



Food and Agriculture
Organization of the
United Nations

Global Forest Resources Assessment 2020

Report

Namibia

Rome, 2020



FAO has been monitoring the world's forests at 5 to 10 year intervals since 1946. The Global Forest Resources Assessments (FRA) are now produced every five years in an attempt to provide a consistent approach to describing the world's forests and how they are changing. The FRA is a country-driven process and the assessments are based on reports prepared by officially nominated National Correspondents. If a report is not available, the FRA Secretariat prepares a desk study using earlier reports, existing information and/or remote sensing based analysis.

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TABLE OF CONTENTS

Introduction

1. Forest extent, characteristics and changes
2. Forest growing stock, biomass and carbon
3. Forest designation and management
4. Forest ownership and management rights
5. Forest disturbances
6. Forest policy and legislation
7. Employment, education and NWFP
8. Sustainable Development Goal 15

Introduction

Report preparation and contact persons

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Introductory text

Namibia is a land of contrasts which is endowed by natural resources that provides goods and essential services for her citizens. The country covers an area of 824,000 km². The Forestry sector is managed by the Ministry of Agriculture, Water and Forestry through the Directorate of Forestry in partnership with the forestry stakeholders comprising of 1) local communities; 2) farmers and private sectors; and 3) institutions that provides financial resources. The Directorate of Forestry is divided into two main Divisions. These are: 1) Forest Management Division which is responsible for development of policy and legal framework, protection and management of classified forests, promotion of farm community, and environmental forestry, provision of extension services and maintenance of an efficient sector-wide management information system, and 2) The Forestry Research Division which is responsible for conducting integrated forestry research including indigenous knowledge and dissemination of forestry research information. As part of Namibia's Community-Based Natural Resource Management (CBNRM) Programme, community forests provide local communities with rights to manage forest resources. These rights include the use of wood and non-wood products for commercial purposes; the issuing of forest-use permits at community level; and the management of grazing areas. These multi-purpose functions of community forests have been recognized in the Namibian Forest Act where specific provisions are made for the integration of non-forest land use, which includes the zoning and management of rangelands, and provides scope for the introduction of integrated land use management in general. Regarding the status of forestry information availability in Namibia, a comprehensive national forest inventory has not yet been done for the whole country. In addition, there are no land cover maps to track changes over time. The main challenge is manpower and resources. Currently only 4 regions were inventoried between 1995 and 2000 out of 13 regions. However, forest inventories have been carried out in selected community forests in most of the regions, but these data do not represent larger areas of the country. This synthesis represents the country report for Namibia as part of an input to Global Forest Resources Assessment (FRA) 2020.

1 Forest extent, characteristics and changes

1a Extent of forest and other wooded land

National data

Data sources

1992	References	Holm, D. and Graz, P. 1992. Forest Cover Mapping Northern Namibia Phase I II, Vol I II
	Methods used	Full-cover forest/vegetation maps
	Additional comments	The mapping covered only the north central and the north-eastern part of the country, where the majority of the forests are found.
2000	References	Mendelsohn, J. et al 2002. Atlas of Namibia: A portrait of the Land and its People
	Methods used	National Forest Inventory, Sample-based remote sensing assessment
	Additional comments	

Classifications and definitions

1992	National class	Definition
	Shrubland	
	Forest	
	Grassland	
	Riverine woodland	
	Salt pan	
	Shrubland-Woodland mosaic	
	Sparse grassland and Shrubland	
	Woodland	
2000	National class	Definition
	Shrubland	Are those areas where shrubs (<3m in height) dominates the landscape and there are few trees.
	Forest	Are those areas where trees dominate and where the canopy cover is >75%.
	Grassland	Is an area with predominant grass cover with <2% woody vegetation cover. Grasslands with >2% vegetation cover belong to the very open forest or very open Savanna/Bushland class.
	Riverine woodland	
	Salt pans	
	Shrubland-Woodland mosaic	

