikiaea</i> – <i>Combretum</i> – <i>Burkea</i>	Max 24.8 Mean 10.2 Min 0.5	71	33.3	20.8
Savannahs, 64% of Namibia=s land area.	East and South Tsumkwe, Otjinene & Okakarara Districts	8 212 477	<i>Acacia</i> – <i>Terminalia</i>	Max 16.5 Mean 5.8 Min 1.9	101	4.2	3.2
	Ongadjera Community Forest	128 200	<i>Mopane</i> – <i>Acacia</i>	Max 11.1 Mean 6.4 Min 3.4	10	1.1	0.7
	Uukwaludhi Community Forest	82 520	<i>Mopane</i> – <i>Commiphora</i> – <i>Terminalia</i>	Max 12.3 Mean 5.3 Min 1.7	53	6.3	4.8
	Omusati Region <sup>5</sup>	1 383 924	<i>Mopane</i> – <i>Terminalia</i> – <i>Acacia</i>	Max 19.2 Mean 5.3 Min 1.0	33	3.2	2.7
	Oshana Region <sup>6</sup>	259 675	<i>Mopane</i> – <i>Diospyros</i>	Max 16.4 Mean 5.3 Min 1.0	12	1.8	1.2

1. Tree volume means the volume of the entire tree comprising of the main tree trunk and branch wood.
2. Tree biomass means the biomass of the entire tree comprising of the main tree trunk and branch wood.
3. Total number of trees in the sampled area is equal to A Mean No. of trees/ha@ x A Size, in Ha@. For example, in West Tsumkwe District: 99 x 607 949 = 60 186 951 trees.
4. Total volume of trees in the sampled area is equal to A Mean tree volume m<sup>3</sup>/ha@ times A Size, in Ha@. For example, for Western Tsumkwe District: 17.8 x 607 949 = 10 821 492 m<sup>3</sup>.
5. In Omusati Region, tree height includes *Hyphaene petersiana* (Makalani) and *Sclerocarya birrea* (Marura)
6. In Oshana Region, tree height includes *Sclerocarya birrea* (Marura) and *Diospyros mespiliiformis*

Table 16.2: Data on two main timber species, *P. angolensis* (Kiaat) and *B. purijuga* (Rhodesian Teak) found in Namibia's woodlands

Forest/ Vegetation Type	Area Sampled: District/Region	Size, in Ha	Dominant tree species	Mean No. of trees/Ha (All species)	Timber Species	No. of timber trees/Ha (Rounded to the nearest unit)	Mean timber volume <sup>1</sup> m <sup>3</sup> /Ha
Woodlands (Covers 20% of Namibia's land area)	Western Tsumkwe District	607 949	<i>Pterocarpus - Burkea</i>	99	<i>Pterocarpus</i>	Max 6 Mean 1 Min 0	0.31
					<i>Baikiaea</i>	Max 4 Mean 0 Min 0	0.0036
	Caprivi: Salambala	18 000	<i>Mopane-Terminalia</i>	140	<i>Pterocarpus</i> *	0	0
					<i>Baikiaea</i> *	0	0
	Kavango: Nkurenkuru Concession area	17 815	<i>Baikiaea - Pterocarpus</i>	114	<i>Pterocarpus</i>	Max 7 Mean 1 Min 0	0.65
					<i>Baikiaea</i>	Max 6 Mean 1 Min 0	0.28
	Caprivi Region	2 009 527	<i>Baikiaea - Burkea - Mopane</i>	87	<i>Pterocarpus</i>	Max 2 Mean 0 Min 0	0.06
					<i>Baikiaea</i>	Max 12 Mean 1 Min 0	0.75
	Caprivi State Forest	146 100	(Degraded) <i>Baikiaea - Combretum - Burkea</i>	71	<i>Pterocarpus</i>	Max 5 Mean 0 Min 0	0.30
					<i>Baikiaea</i>	Max 19 Mean 4 Min 0	2.69
Savannahs, (Covers 64% of Namibia's land area)	Tsumkwe, Otjomene & Otakarara Districts	8 212 477	<i>Acacia - Terminalia</i>	101			
	Ongadjera Forest	128 200	<i>Mopane-Acacia</i>	10			
	Uukwaludhi Forest	82 520	<i>Mopane - Commiphora - Terminalia</i>	53			
	Omusati Region**	1 383 924	<i>Mopane-Terminalia-Acacia</i>	33			
	Oshana Region	259 675	<i>Mopane-Diospyros</i>	12			

1. Timber volume means the volume of the main tree trunk excluding branch wood. 2) \* *P. angolensis* and *B. purijuga* were not found in the sample in these areas. 3) \*\*There is a little bit of *Baikiaea purijuga* in the north west of Omusati Region, in Uukolonkadhi Community Forest.

