

GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Swaziland

Rome, 2014

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Global Forest Resources Assessment (FRA). This country report is prepared as a contribution to the FAO publication, the Global Forest Resources Assessment 2015 (FRA 2015).

The content and the structure are in accordance with the recommendations and guidelines given by FAO in the document Guide for country reporting for FRA 2015 (<http://www.fao.org/3/a-au190e.pdf>). These reports were submitted to FAO as official government documents.

The content and the views expressed in this report are the responsibility of the entity submitting the report to FAO. FAO may not be held responsible for the use which may be made of the information contained in this report.

TABLE OF CONTENTS

Report preparation and contact persons.....	4
1. What is the area of forest and other wooded land and how has it changed over time?	7
2. What is the area of natural and planted forest and how has it changed over time?	15
3. What are the stocks and growth rates of the forests and how have they changed?	19
4. What is the status of forest production and how has it changed over time?	28
5. How much forest area is managed for protection of soil and water and ecosystem services?	35
6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?	40
7. What is the area of forest affected by woody invasive species?	43
8. How much forest area is damaged each year?	46
9. What is the forest area with reduced canopy cover?	50
10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?	51
11. Is there a national platform that promotes stakeholder participation in forest policy development?	53
12. What is the forest area intended to be in permanent forest land use and how has it changed over time?	54
13. How does your country measure and report progress towards SFM at the national level?	58
14. What is the area of forest under a forest management plan and how is this monitored?	60
15. How are stakeholders involved in the management decision making for publicly owned forests?	62
16. What is the area of forest under an independently verified forest certification scheme?	64
17. How much money do governments collect from and spend on forests?	66
18. Who owns and manages the forests and how has this changed?	68
19. How many people are directly employed in forestry?	73
20. What is the contribution of forestry to Gross Domestic Product (GDP)?	75
21. What is forest area likely to be in the future	76

Report preparation and contact persons

Contact persons

The present report was prepared by the following person(s)

Name (FAMILY NAME, first name)	Institution/address	Email	Tables
MAGAGULA Felicity, Futhi	Ministry of Tourism and Environmental Affairs Forestry Department P.O. Box 2652, Mbabane Swaziland	magagulaf@gov.sz fmagagula@yahoo.com	1- 21
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Introductory Text

Swaziland is situated in the South-Eastern part of Africa between 25°S and 28°S latitude and 30°E and 33°E longitude east. The country covers a land area of 17,364 km² and has an elevation range of 600-1,860 masl.

The country is endowed with extensive cultivated plantation and natural forests and woodlands covering about 45% of the total land area (Danced, 1999), of which 563 325 ha is forests and 427 034 ha is other wooded land (FAO, 2010). About 2,600 tree species of social, economic and cultural importance have been collected and recorded. There are four categories of ecosystems in Swaziland. These are: (i) Montane grasslands, (ii) Savanna-woodland mosaic, (iii) Forests, and (iv) Aquatic systems. The savanna ecosystem is currently the best protected (5%), while just 2% of each of the other three ecosystems is protected. Ecosystem conversion from 1985 to 2000 into plantation forestry, irrigated agriculture, urban, dams, etc was estimated at 2,900 ha annually (GOS-SEA, 2001). As conversions to forestry have decreased after 1990, the annual amount is modified to 2,000 ha for the period 1990-2020. Estimated projection indicates that area under industrial forestry will increase by 132,000ha in the year 2020 (National Communication, 2013).

Forest and flora contribute enormously to economic development, food security, poverty alleviation, creation of employment opportunities, income generation, water, health, amelioration of effects of drought, conservation of natural resources and cultural heritage, and combating degradation of land, forest and environment resources to sustain the socio-economic life and livelihoods of the population. Commercial forestry and related timber processing industries form very important part of the economy of Swaziland, contributing approximately 1.3% of the GDP and about 1.4% of total exports over the past 13 years. The productivity is relatively high, about 15-20 cubic metres/ha per annum for pine. Overall annual yield is approximately 1.2 million cubic metres of wood with a total value of about E650 million, which is largely exported as pulp, logs and timber. The forestry and forest products (timber processing) sectors provide employment to approximately 8,000 people, which are 14 percent of the total formal employment in Swaziland.

However, these resources continue to be degraded and threatened with depletion due to unsustainable use by the population, uncontrolled veld fires, pests, diseases, severe weather events, land use change, human settlement and development. The forestry industry lost 1,679ha due to pests outbreak and 4,000ha due to stress related calamity. In this report, Table 8a indicates the extent of veld fires which occurred in country between 2003 and 2012. In average about 400,000 ha or almost a quarter of the country is burnt annually.

Consequently, the National Forest Policy calls for a prudent, judicious and balanced use of land resources to give equal investment and employment opportunities in the forest sector which is one of the natural resource base sustaining the land productive functions, ecosystems, and all life supporting systems.

Report preparation and contact persons

Contact persons

The present report was prepared by the following person(s)

Name (FAMILY NAME, first name)	Institution/address	Email	Tables
MAGAGULA Felicity, Futhi	Ministry of Tourism and Environmental Affairs Forestry Department P.O. Box 2652, Mbabane Swaziland	magagulaf@gov.sz fmagagula@yahoo.com	1- 21
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Introductory Text

Swaziland is situated in the South-Eastern part of Africa between 25°S and 28°S latitude south and 30°E and 33°E longitude east. The country covers a land area of 17,364 km² and has an elevation range of 600-1,860 masl.