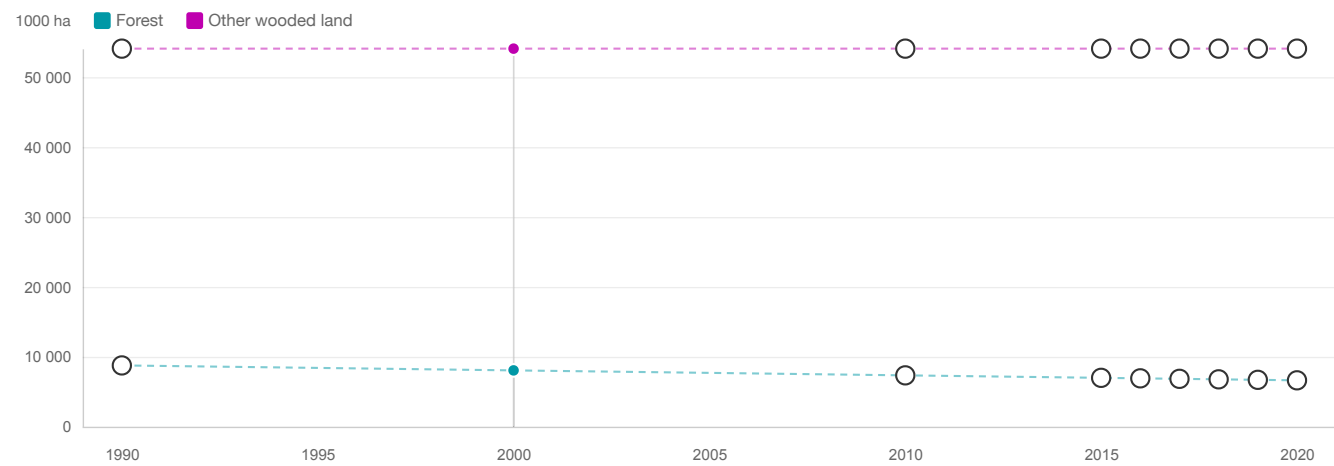
	Sparse grassland and Shrubland	
	Woodland	Are those areas where trees dominates the landscape and cover is <75%

Original data and reclassification

1992	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Shrubland	43 601.97	0.00 %	100.00 %	0.00 %
	Forest	99.82	100.00 %	0.00 %	0.00 %
	Grassland	7 243.68	0.00 %	0.00 %	100.00 %
	Riverine woodland	348.00	60.00 %	30.00 %	10.00 %
	Salt pan	540.02	0.00 %	0.00 %	100.00 %
	Shrubland-Woodland mosaic	14 257.83	0.00 %	33.00 %	67.00 %
	Sparse grassland and Shrubland	3 588.58	0.00 %	50.00 %	50.00 %
	Woodland	12 917.44	60.00 %	30.00 %	10.00 %
	Total	82 597.34	8 059.08	54 080.98	20 457.28

2000	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Shrubland	43 601.97	0.00 %	100.00 %	0.00 %
	Forest	99.82	100.00 %	0.00 %	0.00 %
	Grassland	7 243.68	0.00 %	0.00 %	100.00 %
	Riverine woodland	348.00	60.00 %	30.00 %	10.00 %
	Salt pans	540.02	0.00 %	0.00 %	100.00 %
	Shrubland-Woodland mosaic	14 257.83	0.00 %	33.00 %	67.00 %
	Sparse grassland and Shrubland	3 588.58	0.00 %	50.00 %	50.00 %
	Woodland	12 917.44	60.00 %	30.00 %	10.00 %

	Total	82 597.34	8 059.08	54 080.98	20 457.28
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FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest (a)	8 769.17	8 059.08	7 348.99	6 993.95	6 922.94	6 851.93	6 780.92	6 709.91	6 638.90
Other wooded land (a)	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98	54 080.98
Other land (c-a-b)	19 478.85	20 188.94	20 899.03	21 254.07	21 325.08	21 396.09	21 467.10	21 538.11	21 609.12
Total land area (c)	82 329.00	82 329.00	82 329.00	82 329.00	82 329.00	82 329.00	82 329.00	82 329.00	82 329.00

The FAOSTAT land area figure for the year 2015 is used for all reference years

Climatic domain	% of forest area 2015	Override value
Boreal	0.00	
Temperate	0.00	
Sub-tropical	0.00	
Tropical	100.00	

Comments

The reason to why the forest area is slightly different from what was reported in for FRA 2010 and FRA 2015 is that no calibration factor was used to adjust the areas to match the land area as maintained by FAOSTAT. Instead of applying a calibration factor the "Other land" area was adjusted to match the FAOSTAT area. Linear extrapolation was used to calculate the Forest area.