7. In the relatively tall *Pterocarpus-Baikiaea* dominated woodlands, maximum tree heights can reach 22 meters with an average height of 10 meters on some sites. However, the maximum timber volume is low since only traditionally exploited species, *Pterocarpus* and *Baikiaea*, are counted. However, substantial quantities of *Burkea africana* stocks exist that could be utilized, only if the technology of sawing it could be improved and the commercial use promoted. Woody bio mass yields from each type range from 13 to 20 tons per hectare. These estimates do not include the grass sward, which on average, is about one quarter of the woody biomass in a good year. The use of fuel wood remains the biggest consumer of wood, followed by domestic construction and fencing of homes and agricultural fields. The arts and crafts sub sector, which is closely linked to tourism is also a growing industry, and a good source of self-employment it will be strongly supported by NDP2. Therefore, Namibia

will continue to meet the local demand in fuel wood and timber for the art and crafts industry in the foreseeable future. The demand for industrial timber, paper, panels and treated fencing posts will continue to be met from imports, mainly from South Africa (See Table 16.4).

#### Non-wood forest products

8. Non-wood products from the woodlands include a number of fruits and nuts, medicines and grass, which have considerable economic value but are not commercially traded in significant quantities to earn their place in traditional national accounting systems. Nuts from marula and manketi trees have immediate commercial value for use in the pharmaceutical and cosmetic industries, in addition to their traditional use in local diets. Marula fruit can be used to make jam and its juice is already used in the manufacture of liqueur. The fruits of *Strychnos* and *Berchemia* enjoy a local market that has the potential to be more efficiently exploited by greater promotion, packaging and more intensive plant propagation. Of the medicinal plants, only the devil's claw (*Harpagophytum procumbens*) has an international market. Namibia however needs to consider some limited manufacture as opposed to playing the traditional African role of providing raw materials. In this regard, the participation of the private sector and community groups in commercial production and value added ventures would be a key area to be promoted during NDP2.

#### Consumption trends in forest products and implications on the resource base.

##### *Wood fuels and industrial wood*

9. Recent studies on the use of wood fuels in Namibia showed a daily per capita consumption of 0.69 kilograms, and the total annual consumption in 1996 of 672 331 metric tons, worth about N\$ 104 099 000 per year. By the year 2006, just after NDP2, the annual consumption will be about 1.1 million metric tons per year, worth N\$ 161 999 000. The figures take into account a 3% annual population growth rate. The local consumption of charcoal in Namibia is still limited to the middle to upper income groups, and in the hospitality industry. In 1996 the local consumption was estimated to be about 3000 metric tons of which 12 000 metric tons was for export to Europe and South Africa. At a conversion ratio of 5 to 1, this translates to about 75 000 metric tons of raw wood.

10. Charcoal production is very dependent on European markets, in which product certification requirements could turn out to be a non-tariff trade barrier. In spite of the restriction in place, export volumes have potential to double. Consequently, individual exporters have already engaged certification agencies to assist. In the meantime, an ad hoc Woodland Management Council formed by Government, producers, exporters and the National Farmers Union to oversee sound management practices.

11. Current estimates suggest that Namibia's local consumption of charcoal will increase to 6000 metric tons per year by 2006. With the expansion of rural electrification and the possible development of the Kudu Gas Field, the consumption of fuel wood in the urban north and, ultimately in some rural areas, may go down. Currently, the consumption in these towns is high, causing degradation of neighbouring wooded areas. Policies to subsidise long-distance transport of fuel wood from areas of surplus such as Tsumeb and East Ohangwena to the urban north may be necessary, especially with the planned construction of the Tsumeb-Oshikango Railway Line.