The country is endowed with extensive cultivated plantation and natural forests and woodlands covering about 45% of the total land area (Danced, 1999), of which 563 325 ha is forests and 427 034 ha is other wooded land (FAO, 2010). About 2,600 tree species of social, economic and cultural importance have been collected and recorded. There are four categories of ecosystems in Swaziland. These are: (i) Montane grasslands, (ii) Savanna-woodland mosaic, (iii) Forests, and (iv) Aquatic systems. The savanna ecosystem is currently the best protected (5%), while just 2% of each of the other three ecosystems is protected. Ecosystem conversion from 1985 to 2000 into plantation forestry, irrigated agriculture, urban, dams, etc was estimated at 2,900 ha annually (GOS-SEA, 2001). As conversions to forestry have decreased after 1990, the annual amount is modified to 2,000 ha for the period 1990-2020. Estimated projection indicates that area under industrial forestry will increase by 132,000ha in the year 2020 (National Communication, 2013).

Forest and flora contribute enormously to economic development, food security, poverty alleviation, creation of employment opportunities, income generation, water, health, amelioration of effects of drought, conservation of natural resources and cultural heritage, and combating degradation of land, forest and environment resources to sustain the socio-economic life and livelihoods of the population. Commercial forestry and related timber processing industries form very important part of the economy of Swaziland, contributing approximately 1.3% of the GDP and about 1.4% of total exports over the past 13 years. The productivity is relatively high, about 15-20 cubic metres/ha per annum for pine. Overall annual yield is approximately 1.2 million cubic metres of wood with a total value of about E650 million, which is largely exported as pulp, logs and timber. The forestry and forest products (timber processing) sectors provide employment to approximately 8,000 people, which are 14 percent of the total formal employment in Swaziland.

1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

1.1 Categories and definitions

Category	Definition
Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use.
Other wooded land	Land not classified as "Forest" spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of 5-10 percent or trees able to reach these thresholds ; or with a combined cover of shrubs bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land that is not classified as "Forest" or "Other wooded land".
...of which with tree cover (<i>sub-category</i>)	Land considered as "Other land", that is predominantly agricultural or urban lands use and has patches of tree cover that span more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity. It includes bothe forest and non-forest tree species.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.
Forest expansion	Expansion of forest on land that, until then, was not defined as forest.
...of which afforestation (<i>sub-category</i>)	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not defined as forest.
...of which natural expansion of forest (<i>sub-category</i>)	Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).
Deforestation	The conversion of forest to other land use or the longterm reduction of the tree canopy cover below the minimum 10 percent threshold.
...of which human induced (<i>sub-category</i>)	Human induced conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold.
Reforestation	Natural regeneration or re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.
...of which artificial reforestation (<i>sub-category</i>)	Re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.

1.2 National data

1.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Thurland, M. 1999. Forest Resource Assessment	Definition and Land use cover	1990	Primary data source

2	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	N/A	1999	Secondary data source
3	Central Statistics Office	Timber Statistics	1999	Primary data source
4	FAOSTAT	Total land area	2009	Secondary data source

1.2.2 Classification and definitions

National class	Definition
Montane and Highland	900m, Afromontane and mixed woodland, >10% canopy cover, Highveld/upper Middleveld" /> Indigenous forest. >900m, Afromontane and mixed woodland, >10% canopy cover, Highveld/upper Middleveld
Riparian	Indigenous forest. Mixed woodland occurring along rivers, all physiographic zones.
Moister Savannah	10% canopy cover, Middleveld/Lubombo range." /> Indigenous forest. 400-800m, mainly broadleaved mixed woodland, >10% canopy cover, Middleveld/Lubombo range.
Acacia Savannah	10% canopy cover, Lowveld." /> Indigenous forest. 200-400m, Acacia dominated woodland, >10% canopy cover, Lowveld.
Dryer Acacia Savannah	10% canopy cover, >5m canopy height, (East) Lowveld, precipitation <600mm." /> >10% canopy cover, >5m canopy height, (East) Lowveld, precipitation <600mm.
Bushveld	10% canopy cover, <5m canopy height, Lowveld to Highveld." /> Indigenous forest. 200-400m, bush/thicket communities, >10% canopy cover, <5m canopy height, Lowveld to Highveld.
Wattle Forest	Man-made Forest. Highveld, A. maernsii dominated forests.
Plantation	Man-made Forest. Man-made plantations of pines and eucalypts (mainly highveld).

1.2.3 Original data

Forestarea	
Total land and inland water	
FAOSTAT	
Total Country Area	1736
Inland water	16

Total land area	1720	
<u>1990 and 1999</u>		
National Classes	1990	1999
Montane and Highland	11 930	15 765
Riparian	2 344	25 997
Moister Savannah	112 720	104 273
Acacia Savannah	150 590	180 546
Dryer Acacia Savannah	34 025	35 125
Bushveld	151 890	275 705
WattleForest	25 439	28 839
Plantation	135 034	122 596
Total	623 972	788 846

1.3 Analysis and processing of national data

1.3.1 Adjustment

Forestarea
Not needed.

1.3.2 Estimation and forecasting

Forestarea		
	FRA Classification for 1990	FRA Classification for 1999

National Classes	Forest	Other wooded land	Forest	Other wooded land
Montane and Highland	11 930		15 765	
Riparian	2 344		25 997	
Moister Savannah	112 720		104 273	
Acacia Savannah	150 590		180 546	
Dryer Acacia Savannah	34 025		35 125	
Bushveld		151 890		275 705
WattleForest	25 439		28 839	
Plantation	135 034		122 596	
Total	472 082		513 141	

The original data for 1990 are used directly and those for 2000, 2005 and 2010 were obtained through linear extrapolation.