- Note: (a) the data on forest area is old and not very reliable, but due to lack of more recent and better data it is being used despite other datasets (Hansen, Africover, etc) indicate substantially less area covered by trees; (b) the data on other wooded land for year 2000 has been kept constant over the time series; and (c) the figure on Other Wooded Land for 1992 is strongly underestimated as that data point only covered the forested part of the country.

1b Forest characteristics

National data

Data sources

1992	References	Holm, D. and Graz, P. 1992. Forest Cover Mapping Northern Namibia Phase I II, Vol I II
	Methods used	Full-cover forest/vegetation maps
	Additional comments	The mapping covered only the north central and the north-eastern part of the country, where the majority of the forests are found.

2000	References	Mendelsohn, J. et al 2002. Atlas of Namibia: A portrait of the Land and its People
	Methods used	National Forest Inventory, Sample-based remote sensing assessment
	Additional comments	

Classifications and definitions

1992	National class	Definition
	Shrubland	
	Forest	
	Grassland	
	Riverine woodland	
	Salt pan	
	Shrubland-Woodland mosaic	
	Sparse grassland and Shrubland	
	Woodland	

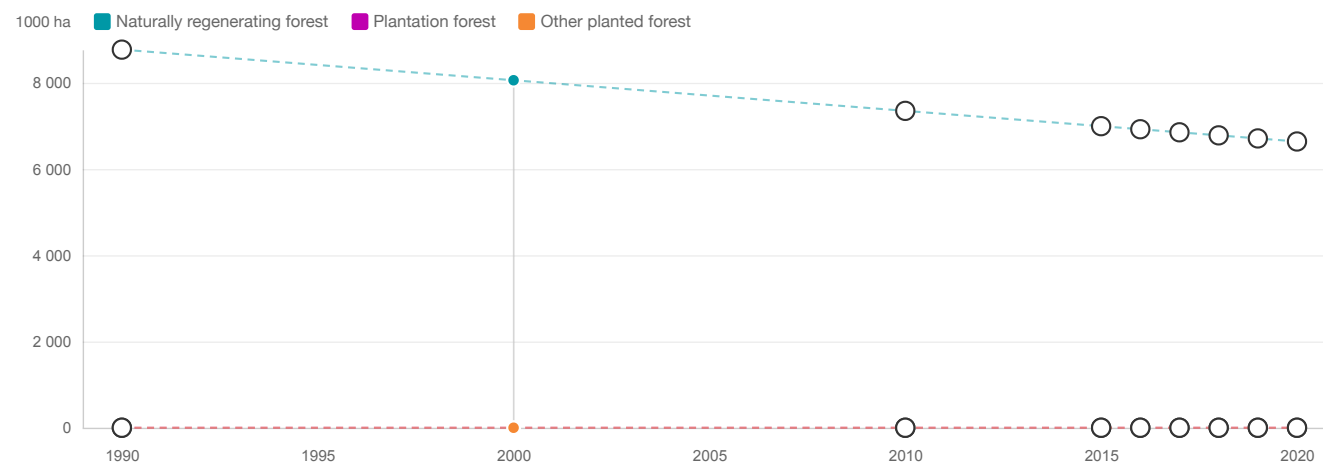
2000	National class	Definition
	Shrubland	Are those areas where shrubs (<3m in height) dominates the landscape and there are few trees.
	Forest	Are those areas where trees dominate and where the canopy cover is >75%.
	Grassland	Is an area with predominant grass cover with <2% woody vegetation cover. Grasslands with >2% vegetation cover belong to the very open forest or very open Savanna/Bushland class.
	Riverine woodland	
	Salt pans	
	Shrubland-Woodland mosaic	
	Sparse grassland and Shrubland	
	Woodland	

	Are those areas where trees dominates the landscape and cover is <75%
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Original data and reclassification