12. Almost all of the industrial wood and its products are imported. The trend increased soon after Independence, as shown by the spectacular jumps between 1996 to 1998 years (Table 16.4). It is more likely that consumption will stabilize because of the slow growth in

the economy. Table 16.4 shows that consumption of fibreboard doubled between 1995 and 1996, and is still high but declining. Plywood volumes doubled from 1995 to 1998, and continue to increase. Trends in sawn wood volumes are similar, presumably as a result of the recent construction booms. Newsprint imports have also risen steeply but are now stable. The import bill for wood and wood products is high and Namibia could do better by sourcing wood and wood products more widely and competitively from other parts of the SADC Region to reduce costs.

Table 16.3: Economic value of the forest resources of Namibia

Product	Main species	Annual value (million NS)
Construction poles	Mopane	383
Tourism	Ecosystem (e.g. mopane and acacia woodlands in Etosha)	218
Fences for crop protection	Mopane	175
Firewood & Charcoal	Mopane, Acacia spp, Various bush invaders	153.4
Medicine	Various species such as devil's claw	31.5
Homestead fencing	Mopane	31
Crafts and implements; Mahangu baskets; Carvings	Various species; Mopane	34.4
Goat forage	Various species, mainly acacia	9.5
Fencing poles	Mopane	6.6
Food & Beverages	Marula oil, Various species, Manketti kernels	6.3
Basketry	Hyphaene spp (Makalani palm)	4
Commercial logging	Pterocarpus (Kiaat), Baikya (Rhodesian teak)	2.4
Mortar and pestle	Various hardwood	1.5
Ornamental roots	Mopane	1.1
Mopane worm forage	Mopane	0.5
<b>Total Economic Value</b>		<b>1058.2</b>

(Source: Modified from Forestry Strategic plan of 1996)

Table 16.4: Consumption of imported wood and wood products

Wood Product Category	Unit	Years				Projected* 1999	Total Imports
		1995	1996	1997	1998		
Charcoal	Tons	3,989	845	587	670	683	6,773
Household and Sanitary	Tons	8,422	47,646	34,843	74,390	79,129	244,430
Newsprint	Tons	98	193	191	163	76	722
Paper and Paperboard	Tons	43,700	10,867	11,174	20,470	23,938	110,149
Fibre-, Particle-, Wafer-board		1,656	3,870	3,071	4,341	6,037	18,976
Plywood	Tons	88	450	1,023	2,329	600	4,489
Printed Matter	Tons	4,498	7,229	3,487	5,797	3,330	24,340
Pulp	Tons	90	523	358	1,313	389	2,673
Sawdust	Tons	216	708	40	234	177	1,376
Veneer sheets	Tons	180	177	152	32	218	758
Wood wool	Tons	53	43	89	17	2	203
Wrapping and Packaging	Tons	241	82	380	364	189	1,252
Chip wood	m <sup>3</sup>	4,635	6,578	7,277	15,073	12,667	46,230
Fuel wood	m <sup>3</sup>	359	357	153	343	276	1,488
Round wood	m <sup>3</sup>	1,263	2,340	2,998	4,564	4,693	15,859
Sawn wood Hard	m <sup>3</sup>	1,232	636	682	1,929	701	5,180
Sawn wood Soft	m <sup>3</sup>	3,307	3,880	4,106	6,984	8,725	27,002

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Wood Product Category	Unit	Years				Projected* 1999	Total Imports
		1995	1996	1997	1998		
Sleepers	m <sup>3</sup>	323	55	6,935	1,212	173	8,699
Value	N\$	351,851,800	366,861,282	418,811,042	542,293,303	507,049,404	2,186,866,837

(Source CBS, National Planning Commission, Namibia)

## 2. Review of the Sector Performance during NDP1

13. The Sector Objectives in NDP1 were based on those stated in the forest policy of 1992. They were revised during the mid-term review of NDP1, and are now in line with the Forestry Strategic Plan of 1996. The plan was the first comprehensive post-independence strategic forestry document, and a valuable complement to the forest policy of 1992. The revised goals, objectives and targets are described in section 3: Sector Mission Statement, Major sector Objectives, Targets and Performance Indicators.