FRA Categories	Area (hectares)					
	1990	1999	2000	2005	2010	2015
Forest	472 082	513 141	517 703	540 514	563 325	586 136
Other wooded land	151 890	275 705	289 462	358 248	427 034	495 820

1.3.3 Reclassification

Forestarea	
	FRA Classification

National Classes	Forest	Other wooded land
Montane and Highland	100%	
Riparian	100%	
Moister Savannah	100%	
Acacia Savannah	100%	
Dryer Acacia Savannah	100%	
Bushveld		100%
WattleForest	100%	
Plantation	100%	

National classes	Definitions
Montane and Highland	Indigenous forest. >900m, Afromontane and mixed woodland, >10% canopy cover, Highveld/upper Middleveld
Riparian	Indigenous forest. Mixed woodland occurring along rivers, all physiographic zones.
Moister Savannah	Indigenous forest. 400-800m, mainly broadleaved mixed woodland, >10% canopy cover, Middleveld/Lubombo range.
Acacia Savannah	Indigenous forest. 200-400m, Acacia dominated woodland, >10% canopy cover, Lowveld.
Dryer Acacia Savannah	>10% canopy cover, >5m canopy height, (East) Lowveld, precipitation <600mm.
Bushveld	Indigenous forest. 200-400m, bush/thicket communities, >10% canopy cover, <5m canopy height, Lowveld to Highveld.

WattleForest	Highveld, <i>A. maermsii</i> dominated forests. Plantation
Man-made Forest	Man-made plantations of pines and eucalypts(mainly Highveld).

1.4 Data

Table 1a













Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
	Forest	472	518	541	563	586
	Other wooded land	152	289	358	427	496
	Other land	1096	913	821	730	638
	... of which with tree cover	N/A	N/A	N/A	N/A	N/A
	Inland water bodies	16	16	16	16	16
	TOTAL	1736.00	1736.00	1736.00	1736.00	1736.00

Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
	Forest expansion	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which afforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which natural expansion of forest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which human induced	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Reforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which artificial	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 2	Tier 2
Other wooded land	Tier 2	Tier 2
Forest expansion	N/A	N/A
Deforestation	N/A	N/A
Reforestation	N/A	N/A

Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> • Forest • Other wooded land • Afforestation • Reforestation • Natural expansion of forest • Deforestation 	<p>Tier 3 : Data sources: Either recent (less than 10 years ago) National Forest Inventory or remote sensing, with ground truthing, or programme for repeated compatible NFIs</p> <p>Tier 2 : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago)</p> <p>Tier 1 : Other</p>	<p>Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p>Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p>Tier 1 : Other</p>

1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends
Forest	The definitions are similar to those from FAO. The dryer acacia savannah has been classified as “forest” in this report, because its definition clearly states that it is above 5 m tall and has a canopy cover greater than 10%.	Even if it is assumed that the forest is still increasing (according to a linear extrapolation), the question is raised about the real situation of the cover. There is a need to conduct a national forest inventory in order to find out.
Other wooded land	N/A	Wooded lands are increasing due to the spread of natural invasive but useful plants like <i>Dyrostachis cineri</i>
Other land	This is land which is under different land use systems e.g. agriculture.	N/A
Other land with tree cover	This entails trees outside forests and on agricultural land.	N/A
Inland water bodies	The data is from FAOSTAT.	N/A
Forest expansion	This means planting of new sites that had not been planted before	The area that is reported is under plantations only. Due to the
Deforestation	N/A	N/A
Reforestation	N/A	N/A

Other general comments to the table

There is no data for Table 1b hence no tier values reported.

2. What is the area of natural and planted forest and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

2.1 Categories and definitions

Term	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Naturalized introduced species	Other naturally regenerated forest where the tree species are predominantly non-native and do not need human help to reproduce/maintain populations over time.
Introduced species	A species, subspecies or lower taxon occurring <i>outside</i> its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Category	Definition
Primary forest	Naturally regenerated forest of native species where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
...of which of introduced species (<i>sub-category</i>)	Other naturally regenerated forest where the trees are predominantly of introduced species.
...of which naturalized (<i>sub-sub category</i>)	Other naturally regenerated forest where the trees are predominantly of naturalized introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
...of which of introduced species (<i>sub-category</i>)	Planted forest where the planted/seeded trees are predominantly of introduced species.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
...of which planted (<i>sub-category</i>)	Mangroves predominantly composed of trees established through planting.

2.2 National data

2.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Thurland, M. 1999. Forest Resource Assessment	Definition and Land use cover	1990	Primary data source
2	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	N/A	1999	Secondary data source
3	N/A	N/A	N/A	N/A

4	N/A	N/A	N/A	N/A
---	-----	-----	-----	-----

2.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

2.2.3 Original data

No primary forest						
National Classes	1990(ha)	1999 (ha)	2000 (ha)	2005 (ha)	2010 (ha)	2015(ha)
WattleForest	25 439	28 839	29 217	31 106	32 995	34 884
Plantation	135 034	122 596	121 214	114 304	107 394	97 484
Total Planted forest	160 473	151 435	150 431	145 410	140 389	132 368

2.3 Analysis and processing of national data

2.3.1 Adjustment

No new data.

2.3.2 Estimation and forecasting

--

2.3.3 Reclassification

2.4 Data

Table 2a







Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Primary forest	0	0	0	0	0
	Other naturally regenerated forest	312	368	396	423	450
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
	... of which naturalized	N/A	N/A	N/A	N/A	N/A
	Planted forest	160	150	145	140	135
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
TOTAL		472.00	518.00	541.00	563.00	585.00

Table 2b

Primary forest converted to (000 ha)								
1990-2000			2000-2010			2010-2015		
Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land
0	0	0	0	0	0	0	0	0

Table 2c

Categories	Area (000 hectares)				
	1990	2000	2005	2010	2015
Mangroves (forest and OWL)	0	0	0	0	0
... of which planted	0	0	0	0	0

Tiers

Category	Tier for status	Tier for reported trend
Primary forest	N/A	Tier 1

Other naturally regenerated forest	Tier 2	Tier 2
Planted forest	Tier 2	Tier 2
Mangroves	Tier 3	Tier 3

Tier Criteria

Category	Tier for status	Tier for reported trend
Primary forest/Other naturally regenerated forest/Planted forest	<p>Tier 3 : Data sources: Recent (less than 10 years) National Forest Inventory or remote sensing with ground truthing or data provided by official agencies or programme for repeated compatible NFIs</p> <p>Tier 2 : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years) Tier 1 : Other</p>	<p>Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other</p>

2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	There are no primary forests	N/A
Other naturally regenerating forest	Naturally regenerated forest where there are clearly visible indications of human activities. Some are a result of poor management practices and they end up encroaching in other land use systems	These are increasing and mainly it is <i>Dyrclostachys cinerea</i> and other woody shrubs
Planted forest	These are forests under plantation or private companies.	The planted are is decreasing due to closure of some of the leading processing mills in the country and change of ownership.
Mangroves	There are no mangroves in Swaziland	N/A

Other general comments to the table

There is no data for table 2b and 2c.