1992	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
	Forest	99.82	%	%	%
	Riverine woodland	208.80	%	%	%
	Woodland	7 750.46	%	%	%
	Total	8 059.08	—	—	—

2000	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Naturally regenerating forest	Plantation forest	Other planted forest
	Forest	99.82	100.00 %	0.00 %	0.00 %
	Riverine woodland	208.80	100.00 %	0.00 %	0.00 %
	Woodland	7 750.46	100.00 %	0.00 %	0.00 %
	Total	8 059.08	8 059.08	0.00	0.00



FRA categories	Forest area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest (a)	8 769.17	8 059.08	7 348.99	6 993.95	6 922.94	6 851.93	6 780.92	6 709.91	6 638.90
Planted forest (b)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which introduced species	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (a+b)	8 769.17	8 059.08	7 348.99	6 993.95	6 922.94	6 851.93	6 780.92	6 709.91	6 638.90
Total forest area	8 769.17	8 059.08	7 348.99	6 993.95	6 922.94	6 851.93	6 780.92	6 709.91	6 638.90

Comments

There are some small areas of planted forests, but the extent is unknown and therefore all forest is reported as naturally regenerating forest.

1c Primary forest and special forest categories

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Primary forest					
Temporarily unstocked and/or recently regenerated	0.00	0.00	0.00	0.00	0.00
Bamboos	0.00	0.00	0.00	0.00	0.00
Mangroves	0.00	0.00	0.00	0.00	0.00
Rubber wood	0.00	0.00	0.00	0.00	0.00

Comments

1d Annual forest expansion, deforestation and net change

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

Forest expansion, reforestation

Since 2004, plantation activities are on-going at a low scale and the information is scanty. The data hereby provided by the national correspondent are based on his review and judgement.

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Forest expansion (a)				
...of which afforestation				
...of which natural expansion				
Deforestation (b)				
Forest area net change (a-b)	-71.01	-71.01	-71.01	-71.01

Comments

Data on forest expansion and deforestation is not available.

1e Annual reforestation

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Reforestation	0.00	0.00	0.00	0.00

Comments

1f Other land with tree cover

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

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Reclassification into FRA 2020 categories

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FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Palms (a)	0.00	0.00	0.00	0.00	0.00
Tree orchards (b)					
Agroforestry (c)	0.00	0.00	0.00	0.00	0.00
Trees in urban settings (d)					
Other (specify in comments) (e)					
Total (a+b+c+d+e)	0.00	0.00	0.00	0.00	0.00
Other land area	19 478.85	20 188.94	20 899.03	21 254.07	21 609.12

Comments

2 Forest growing stock, biomass and carbon

2a Growing stock

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry Database and Annual reports, Ministry of Agriculture, Water and Forestry

National classification and definitions

-

Original data

Reported values are based on expert estimates. As no new data are available, the same figures are used in this report as was reported for FRA 2015.

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Growing stock m³/ha (over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07
Planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forest	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.07
Other wooded land	5.23	5.23	5.23	5.23	5.23	5.23	5.23	5.23	5.23

FRA categories	Total growing stock (million m³ over bark)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	211.07	193.98	176.89	168.34	166.64	164.93	163.22	161.51	159.80
Planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forest	211.07	193.98	176.89	168.34	166.64	164.93	163.22	161.51	159.80
Other wooded land	282.84	282.84	282.84	282.84	282.84	282.84	282.84	282.84	282.84

Comments

2b Growing stock composition

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Scientific name	Common name	Growing stock in forest (million m³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
#1 Ranked in terms of volume							
#2 Ranked in terms of volume							
#3 Ranked in terms of volume							
#4 Ranked in terms of volume							
#5 Ranked in terms of volume							
#6 Ranked in terms of volume							
#7 Ranked in terms of volume							
#8 Ranked in terms of volume							
#9 Ranked in terms of volume							
#10 Ranked in terms of volume							
Remaining native tree species							
Total volume of native tree species			–	–	–	–	–
Introduced tree species							
#1 Ranked in terms of volume							
#2 Ranked in terms of volume							
#3 Ranked in terms of volume							
#4 Ranked in terms of volume							
#5 Ranked in terms of volume							
Remaining introduced tree species							
Total volume of introduced tree species			–	–	–	–	–
Total growing stock			–	–	–	–	–