### Progress realized

14. Progress was realized in the areas of institutional development, the management of forest resources, conservation and research.

#### *Institutional Development*

15. In 1995, the Ministry of Environment and Tourism initiated two historic activities in the forest sector, namely: the revision of the forest legislation, which started in 1995 till 1997, and the development of the first National Forestry Strategic Plan in 1996. The new Draft Forest Bill of 1997, and the newly Revised Draft Forest Policy of 1998 are going through the formal approval process. To date, the strategic plan is the major instrument used in implementing policy, and is also the basis of donor support to the sector. It has four programme areas, namely: Institutional Capacity Building, Community Level Management of Natural Forests, Farm Forestry and Environmental Forestry. It is important to add that these processes entailed the participation of other Government Ministries, regional and traditional authorities, public consultations, commissioned studies, and multi-sectoral review of the documents produced.

16. In 1997, the Ministry of Environment and Tourism, in conjunction with the Public Service Commission, restructured the Directorate. The Northern Region was split into two, namely: the north east and north west, each under a Chief Forester, in order to deliver services more effectively to these more densely populated parts of the country. In addition, the Directorate constructed new offices in Katima Mulilo, Rundu, Ongwediva, Tsumkwe, Outapi, Eenhana and Onankali. The National Research Centre and a Tree Seed Centre was also constructed at Okahandja. In addition, Offices were established in Otjiwarongo, Gobabis, Keetmanshoop and Opuwo. This development of infrastructure was one of the remarkable achievements during NDP1.

17. To improve the performance of the forest service, the Directorate has adopted an operational planning system, which develops mid-term strategic objectives, 5 and 10-year vision periods, defines major result areas and sets targets on an annual basis. The achievement of the defined result areas and targets are used to manage the performance of individual staff, starting from the Director to District Forest Officers. In addition, a vital Management Information System for the sector has been put in place. Within it, 6 priority systems have been identified for immediate development. Of these, 3 systems dealing with forest permits, inventory and management reporting have been designed and are being

tested. The Directorate, under Human Resource Development, has trained 9 people at diploma level. 8 have successfully completed their course, and have rejoined the Directorate. 15 have gone for degree (BSc) level training. Among these, 7 completed their training in December 2000. The rest will finish between 2001 and 2003. At the post-graduate level, a total of 7 were sent for MSc level training and all have completed. 6 returning to the Directorate.

### *Management and Conservation of Forest Resources*

18. Under the community-based programme in the strategic plan of 1996, 6 community forest reserves were proclaimed, and pilot projects in Uukwaaludhi (Omusati Region), Okongo (Ohangwena), Ohepi (Oshikoto), East Caprivi and Kanovlei (Tsumkwe) were started during NDP1. They will continue during NDP2.

19. A vegetation-mapping project was successfully completed in 1997. It was soon followed by the inception of a national forest inventory, which is yielding data on woody biomass and plant diversity currently being used for making management decisions. A new permit system, permit fees and tariffs on various products was gazetted in 1998 as a way to monitor the use of forest resources, and also to recover some costs involved in farm inspections.

20. On conservation, the Environmental Forestry (EF) component has guided the development of the national criteria for identifying forest or woodland ecosystems worthy of conservation. The EF component collaborates with other agencies to promote the conservation of biological diversity, the maintenance of forests as carbon sinks, the mitigation of climate change and combating desertification. Allied to management and conservation, the Directorate has adopted and is in the process of implementing the globally accepted concept of using Criteria and Indicators for Sustainable Forest Management as a tool for measuring the performance of the sector.

### *Research*

21. A national research and tree seed centre was constructed and commissioned in 1997.

22. Members of staff were trained at MSc level (3), and at diploma or technician level (2). In addition, of those officials undergoing undergraduate training, 2 are designated for research. Currently, there are projects on mopane woodland management, marula provenance trials, and seed related work. A proposal for the selection and genetic improvement of selected indigenous fruit trees has been prepared. In addition, a protocol on long-term monitoring of forests using permanent sample plots has been developed and will soon be launched.

23. The National Remote Sensing Centre is now staffed by Namibians and is fully operational. It will continue the work on mapping, ecological monitoring and providing training to interested parties in remote sensing and geographic information systems.