3. What are the stocks and growth rates of the forests and how have they changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

3.1 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees with a minimum diameter of 10 cm at breast height (or above buttress if these are higher). Includes the stem from ground level up to a top diameter of 0 cm, excluding branches.
Net Annual Increment (NAI)	Average annual volume of gross increment over the given reference period less that of natural losses on all trees, measured to minimum diameters as defined for "Growing stock".
Above-ground biomass	All living biomass above the soil including stem stump branches bark seeds and foliage.
Below-ground biomass	All biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood	All non-living woody biomass not contained in the litter either standing lying on the ground or in the soil. Dead wood includes wood lying on the surface dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in above-ground biomass	Carbon in all living biomass above the soil including stem stump branches bark seeds and foliage.
Carbon in below-ground biomass	Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Carbon in dead wood	Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in litter	Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm) lying dead in various states of decomposition above the mineral or organic soil.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a soil depth of 30 cm.

3.2 National data

3.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Thurland, M. 1999. Forest Resource Assessment	Definition and Land use cover	1990	Primary data source
2	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	Green paper	1999	Secondary data source
3	Annual Statistical Bulletin	Forest statistics	2000	Primary data source
4	N/A	N/A	N/A	N/A

3.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

3.2.3 Original data

Growing stock			
Source 1999			
National Classes	Area (ha)	Volume/hectare (m3/ha)	Total volume (m3)
Montane and Highland	15 765	14.2	223 863
Riparian	25 997	37.8	982 687
Moister Savannah	104 273	18.5	1 929 051
Acacia Savannah	180 546	16.4	2 960 954
Dryer Acacia Savannah	35 125	16.2	569 025
WattleForest	28 839	16.4	472 960
Total	666 250	18.3	7 138 539
Bushveld (OWL)	275 705	11.7	3 224 912

According to expert estimates, the volume per hectare in Plantations is 100 m3/ha.

Biomass stock

No national biomass data are available. Growing stock data used as input.

Volume (million cubic meters over bark)							
Forest				Other wooded land			
1990	2000	2005	2010	1990	2000	2005	2010
19.7	19.4	19.2	19.1	1.8	3.4	4.2	5.0

Carbon stock

Data on biomass stock used as input.

3.3 Analysis and processing of national data

3.3.1 Adjustment

From Question 1 and Question 4					
FRA Categories	Vol (m3)/ha	Area (hectares)			
		1990	2000	2005	2010
<i>Forest excl. Plantations</i>	18.3	337 048	396 489	426 210	455 931
<i>Plantations</i>	100.0	135 034	121 214	114 304	107 394
Forest		472 082	517 703	540 514	563 325
Other Wooded Land	11.7	151 890	289 462	358 248	427 034

The results are the following:

FRA Categories	Vol (m3)/ha	GS m3			
		1990	2000	2005	2010
<i>Forest excl. Plantation</i>	18.3	6 167 978	7 255 749	7 799 643	8 343 537

<i>Plantations</i>	<i>100.0</i>	<i>13 503 400</i>	<i>12 121 400</i>	<i>11 430 400</i>	<i>10 739 400</i>
Forest		19 671 378	19 377 149	19 230 043	19 082 937
Other Wooded Land	11.7	1 777 113	3 386 705	4 191 502	4 996 298

3.3.2 Estimation and forecasting

Biomass stock

The following conversion factors were used

Wood density 0.58

BEF 3.4

R/S ratio 0.24

with the formula : $AGB = GS \times Wd \times BEF$ and $BGS = AGB \times R/S \text{ ratio}$

Carbon stock

A/ -Carbon stock is calculated by multiplying the biomass by 0.47.

B/- Carbon in the litter has been estimated, based on the standard factor of 2.8 (sub-tropical), and

- Soil carbon has been estimated, based on the factor of 19 (warm temperate, dry with sandy soils).

The biomass/ hectare values are then applied to the forest and other wooded land area values in table T1 to get the biomass for the reporting years.

Year	1990	2000	2005	2010
Total Forest area (1000 ha)	472	518	541	563
Carbon in the litter(1000 C)	1 322	1 450	1 515	1 576

Soil carbon(1000 C)	8 968	9 842	10 279	10 697
Year	1990	2000	2005	2010
TotalForestarea (1000 ha)	152	289	358	427
Carbon in the litter(1000 C)	426	809	1 002	1 196
Soil carbon(1000 C)	2 888	5 491	6 802	8 113

3.3.3 Reclassification

--

3.4 Data

Table 3a




Category		Growing stock volume (million m ³ over bark)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Total growing stock	19.7	19.4	19.2	19.1	19	1.8	3.4	4.2	5	5.8
	... of which coniferous	14.9	9.6	17.9	16	7.6	N/A	N/A	N/A	N/A	N/A
	... of which broadleaved	4.8	9.8	1.3	3.1	11.4	N/A	N/A	N/A	N/A	N/A

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	P. patula	N/A	N/A	N/A	N/A	N/A
2 nd	P. elliotii	N/A	N/A	N/A	N/A	N/A
3 rd	P. ech	N/A	N/A	N/A	N/A	N/A