Comments

2c Biomass stock

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry Database and Annual reports, Ministry of Agriculture, Water and Forestry

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

Insert the percentages of Growing stock by IPCC forest type for each of the FRA forest categories									
IPCC forest types	FRA forest categories								
	Naturally regenerating forest	Plantation forest	Other planted forest						
	% of Growing stock								
Broadleaved humid									
Broadleaved dry	100%	100%							
Coniferous			100%						
	100%	100%	100%	Must add up to 100%					
Insert Carbon fraction used by country (IPCC default = 0.47)									
Carbon Fraction	47%								
Biomass conversion and expansion factors (BCEF)									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020
Broadleaved humid	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Broadleaved dry	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Coniferous	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25

Plantation forest									
Broadleaved humid	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Broadleaved dry	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Coniferous	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Other planted forest									
Broadleaved humid	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Broadleaved dry	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Coniferous	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Weighted BCEF									
Naturally regenerating forest	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80
Plantation forest	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Other planted forest	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
Root-shoot ratios									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020
Broadleaved humid	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Broadleaved dry	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Coniferous	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Plantation forest									
Broadleaved humid	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Broadleaved dry	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Coniferous	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Other planted forest									
Broadleaved humid	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Broadleaved dry	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Coniferous	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Weighted RS ratio									
Naturally regenerating forest	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Plantation forest	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Other planted forest	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40

Above-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	67.40	67.40	67.40	67.40	67.40	67.40	67.40	67.40	67.40
Plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	67.40	67.40	67.40	67.40	67.40	67.40	67.40	67.40	67.40
Below-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	18.87	18.87	18.87	18.87	18.87	18.87	18.87	18.87	18.87
Plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	18.87	18.87	18.87	18.87	18.87	18.87	18.87	18.87	18.87

Reclassification into FRA 2020 categories

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FRA categories	Forest biomass (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass	67.40	67.40	67.40	67.40	67.40	67.40	67.40	67.40	67.40
Below-ground biomass	18.87	18.87	18.87	18.87	18.87	18.87	18.87	18.87	18.87
Dead wood									

Comments

The IPPC biomass calculator used for the analysis

2d Carbon stock

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

Insert the percentages of Growing stock by IPCC forest type for each of the FRA forest categories									
IPCC forest types	FRA forest categories								
	Naturally regenerating forest	Plantation forest	Other planted forest						
	% of Growing stock								
Broadleaved humid									
Broadleaved dry	100%	100%							
Coniferous			100%						
	100%	100%	100%	Must add up to 100%					
Insert Carbon fraction used by country (IPCC default = 0.47)									
Carbon Fraction	47%								
Biomass conversion and expansion factors (BCEF)									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020
Broadleaved humid	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Broadleaved dry	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Coniferous	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55

Plantation forest									
Broadleaved humid	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Broadleaved dry	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Coniferous	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Other planted forest									
Broadleaved humid	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Broadleaved dry	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Coniferous	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Weighted BCEF									
Naturally regenerating forest	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Plantation forest	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Other planted forest	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Root-shoot ratios									
Naturally regenerating forest	1990	2000	2010	2015	2016	2017	2018	2019	2020
Broadleaved humid	0.24	0.24	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Broadleaved dry	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Coniferous	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Plantation forest									
Broadleaved humid	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Broadleaved dry	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Coniferous	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
Other planted forest									
Broadleaved humid	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Broadleaved dry	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Coniferous	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Weighted RS ratio									
Naturally regenerating forest	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Plantation forest	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Other planted forest	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40

Above-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	139.26	127.38	121.44	115.50	109.56	103.62	97.68	91.74	85.80
Plantation forest	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00
Other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	139.22	127.35	121.41	115.47	109.53	103.60	97.66	91.72	85.78
Below-ground biomass (t/ha)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest	38.99	35.67	34.00	32.34	30.68	29.01	27.35	25.69	24.02
Plantation forest	15.68	15.68	15.68	15.68	15.68	15.68	15.68	15.68	15.68
Other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	38.98	35.66	33.99	32.33	30.67	29.01	27.34	25.68	24.02