## **Constraints**

### *Institutional Development*

- Serious under staffing at the professional (degree holder) level still hinders effective and efficient planning and supervisory capacities.
- A planning unit has not been created.

- The process of approving the new forest bill is quite long and has hindered the gazetting of newly created reserves.
- A number of staff members still do not fully understand the concept and value of a performance management system.

#### *Management and Conservation of Forest Resources*

- All community forest reserves neither have management plans nor organized management committees. Also, there is currently insufficient coordination between community-based initiatives. Better progress, synergy and cost-efficiency would be achieved through more integrated and collaborative approaches with other natural resource sectors.
- Public appreciation of the value of forest management and protection against factors such as over-harvesting and destructive fires is still not sufficient. This tends to frustrate the good intentions behind decentralisation of functions to local institutions with weak legal mandates and short histories of involvement in resource management and control.
- The assistance from land management Ministries still needs a lot of improvement to support sustainable management of natural resources.
- Planting of trees is constrained by harsh climatic conditions and extremely high evapo-transpiration rates.

#### *Research*

- The Research Division has had major setbacks due to loss of staff and an insufficient number of trained and experienced staff.
- Access to past research records remain difficult because they were published in German and are now archived, and research records, published during the South African Mandate Period were taken to and stored in South Africa.

### **3. Sector Mission Statement, Major Sector Objectives, Targets and Performance Indicators**

#### **Mission Statement**

24. The Mission of the Directorate of Forestry is to practise and promote the sustainable and participatory management of forest resources and other woody vegetation to enhance socio-economic development and environmental stability.

#### **Major Sector Objectives**

##### *Revised Goals and Overall Sector Objectives*

- Contribution towards meeting the needs of the rural poor through the provision of basic needs in firewood, poles, posts and food; and the generation of rural incomes, and stimulation of the growth of productive off-farm activities in the rural areas.
- Maintenance of the protective functions of forests with respect to soil, water and biodiversity vital for the welfare of the present and future generations.
- Strengthening of forestry institutions to improve their competence.



25. To achieve the above policy goals for the forest sector, the objectives of the forest policy of 1992 have been rewritten to read as follows:

- To maintain environmental stability and where necessary, restore ecological balance of adversely disturbed sites through forestry.
- To conserve the national heritage of forest types through a network of protected representative forests and other wooded ecosystems.
- To integrate forestry planning into regular national, and local land-use plans and farming systems.
- To increase the wooded area and improve the quantity and quality of wood and non-wood resources, and oversee their sustainable utilization.
- To meet the local demand for fuel wood, domestic construction and fencing materials.
- To develop and publicize professional knowledge in forests through research.
- To promote and regulate the processing and trade, both local and international, of wood and non-wood products.
- To facilitate community participation of particularly women in forest management in order to generate income and enhance food security.

*Linkages between the Sector Plan and national economic and "sustainable development" objectives*

Issues of social and economic development

26. The Forest Sector Plan has considered as far as possible, the national development objectives emphasise employment creation, income generation and redistribution, and contributing to general economic growth. At the same time, the forest sector should also respond to national and global environmental needs and concerns.

27. The plan stresses a policy goal to contribute to rural economic development, and at the field level the sector's plan to increase income-generating programmes by promoting the commercial use of indigenous fruits and oil nuts, is in line with the national concerns for poverty reduction and income generation. The community based fire management project in the Caprivi will also be extended to the Kavango. The project improves pasture quality and quantity which is important for food security and income generation from livestock, and also through the sales of thatch grass which has become quite lucrative in East and West Caprivi. The focus on community forest reserves will give ownership rights over forest resources of all kinds. This will not only stimulate community organization and improve decision-making, but also generate incomes. Protected and well-managed forest reserves contribute to tourism by presenting attractive environments and rich biodiversity, and also support the arts and crafts industry through the supply of solid wood and fibres. In addition, the sector will continue to supply vital commodities for domestic construction and renewable energy. The sustainable use of woody vegetation in heavily bush-encroached areas for products such as charcoal will improve range conditions for livestock and game, create socially acceptable employment and supplement farm incomes.