4 th	P. kesiya	N/A	N/A	N/A	N/A	N/A
5 th	P. taeda	N/A	N/A	N/A	N/A	N/A
6 th	E. camadulensis	N/A	N/A	N/A	N/A	N/A
7 th	E. smthiii	N/A	N/A	N/A	N/A	N/A
8 th	E. grandis	N/A	N/A	N/A	N/A	N/A
9 th	P. gregii	N/A	N/A	N/A	N/A	N/A
10 th	E. mic	N/A	N/A	N/A	N/A	N/A
Remaining			N/A	N/A	N/A	N/A
TOTAL			.00	.00	.00	.00

THE PRE-FILLED VALUES FOR GROWING STOCK REFER TO THE FOLLOWING THRESHOLD VALUES (SEE TABLE BELOW)

Item	Value	Complementary information
Minimum diameter (cm) at breast height of trees included in growing stock (X)	N/A	N/A
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	N/A	N/A
Minimum diameter (cm) of branches included in growing stock (W)	N/A	N/A
Volume refers to above ground (AG) or above stump (AS)	N/A	N/A

PLEASE NOTE THAT THE DEFINITION OF GROWING STOCK HAS CHANGED AND SHOULD BE REPORTED AS GROWING STOCK DBH 10 CM INCLUDING THE STEM FROM GROUND LEVEL UP TO A DIAMETER OF 0 CM, EXCLUDING BRANCHES.

Table 3c




Category		Net annual increment (m ³ per hectare and year)				
		Forest				
		1990	2000	2005	2010	2015
	Net annual increment	4.5	5.2	5.2	5	5.4
	... of which coniferous	4.9	3.2	5.9	5.3	5.8
	... of which broadleaved	4.1	3.9	4.5	4.7	4.9

Table 3d











Category		Biomass (million metric tonnes oven-dry weight)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Above ground biomass	38.8	38.3	37.9	37.7	37.5	3.5	6.7	8.3	9.9	11.5
	Below ground biomass	9.3	9.2	9.1	9	8.9	0.9	1.6	2	2.4	2.8
	Dead wood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL		48.10	47.50	47.00	46.70	46.40	4.40	8.30	10.30	12.30	14.30

Table 3e

Category		Carbon (Million metric tonnes)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Carbon in above ground biomass	18.2	18	17.8	17.7	17.6	1.7	3.2	3.9	4.6	5.3
	Carbon in below ground biomass	4.4	4.3	4.3	4.2	4.1	0.4	0.8	0.9	1.1	1.3
	<i>Subtotal Living biomass</i>	22.6	22.3	22.1	22	21.7	2.1	3.9	4.8	5.7	6.6
	Carbon in dead wood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Carbon in litter	1.3	1.5	1.5	1.6	1.7	0.4	0.8	1	1.2	1.4
	<i>Subtotal Dead wood and litter</i>	1.3	1.5	1.5	1.6	1.7	0.4	0.8	1	1.2	1.4
	Soil carbon	9	9.8	10.3	10.7	10.8	2.9	5.5	6.8	8.1	9.4
TOTAL		32.90	33.60	33.90	34.20	34.20	5.40	10.30	12.60	15.00	17.40

Tiers

Variable/category	Tier for status	Tier for trend
-------------------	-----------------	----------------

Total growing stock	Tier 1	Tier 1
Net annual increment	Tier 2	Tier 1
Above ground biomass	Tier 1	Tier 1
Below ground biomass	Tier 1	Tier 1
Dead wood	N/A	N/A
Carbon in above-ground biomass	Tier 1	Tier 1
Carbon in below ground biomass	Tier 1	Tier 1
Carbon in dead wood and litter	Tier 1	Tier 1
Soil carbon	Tier 1	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
Total growing stock	Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources	Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other
Net annual increment	Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other	Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other
Biomass	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> • Carbon in above ground biomass • Carbon in below ground biomass • Carbon in dead wood and litter • Soil carbon 	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied Tier 2: Application of country specific national or sub-national biomass conversion factors form from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

3.5 Comments on growing stock biomass and carbon

Category	Comments related to data definitions etc	Comments on the reported trend
Total growing stock	N/A	The data shows a decline in volumes of growing stock under forests and an increase under other wooded land.
Growing stock of broadleaved coniferous	N/A	N/A
Growing stock composition	N/A	It is mainly exotics
Net annual increment	N/A	N/A
Above-ground biomass	N/A	Biomass has been declining since 1990 and expected to continue decreasing in 2015 under Forest but increasing under other wooded land
Below-ground biomass	N/A	Biomass has been declining since 1990 and expected to continue decreasing in 2015 under Forest but increasing under other wooded land
Dead wood	No data	N/A
Carbon in above-ground biomass	N/A	Carbon has been declining since 1990 and expected to continue decreasing in 2015 under Forest but increasing under other wooded land
Carbon in below-ground biomass	N/A	Carbon has been declining since 1990 and expected to continue decreasing in 2015 under Forest but increasing under other wooded land
Carbon in dead wood	N/A	Carbon has been declining since 1990 and expected to continue decreasing in 2015 under Forest but increasing under other wooded land
Carbon in litter	N/A	N/A
Soil carbon	N/A	Soil carbon has been increasing since 1990 and expected to increase in 2015 both under forests and other wooded land

Other general comments to the table

The variation in growing stock and net annual increment is attributed to the varying climatic and soil conditions. This is the reason why the NAI is a bit high for Swaziland compared to other countries. The biomass and carbon data was obtained from FAOSTATS.