Reclassification into FRA 2020 categories

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FRA categories	Forest carbon (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Carbon in above-ground biomass	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68	31.68
Carbon in below-ground biomass	8.87	8.87	8.87	8.87	8.87	8.87	8.87	8.87	8.87
Carbon in dead wood									
Carbon in litter									
Soil carbon									

Soil depth (cm) used for soil carbon estimates	
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Comments

The IPPC biomass calculator used for the analysis

3 Forest designation and management

3a Designated management objective

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry Database and Annual reports, Ministry of Agriculture, Water and Forestry

FRA 2015 Country Report for Namibia.

National classification and definitions

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Original data

Information extracted from the Ministry of Agriculture, Water and Forestry Geographic Information System. Only protected areas with forest are listed here. The reclassification percentages are expert estimates.

Name	Type	Area (ha)	% forest	Forest area (ha)	Conservation	Multi-purpose
Ai-Ais Hot Springs	Game Park	432,197	15%	64,830	100%	0%
Bwabwata	Game Park	633,307	60%	379,984	0%	100%
Caprivi	Game Park	582,750	80%	466,200	0%	100%
Daan Viljoen	Game Park	3,910	25%	978	100%	0%
Eastern Caprivi	Forest Reserve	160,000	85%	136,000	0%	100%
Etosha	National Park	2,215,139	15%	332,271	100%	0%
Khaudum	Game Park	365,791	60%	219,475	100%	0%
Mahango	Game Reserve	24,462	45%	11,008	100%	0%
Mamili	National Park	34,317	55%	18,874	100%	0%
Mangetti	Game Reserve	41,990	35%	14,697	0%	100%
Mudumu	National Park	72,625	50%	36,313	100%	0%
Popa	Game Park	1,490	5%	75	100%	0%
Waterberg Plateau Park	Game Park	39,795	10%	3,980	100%	0%
Twyfelfontein	Communal Area Conservancy	28,600	5%	1,430	100%	0%
TOTAL				1,686,112	689,231	996,880

It is assumed that all the forests reserves, protected areas listed in the table above were established before 1990 and that the total area of forest designated for conservation purpose (689 000 ha) has remained constant. The area of community reserves is assumed to have remained constant for 2000 and 2005 as well as for the period 2010-2015 and was zero in 1990.

Regarding the multiple-use forest, in addition to 996 880 ha of reserves, it should also include the Community forest reserves. In 1990, the latter were not available; but from 2000 to 2005, they represented 521 934 ha, of which 85 % are forest (443 644 ha); and in 2010-2015, their area is 701 519, of which 85 % are forest (596 291 ha);

FRA Categories	Area in hectares				
	1990	2000	2005	2010	2015

Multi-purpose	996 880	1 440 524	1 440 524	1 593 171	1 593 171
Reserves	996 880	996 880	996 880	996 880	996 880
Community reserves	0	521 934	521 934	701 519	701 519

To estimate the "Total area with designated management objective", the reserves are assumed to be for both conservation of biodiversity and protection of soil and water while the Community reserves are for both conservation of biodiversity and production.

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

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Primary designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production (a)	0.00	0.00	0.00	0.00	0.00
Protection of soil and water (b)	0.00	0.00	0.00	0.00	0.00
Conservation of biodiversity (c)	689.23	689.23	689.23	689.23	689.23
Social Services (d)	0.00	0.00	0.00	0.00	0.00
Multiple use (e)	996.88	1 440.52	1 440.52	1 593.17	1 593.17
Other (specify in comments) (f)	0.00	0.00	0.00	0.00	0.00
None/unknown (g)	7 083.06	5 929.33	5 219.24	4 711.55	4 356.50
Total forest area	8 769.17	8 059.08	7 348.99	6 993.95	6 638.90

Total area with designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production	0.00	443.64	443.64	596.29	596.29
Protection of soil and water	689.23	1 132.87	1 132.87	1 285.52	1 285.52
Conservation of biodiversity	1 686.11	2 129.76	2 129.76	2 282.40	2 282.40
Social Services	0.00	0.00	0.00	0.00	0.00
Other (specify in comments)	0.00	0.00	0.00	0.00	0.00

Comments

3b Forest area within protected areas and forest area with long-term management plans

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry Database and Annual reports, Ministry of Agriculture, Water and Forestry

National classification and definitions

-

Original data

For forest area withing protected areas - see original data for table 3a.