Issues of the Environment

28. The forest sector manages community forest reserves through a network. Therefore, tree planting will add to the network of protected areas. These reserves support biological diversity. From these several ecological benefits will accrue since, help to mitigate desertification and directly store carbon as a contribution to managing climate change. The

Directorate of Forestry is an active member of the biological diversity task force and also contributes directly towards efforts to combat desertification.

### Targets and Performance Indicators

29. During NDP2, the forest sector will implement the four programmes of the strategic plan of 1996, which have been made operational by the elaboration of 10 mid-term strategic objectives. Each strategic objective is associated with activities, whose accomplishment will be assessed by specific time bound targets or milestones. These are presented on Table 16.5.

Table 16.5: Strategic objectives, Targets and Performance Indicators

Strategic Objectives	Targets/Milestones	Indicators
<ul style="list-style-type: none"> <li>Develop or Review Policy and Legislation and communicate key issues to the public, and spearhead coordination in forestry development</li> </ul>	<ul style="list-style-type: none"> <li>Revised Policy approved and launched by 2001</li> <li>Draft Forest Bill Approved by 2001</li> <li>Popular versions of policy legislation published in local languages by 2001</li> </ul>	<ul style="list-style-type: none"> <li>Cabinet approval</li> <li>Official Gazette</li> <li>% awareness rating</li> </ul>
	<ul style="list-style-type: none"> <li>Inter-ministerial Coordination Committee established by end of 2001</li> <li>District Forestry Coordination Committees established in 8 northern regions by 2001.</li> </ul>	<ul style="list-style-type: none"> <li>Minutes</li> <li>Minutes</li> </ul>
<ul style="list-style-type: none"> <li>Implement Strategic and Forest Management Planning as routine instruments of sector development</li> </ul>	<ul style="list-style-type: none"> <li>Regional officers understand and use the concepts of strategic and operational plans by 2003</li> <li>Guidelines for establishment of Community Forestry ready by 2002</li> <li>Guidelines for harvesting operations in place by 2001.</li> </ul>	<ul style="list-style-type: none"> <li>Regional plans</li> <li>Approved document</li> <li>Approved document</li> </ul>
	<ul style="list-style-type: none"> <li>Five Management Information Systems fully operational by 2005</li> <li>Forest Planning Unit Established by 2003</li> </ul>	<ul style="list-style-type: none"> <li>MIS in use</li> <li>Appointments</li> </ul>
<ul style="list-style-type: none"> <li>Implement the Strategy of Environmental Forestry</li> </ul>	<ul style="list-style-type: none"> <li>Criteria for the establishment of Forest conservation areas published and nationally adopted 2001               <ul style="list-style-type: none"> <li>Selected conservation forests surveyed and demarcated by 2001</li> </ul> </li> <li>Implementation of Management Plans by 2002 – 2003               <ul style="list-style-type: none"> <li>Continuous support to joint management committees</li> </ul> </li> <li>At least 3 strategic forest areas established by 2001.</li> </ul>	<ul style="list-style-type: none"> <li>Approved document</li> <li>Maps and gazette</li> <li>Annual reports</li> <li>MOU and progress reports</li> <li>Gazette</li> </ul>
<ul style="list-style-type: none"> <li>Implement the strategy of Community Participation in forest management</li> </ul>	<ul style="list-style-type: none"> <li>15 Community Forest Reserves (CFRs) declared by 2005</li> <li>6 identified by 2001</li> <li>Demarcation and survey of 8 CFRs by 2002</li> <li>Forest Management Committees established for 8 regions by 2003</li> <li>Implementation of Forest Management (including fire control) in 10 forest reserves by 2005</li> <li>Community Forestry programme closely integrated with other CBNRM initiatives and good collaboration achieved</li> </ul>	<ul style="list-style-type: none"> <li>Gazette</li> <li>Reports, MOU'S</li> <li>Maps</li> <li>Action plans and Progress Reports</li> </ul>