4. What is the status of forest production and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

4.1 Categories and definitions

Term	Definition
Primary designated function	The primary function or management objective assigned to a management unit either by legal prescription documented decision of the landowner/manager or evidence provided by documented studies of forest management practices and customary use.
Non wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Commercial value of NWFP	For the purpose of this table, value is defined as the commercial market value at the forest gate.
Category	Definition
Production forest	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Multiple use forest	Forest area designated for more than one purpose and where none of these alone is considered as the predominant designated function.
Total wood removals	The total of industrial round wood removals and woodfuel removals.
...of which woodfuel	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

4.2 National data

4.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Thurland, M. 1999. Forest Resource Assessment	Definition and Land use cover	1990	Primary data source
2	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	National Forest Policy	1999	Secondary data source
3	Dlamini P. and Earnshaw D 2012. National Biodiversity Stock taking Report	Biodiversity stock taking report	2013	Secondary data source
4	N/A	N/A	N/A	N/A

4.2.2 Classification and definitions

National class	Definition
Wattle Forest	Man-made Forest. Highveld, Acacia mearnsii dominated forests.

Plantation	Man-made Forest. Man-made plantations of pines and eucalypts (mainly Highveld).
N/A	N/A
N/A	N/A

4.2.3 Original data

From original data of Question 1		
National Classes	1990 (ha)	1999 (ha)
WattleForest	25 439	28 839
Plantation	135 034	122 596

4.3 Analysis and processing of national data

4.3.1 Adjustment

4.3.2 Estimation and forecasting

The plantation and wattles forest areas have been estimated by linear extrapolation to 2015:						
National Classes	1990(ha)	1999 (ha)	2000 (ha)	2005 (ha)	2010 (ha)	2015(ha)
WattleForest	25 439	28 839	29 217	31 106	32 995	34 884
Plantation	135 034	122 596	121 214	114 304	107 394	97 484
Total	160 473	151 435	150 431	145 410	140 389	132 368
<u>Assumptions:</u>						
1. Plantation areas and wattle forest areas are designated for production purposes.						

2. The rest unknown

4.3.3 Reclassification

4.4 Data

Table 4a



Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Production forest	160	150	145	140	135
	Multiple use forest	N/A	N/A	N/A	N/A	N/A

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Cosmetic	Sclerocaryabirrea, Ximeniacafr, Trichiliaemetica	600	3
2 nd	Edibles (fruits and wild vegetables)	Sclerocaryabirrea, Vanguriainfausta, Syzigiumcordatum, Psidiumguajava, Fragariavirginiana, Ficusspp, Passifloraedulis, Englerophytumnatalenses, Cephalanthusnatalensis, Strychnosmadagacariensis, Annonasenegalensis, Berchemiazeyheri, Aloevanbalenii, Aloesaponaria, Momordicainvolucrate, Momordicafoetida, Amaranthusspp, Bidenpilosa	6	1
3 rd	Medicine	Scillanatelensis, Siphonochilusaethiopicus, Warburgiasalutaris, Boweivolubilis, Haworthialimifolia	0.9	3

4 th	Crafts/ Weaving grass	Agavesisalana, Coleochloasetifera, Cyperuslatifolius, Festucacostata, Cyperusarticulatus, Pterocarpusangolensis, Sclerocaryabirrea, Combretumspp	9	5
5 th	Wildhoney and bee wax	Apismelliferascutallata, Apismelliferaadansoni, Aloesspp, Acaciasspp, Citrustrees, Eucalyptustrees, wattle	N/A	11
6 th	N/A	N/A	616	N/A
7 th	N/A	N/A	N/A	N/A
8 th	N/A	N/A	N/A	N/A
9 th	N/A	N/A	N/A	N/A
10 th	N/A	N/A	N/A	N/A
TOTAL			1231.90	

2010	
Name of local currency	Lilangeni

Category
Plant products / raw material
1 Food
2 Fodder
3 Raw material for medicine and aromatic products
4 Raw material for colorants and dyes
5 Raw material for utensils handicrafts construction
6 Ornamental plants
7 Exudates
8 Other plant products
Animal products / raw material

9 Living animals
10 Hides skins and trophies
11 Wild honey and beeswax
12 Wild meat
13 Raw material for medicine
14 Raw material for colorants
15 Other edible animal products
16 Other non-edible animal products

Table 4c Pre-filled data from FAOSTAT

Year	FRA 2015 category (1000 m ³ u.b.)	
	Total wood removals	...of which woodfuel
1990	1680.9	716.89
1991	1697.4	733.42
1992	1718.7	754.73
1993	1700.6	769.6
1994	1715	784.02
1995	1731.2	797.19
1996	1745.3	811.28
1997	1759.6	825.65
1998	1176.4	846.36
1999	1195.3	865.29
2000	1214.8	884.75
2001	1232.8	902.76
2002	1251.2	921.23
2003	1270.2	940.18
2004	1289.6	959.61
2005	1309.6	979.56

2006	1325.5	995.51
2007	1341.8	1011.8
2008	1358.4	1028.42
2009	1375.4	1045.4
2010	1392.7	1062.73
2011	1392.7	1062.73

Tiers

Category	Tier for status	Tier for reported trend
Production forest	Tier 2	Tier 2
Multiple use forest	N/A	N/A

Tier Criteria

Category	Tier for status	Tier for reported trend
Production forest Multiple use forest	Tier 3: Updated including field verifications national forest maps including functions Tier 2: Forest maps older than 6 years including forest functions Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

4.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Production forest	These are forests under private companies which comprise of exotic species.	The area under production is decreasing as a result of change in management practices and plantings.
Multiple use forest	No data	There is no data for this category, infact; there are designated forests for multiple use in Swaziland except for nature reserves and national parks. There is free but regulated access to natural forests where locals harvest mutiple products.
Total wood removals	Wood removed from plantation forests and natural forests for commercial purposes and fuel wood.	The figures show an increase in removals of firewood over the years. This is a call for concern because it might be a contributing factor to high rate of deforestation in the country since they harvest firewood from natural forests.