There isno complete dataset on forest area with long-term forest management plan, however some forest areas are certified by FSC and therefore the area under long-term management plan should be at least the size of the FSC certified forest areas, which are used for the reporting. The 2018 figure is used for 2019-2020.

Namibia - FSC certified forest area

Date	Hectares
01/07/1999	49,000
01/07/2000	54,420
01/07/2001	49,000
01/07/2002	270,727
01/07/2003	270,727
01/07/2004	270,727
01/07/2005	292,157
01/07/2006	306,489
01/07/2007	219,623
01/07/2008	219,623
01/07/2009	327,919
01/07/2010	277,315
01/07/2011	270,028
01/07/2012	275,173
01/07/2013	240,837
01/07/2014	224,335
01/07/2015	142,474
01/07/2016	152,888
01/07/2017	225,477
01/07/2018	212,009

Analysis and processing of national data

Estimation and forecasting

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Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest area within protected areas		1 686.00	1 686.00	1 686.00	1 686.00	1 686.00	1 686.00	1 686.00	1 686.00
Forest area with long-term forest management plan		54.42	277.32	142.47	152.89	225.48	212.01	212.01	212.01
...of which in protected areas									

Comments

4 Forest ownership and management rights

4a Forest ownership

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry, Ministry of Agriculture, Water and Forestry

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Private ownership (a)	0.00	0.00	0.00	0.00
...of which owned by individuals	0.00	0.00	0.00	0.00
...of which owned by private business entities and institutions	0.00	0.00	0.00	0.00
...of which owned by local, tribal and indigenous communities	0.00	0.00	0.00	0.00
Public ownership (b)	8 769.17	8 059.08	7 348.99	6 993.95
Unknown/other (specify in comments) (c)	0.00	0.00	0.00	0.00
Total forest area	8 769.17	8 059.08	7 348.99	6 993.95

Comments

In Namibia, all forests are owned by the state (this include national parks, conervancies, community forests and forests in communal land).

4b Holder of management rights of public forests

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry, Ministry of Agriculture, Water and Forestry

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Public Administration (a)	8 769.17	8 059.08	7 348.99	6 993.95
Individuals (b)	0.00	0.00	0.00	0.00
Private business entities and institutions (c)	0.00	0.00	0.00	0.00
Local, tribal and indigenous communities (d)	0.00	0.00	0.00	0.00
Unknown/other (specify in comments) (e)	0.00	0.00	0.00	0.00
Total public ownership	8 769.17	8 059.08	7 348.99	6 993.95

Comments

5 Forest disturbances

5a Disturbances

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Insects (a)																		
Diseases (b)																		
Severe weather events (c)																		
Other (specify in comments) (d)																		
Total (a+b+c+d)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total forest area	8 059.08	-	-	-	-	-	-	-	-	-	7 348.99	-	-	-	-	6 993.95	6 922.94	6 851.93

Comments

5b Area affected by fire

National Data

Data sources + type of data source eg NFI, etc

Forest Monitoring and Mapping, Ministry of Agriculture, Water and Forestry

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

Burend area mapping done by Directorate of Forestry using MODIS aqua and Terra images

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total land area affected by fire	48 239.91	4 847.66	3 633.11	4 207.17	3 224.28	4 018.27	5 182.67	6 091.99	3 721.17	7 247.73	6 154.78	6 616.42	6 922.06	1 920.22	3 742.65	2 689.88	1 131.15	2 144.31
...of which on forest																		

Comments

5c Degraded forest

Does your country monitor area of degraded forest		No
If "yes"	What is the national definition of "Degraded forest"?	
	Describe the monitoring process and results	

Comments

6 Forest policy and legislation

6a Policies, Legislation and national platform for stakeholder participation in forest policy

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry, Ministry of Agriculture, Water and Forestry