Strategic Objectives	Targets/Milestones	Indicators
	with other natural resource sectors	
Uphold and implement the principles of protection and conservation	<ul style="list-style-type: none"> <li>Regional Forest Fire Management plans prepared by 2001</li> <li>Fire control agreement by Namibia, Angola, Botswana, Zambia and Zimbabwe by 2002</li> <li>Controlled forest fires in communal lands by 2003 by Community based Fire management Units</li> <li>All field officers will be conversant with forest laws and will be enforcing them</li> </ul>	<ul style="list-style-type: none"> <li>Management &amp; action plans</li> <li>Signed MOU's</li> <li>Regional plans and progress reports</li> </ul>
Promote and implement afforestation and reforestation programmes	<ul style="list-style-type: none"> <li>1000 ha planted by 2005</li> </ul>	<ul style="list-style-type: none"> <li>Annual reports</li> </ul>
	<ul style="list-style-type: none"> <li>80 000 seedlings planted annually by 2005</li> <li>40 000 seedlings sold annually by 2005</li> </ul>	<ul style="list-style-type: none"> <li>Annual reports</li> <li>Annual reports</li> </ul>
	<ul style="list-style-type: none"> <li>200 ha rehabilitated annually by 2005</li> <li>2000 kg of seeds sold locally and internationally by 2005</li> </ul>	<ul style="list-style-type: none"> <li>Annual reports</li> </ul>
Develop forest research and provide forest management information	<ul style="list-style-type: none"> <li>Make forest inventory data user friendly by 2001</li> <li>Develop, improve and implement 2 research programmes by 2001</li> <li>Establish research for management information network by 2001</li> </ul>	<ul style="list-style-type: none"> <li>Approval rating</li> <li>Progress reports</li> <li>Document</li> </ul>
	<ul style="list-style-type: none"> <li>Completed National Forest Inventory for Northern Namibia by 2002</li> <li>Proposed and approved two new major research programmes (totaling 4) by 2001</li> <li>Two new major research programmes (totaling 4) established and implemented by 2002</li> <li>Updated vegetation maps by using forest inventory data by 2002</li> <li>NNF Cover Monitoring systems established for Kavango by 2003 and North Namibia by 2004</li> <li>Another 2 research programmes proposed by 2004 (totaling 6)</li> </ul>	<ul style="list-style-type: none"> <li>Approved proposals</li> <li>Approved proposals</li> <li>Maps</li> <li>Document and progress</li> <li>Reports</li> <li>Approved proposals</li> </ul>
Promote Human Resource Development and Organisational Effectiveness		
Promote Forest Based Industry and Forest Products	<ul style="list-style-type: none"> <li>Provide information on Forest Products (distribution estimated quantities) and potential markets by March 2002</li> <li>Promotional Projects underway by end of 2000 (March 2001)</li> <li>Forest based industry and forest product promotion strategy prepared by the end of 2001</li> <li>Strategy in full implementation by the end of 2003</li> <li>Value-added opportunities investigated by 2001 with mechanisms to promote, in partnership with private sector and other stakeholders.</li> </ul>	<ul style="list-style-type: none"> <li>Published statistics</li> <li>Publications, annual programs and progress reports</li> <li>Approved document</li> <li>Progress report</li> </ul>
Implement the strategy of Farm Forestry	<ul style="list-style-type: none"> <li>3000 fruit trees planted per year per region</li> </ul>	<ul style="list-style-type: none"> <li>Annual report</li> </ul>

Strategic Objectives	Targets/Milestones	Indicators
	<ul style="list-style-type: none"> <li>• 1000 Km of live fences established in the north west forestry region</li> <li>• 5000 Ha of on farm woodlands managed through approved plans</li> <li>• Tree crop management guidelines drafted by 2001</li> <li>• Network of stakeholders (NGO-s, Farm Unions) established by 2002</li> </ul>	<ul style="list-style-type: none"> <li>• Annual report</li> <li>• Annual report</li> <li>• Annual report</li> </ul>

#### 4. Sector Strategies

30. To realize the mission statement, the forest sector will follow the 4 programme areas elaborated in the Forestry Strategic Plan of 1996. The Institutional Capacity Building Programme will focus on policy and legislative reforms, development of institutional management systems, human resource development, research, and information management. The programme of Community Based Management of Natural Forests will involve the participation of rural communities in forest management and will entail granting them ownership and tenure rights to forest resources to achieve management objectives. The Farm Forestry Programme will attempt to integrate forestry into existing farming systems to contribute to food security and income generation. The Environmental Forestry Programme will manage designated forest areas for conservation to yield both national and global benefits. These will be achieved through defined mid-term strategic objectives given herein, result areas, annual plans, with clear division of responsibilities among staff, backed by a performance management system which is already in place.