Commercial value of NWFP	Forests used by communities for timber and NWFP	The data indicates that forest dependent people benefit from the forest through collection of wood and NWFP. This is seen from the revenue generated from sales of the collected products.
--------------------------	---	--

Other general comments to the table

It is not easy to make conclusive comments due to limited data on forest production currently.

5. How much forest area is managed for protection of soil and water and ecosystem services?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

5.1 Categories and definitions

Category	Definition
Protection of soil and water	Forest area designated or managed for protection of soil and water
...of which production of clean water (<i>sub-category</i>)	Forest area primarily designated or managed for water production, where most human uses are excluded or heavily modified to protect water quality.
...of which coastal stabilization (<i>sub-category</i>)	Forest area primarily designated or managed for coastal stabilization.
...of which desertification control (<i>sub-category</i>)	Forest area primarily designated or managed for desertification control.
...of which avalanche control (<i>sub-category</i>)	Forest area primarily designated or managed to prevent the development or impact of avalanches on human life assets or infrastructure.
...of which erosion, flood protection or reducing flood risk (<i>sub-category</i>)	Forest area primarily designated or managed for protecting communities or assets from the impacts of erosion riparian floods and landslides or for providing flood plain services.
...of which other (<i>sub-category</i>)	Forest area primarily designated or managed for other protective functions.
Ecosystem services, cultural or spiritual values	Forest area primarily designated or managed for selected ecosystem services or cultural or spiritual values.
...of which public recreation (<i>sub-category</i>)	Forest area designated or managed for public recreation.
...of which carbon storage or sequestration (<i>sub-category</i>)	Forest area designated or managed for carbon storage or sequestration.
...of which spiritual or cultural services (<i>sub-category</i>)	Forest area designated or managed for spiritual or cultural services.
...of which other (<i>sub-category</i>)	Forest area designated or managed for other ecosystem services.

5.2 National data

5.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Prepared By: K.G.Roques	A preliminary field assessment of protection worthy areas of Swaziland	2002	N/A

2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

5.2.2 Classification and definitions

National class	Definition
...of which other	trees planted on degraded land
N/A	N/A
N/A	N/A
N/A	N/A

5.2.3 Original data

1990 and 1999		
National Classes	1990	1999
Montane and Highland	11 930	15 765
Riparian	2 344	25 997
Moister Savannah	112 720	104 273
Acacia Savannah	150 590	180 546
Dryer Acacia Savannah	34 025	35 125
Bushveld	151 890	275 705
WattleForest	25 439	28 839
Plantation	135 034	122 596
Total	623 972	788 846

5.3 Analysis and processing of national data

5.3.1 Adjustment

5.3.2 Estimation and forecasting

5.3.3 Reclassification

5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
CRG	Protection of soil and water					
CRG	... of which production of clean water	N/A	N/A	N/A	N/A	N/A
CRG	... of which coastal stabilization	N/A	N/A	N/A	N/A	N/A
CRG	... of which desertification control	N/A	N/A	N/A	N/A	N/A
CRG	... of which avalanche control	N/A	N/A	N/A	N/A	N/A
CRG	... of which erosion, flood protection or reducing flood risk	N/A	N/A	N/A	N/A	N/A
CRG	... of which other (please specify in comments below the table)	0.02	0.05	0.03	0.17	0.2

Other

"of which others" refers to restoration of degraded lands.

Table 5b

Categories	Forest area (1000 hectares)
------------	-----------------------------

	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values					
...of which public recreation	44.98	45.48	45.48	45.48	45.48
...of which carbon storage or sequestration	N/A	N/A	N/A	N/A	N/A
...of which spiritual or cultural services	N/A	N/A	N/A	N/A	N/A
...of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	Tier 1	Tier 1
Ecosystem services, cultural or spiritual values	Tier 1	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
Protection of soil and water	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations or legislation relating to soil and water protection. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> • Cultural or spiritual values • Public recreation • Spiritual or cultural services • Other 	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

5.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
----------	--	--------------------------------

Protection of soil and water	No data	N/A
Production of clean water	No data	N/A
Coastal stabilization	The country is landlocked and has no coast ecosystem	N/A
Desertification control	No data	N/A
Avalanche control	Have not experienced such	N/A
Erosion, flood protection or reducing flood risk	No data	N/A
Other protective functions	No data	N/A
Ecosystem services, cultural or spiritual values	It is not easy to categorise the	N/A
Public recreation	The area under conservation areas or National Parks is constant	N/A
Carbon storage or sequestration	No data	N/A
Spiritual or cultural services	This area is not designated	N/A
Other ecosystem services	N/A	N/A

Other general comments to the table

The above categories are not designated yet. The Draft Forest Bill seeks to address this. However, area under public recreation was taken from forest area within protected areas which is constant. Rehabilitation of degraded lands depend on the budget allocation for that particular year.

6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

6.1 Categories and definitions

Category	Definition
Conservation of biodiversity	Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.

6.2 National data

6.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Thurland, M. 1999. Forest Resource Assessment	Definition and Land use cover	1990	Primary data source
2	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	N/A	1999	Secondary data source
3	Roques K.G. Assessment of protection worthy areas of Swaziland	N/A	2002	Primary data source
4	N/A	N/A	N/A	N/A

6.2.2 Classification and definitions

National class	Definition
Wattle Forest	Man-made Forest. Highveld, <i>A. mearnsii</i> dominated forests.
Plantation	Man-made Forest. Man-made plantations of pines and eucalypts (mainly Highveld).
N/A	N/A
N/A	N/A

6.2.3 Original data

See 4.2.3.

From original data of Question 1

National Classes	1990 (ha)	1999 (ha)
WattleForest	25 439	28 839
Plantation	135 034	122 596

	Grassland	Savanna	Forest	Aquatic	Total
Extent of coverage	79,900	83,270	87,000	21,300	271,470
Area under formal protection	1,900	4,260	100	400	6,660
Area informally protected	40	16,400	300	300	17,040
Total	81,840	103,930	87,400	22,000	295,170

(from Remmelzwaal, 2006)

6.3 Analysis and processing of national data

6.3.1 Adjustment



6.3.2 Estimation and forecasting

See 4.3.2.