National classification and definitions

-

Original data

-

Indicate the existence of	Boolean (Yes/No)	
	National	Sub-national
Policies supporting SFM	Yes	No
Legislations and regulations supporting SFM	Yes	No
Platform that promotes or allows for stakeholder participation in forest policy development	Yes	No
Traceability system(s) for wood products	No	No

Comments

6b Area of permanent forest estate

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

FRA 2020 categories	Forest area (1000 ha)					
	Applicable?	1990	2000	2010	2015	2020
Area of permanent forest estate	No					

Comments

7 Employment, education and NWFP

7a Employment in forestry and logging

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry database (2018), Ministry of Agriculture, Water and Forestry,

National classification and definitions

-

Original data

-

FRA 2020 categories	Full-time equivalents (1000 FTE)											
	1990			2000			2010			2015		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Employment in forestry and logging				0.48			0.67			0.67		
...of which silviculture and other forestry activities												
...of which logging												
...of which gathering of non wood forest products												
...of which support services to forestry				0.48			0.67			0.67		

Comments

7b Graduation of students in forest-related education

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

FRA 2020 categories	Number of graduated students											
	1990			2000			2010			2015		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Doctoral degree												
Master's degree												
Bachelor's degree												
Technician certificate / diploma												
Total												

Comments

7c Non wood forest products removals and value 2015

National Data

Data sources + type of data source eg NFI, etc

Directorate of Forestry database (2018), Ministry of Agriculture, Water and Forestry

National classification and definitions

-

Original data

-

	Name of NWFP product	Key species	Quantity	Unit	Value (1000 local currency)	NWFP category
#1	honey	Bees				11 Wild honey and bee wax
#2	Devil's claw	Harpagophytum,				13 Raw material for medicine
#3	Fruits	Berchemia discolor				1 Food
#4	Wild leaves	Moringa				1 Food
#5	Seeds and nuts	Marula				1 Food
#6	Roots and tubers	plants (climbers)				8 Other plant products
#7	Melons	Nara plant (Acanthosicyos horridus)				8 Other plant products
#8	Gum and resin-exuding plants	Combretum imberbe				1 Food
#9	Mushrooms and other related fungi	Termitomyces				1 Food
#10	Mopane worms	Collophospermum mopane				1 Food
All other plant products						
All other animal products						
Total					—	

Name of currency	Namibian Dollars
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Comments

8 Sustainable Development Goal 15

8a Sustainable Development Goal 15

SDG Indicator 15.1.1 Forest area as proportion of total land area 2015

Indicator	Percent							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area as proportion of total land area 2015	9.79	8.93	8.50	8.41	8.32	8.24	8.15	8.06

Name of agency responsible	Directorate of Forestry, Ministry of Agriculture, Water and Forestry
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SDG Indicator 15.2.1 Progress towards sustainable forest management

Sub-Indicator 1	Percent						
	2000-2010	2010-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Forest area annual net change rate	-0.92	-0.99	-1.03	-1.04	-1.05	-1.06	-1.07

Name of agency responsible	Directorate of Forestry, Ministry of Agriculture, Water and Forestry
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Sub-Indicator 2	Forest biomass (tonnes/ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass stock in forest	67.40	67.40	67.40	67.40	67.40	67.40	67.40	67.40

Name of agency responsible	Directorate of Forestry, Ministry of Agriculture, Water and Forestry
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Sub-Indicator 3	Percent (2015 forest area baseline)							
	2000	2010	2015	2016	2017	2018	2019	2020
Proportion of forest area located within legally established protected areas	24.11	24.11	24.11	24.11	24.11	24.11	24.11	24.11

Name of agency responsible	Directorate of Forestry, Ministry of Agriculture, Water and Forestry
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Sub-Indicator 4	Percent (2015 forest area baseline)							
	2000	2010	2015	2016	2017	2018	2019	2020
Proportion of forest area under long-term forest management plan	0.78	3.97	2.04	2.19	3.22	3.03	3.03	3.03

Name of agency responsible	Directorate of Forestry, Ministry of Agriculture, Water and Forestry
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Sub-Indicator 5	Forest area (1000 ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area under independently verified forest management certification schemes	54.42	277.32	142.47	152.89	225.48	212.01	–	–