##### *General Strategies*

- To implement Forest Policy, Legislation and to educate the public on these key documents.
- To institutionalize the culture of Strategic and Forest Management Planning in the sector.
- To Implement the Strategy of Environmental Forestry.
- To implement the Strategy for Community Involvement in Forestry in the whole country.
- To uphold the Principles of Forest Protection or Conservation for national and global benefits.
- To promote and implement afforestation and reforestation programmes.
- Conduct forest research and provide information for forest management.
- To institutionalize a system for Human Resources Development and Organizational Effectiveness.
- To provide needed baseline data and information, and to promote forest products, with special emphasis on the promotion of the private sector to participate in value-added commercial activities based on wood and non-wood products.

31. All the four programmes of the strategic plan: institutional capacity building, community level management of natural forests, farm and environmental forestry, will be fully operational in all the forestry regions of Namibia.

32. By the year 2005, trained Namibians will occupy 85% of the professional posts and 100% of the technical posts.

33. A fully functional inventory and planning unit will be established.
34. The forest sector will be monitored and evaluated using the internationally recognized criteria and indicators for sustainable forest management, backed by a well functioning Management Information System.
35. All the declared community forest reserves will be managed according to formulated management plans, and forest reserves will be recognized alongside other protected areas of Namibia in the form of state, regional and community forest reserves.
36. The contribution of the forest sector in the form of tangible products such as fruits, oils and services will be reflected in the national accounts.
37. A formal industry of wood and non-wood products such as crafts, industrial oils, and indigenous fruits and juices will be contributing more significant towards the rural economy, with increased participation of the private sector.

### *Specific Strategies*

#### Planning and Co-ordination

- The sector will employ a multi-sector approach to planning, especially at the regional levels and to seek official policy support from land-use Ministries at the national level.
- Annual operations will be guided by mid-term strategic, and annual objectives as described before.
- It will develop management plans recognized by stakeholder communities and local political bodies.
- Support will be given to Non-Governmental, Community Based and private sector organisations involved in forestry.
- Pilot projects such as the successful community based fire project in the Caprivi, will be replicated in other areas.
- The Ministry will support regional and local governments to be involved in forest management in support of the *policy of decentralization*, especially where these institutions have a comparative advantage over the central Government.

#### Financing

- The Government will continue to finance the recurrent budget required to manage the sector.
- Donor financing will still be sought to supplement the development budget. In this regard, donor support will mainly support conservation for local and global benefits, and also income generating and poverty reduction projects aimed at the rural poor.
- To attract further funding, the sector will use tools such as Criteria and Indicators for Sustainable Forest Management to demonstrate its worth to the national economy.

## 5. Sector Programmes

38. The programmes included in the Public Sector Investment Programme for implementation during the NDP2 period are summarised on Table 16.6.

**Table 16.6: Forestry PSIP-Expenditures**

(NS Thousands)

Grand Total		2001/02	2002/03	2003/04	2004/05	2005/06	Total NDP2
16	Forestry	23,564	32,097	13,915	13,397	22,120	105,093
1	Afforestation and Forest rehabilitation	400	462	560	10	290	1,722
2	Forest Research and Information Programme	0	0	0	0	5,400	5,400
3	Promote Forest Based Industry and Forest Products	0	200	200	200	0	600
4	Support to Forestry Programme	13,214	21,705	4,830	5,567	8,500	53,816
5	Community Based Forest Management	4,320	5,170	5,570	5,570	6,250	26,880
6	Community forest management and utilisation	1,730	2,240	1,225	830	360	6,385
7	Community timber utilisation	500	250	250	250	250	1,500
8	Charcoal Industry Promotion	950	770	70	40	20	1,850
9	Sustainable Income Generating of Community Projects	400	0	0	0	0	400
10	Firewood Conservation	500	600	400	100	100	1,700
11	Environment Monitoring and Data Collection	550	50	50	60	70	780
12	Environmental Awareness and Control	450	100	110	120	130	910
13	Development and Training of Community Skills	500	500	600	600	700	2,900
14	Farm Forest Promotion	50	50	50	50	50	250