6.3.3 Reclassification

6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Conservation of biodiversity	64.1	64.9	64.9	64.9	64.9
	Forest area within protected areas	44.9	45.4	45.4	45.4	45.4

Tiers

Category	Tier for status	Tier for reported trend
Conservation of biodiversity	Tier 3	Tier 3
Forest area within protected areas	Tier 3	Tier 3

Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> Conservation of biodiversity Forests within protected areas 	Tier 3: Data obtained from national or state agencies responsible for conservation and protected area or legislation relating to area protection. Tier 2: Studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates Tier 1 Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	The same definition was used for the purpose of this report	The area under this category increased by 6.7% from 2000 and is projected to remain constant up to 2015
Forest area within protected areas	The same definition was used for the purpose of this report	The forest area increased by 5% from 2000 and is projected to remain constant up to 2015

Other general comments to the table

There are thirteen protected areas in the country and they are mainly nature reserves, national parks and conservancy areas.

7. What is the area of forest affected by woody invasive species?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

7.1 Categories and definitions

Category	Definition
Invasive species	Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health.

7.2 National data

7.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Braun K and Dlamini T. 2005. A database and publication of an atlas for plant alien invasive species in Swaziland	Red data list of invasive plants	2005	The categorisation was based on the IUCN classifications of invasive plants
2	Kotze et al. 2010. Surveying and mapping the distribution and intensity of infestation of selected category 1 invasive alien plant species in Swaziland	Category 1 IAPS	2010	The categorisation was based on the South African classification
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

7.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

7.2.3 Original data

--

7.3 Analysis and processing of national data

7.3.1 Adjustment

--

7.3.2 Estimation and forecasting

--

7.3.3 Reclassification

--

7.4 Data

Table 7

Scientific name of woody invasive species	Forest area affected (000 ha)	
	2005	2010
1. Lantana camara	0	819
2. Chromoleana odorata	0	584
3. Acacia mearnsii	0	452
4. Solanum mauritianum	0	295
5. Psidium guajava	0	186
6. Mauritius thorn	0	143
7. Ceasalpenea decapitala (Bramble)	0	114
8. Senna spp	0	85
9. Syringa spp	0	63
10. Queen of night	0	40
Total	0	2781

Tiers

Category	Tier for status	Tier for reported trend
Invasive species	Tier 2	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend
Invasive species	Tier 3: Systematic assessment in forest inventory or other survey (e.g. by conservation department) within the last 5 years) Tier 2: Systematic assessment in forest inventory or other survey (e.g. by conservation department conducted more than 5 years ago) Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	IAPS refers to a plant that does not originate in the country and has no economic use but compete with useful plant species	According to the survey, the IAPS cover 47% of the forest area

Other general comments to the table

The survey and mapping of the invasive species was done in 2010 and there is no data collected before then. The categories of the species were based on the South African classification of IAPS. Some of the species like Eucalyptus and Pine were not included in this report because of their commercial value and contribution to the GDP of the country and employment. However the final report included the commercial species hence the reason why the reported figure is less than the one in the introduction.

8. How much forest area is damaged each year?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

8.1 Categories and definitions

Category	Definition
Number of fires	Number of fires per year
Burned area	Area burned per year
Outbreaks of insects	A detectable reduction in forest health caused by a sudden increase in numbers of harmful insects.
Outbreaks of diseases	A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus.
Severe weather events	Damage caused severe weather events, such as snow, storm, drought, etc.

8.2 National data

8.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Dlamini W. Characterization of the July 2007 Swaziland fire disaster using satelliteremote sensing and GIS	N/A	2008	Primary data
2	Peak Timbers Limited annual reports	N/A	2003 2012	Primary data
3	Shiselweni forest Company Limited reports	N/A	2003 2012	Primary data
4	N/A	N/A	N/A	N/A

8.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

8.2.3 Original data

No new data sets.

8.3 Analysis and processing of national data

8.3.1 Adjustment

8.3.2 Estimation and forecasting

No need.

8.3.3 Reclassification

The number of fires reported is not correlated to the total land area burned. These are independent counts of fire incidences.

8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
CFRQ	Total land area burned	47.37	470	64.41	380	87.15	551	46.7	250	117.5	866
CFRQ	... of which forest area burned	1	144	5.24	10.7	1.13	115	1.42	154	4.36	285
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
CFRQ	Total land area burned	93.55	540	56.08	304	132.06	626	84.21	543	72.93	540


	... of which forest area burned	12.13	89	1.78	45	8.37	50	5.08	133	5.45	116
---	---------------------------------	-------	----	------	----	------	----	------	-----	------	-----

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
1	Sirex noctilio	2009	N/A
N/A	N/A	2010	N/A
N/A	N/A	2011	N/A
N/A	N/A	2012	N/A
N/A	N/A	2013	N/A
1	Leptocybe invasa	2008	0.012
N/A	N/A	2009	0.038
N/A	N/A	2011	0.128
N/A	N/A	2012	0.201
N/A	N/A	2013	1.3

Outbreak category
1 Insects
2 Diseases
3 Severe weather events

Tiers

Category	Tier for status	Tier for trend
Area affected by fire	Tier 2	Tier 2
<ul style="list-style-type: none"> • Insects • Diseases • Severe weather events 	Tier 3	Tier 3

Tier criteria

Category	Tier for status	Tier for reported trend
----------	-----------------	-------------------------

Burned area	Tier 3 : National fire monitoring routines Tier 2 : Remote sensing surveys Tier 1 : Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> • Insects • Diseases • Severe weather events 	Tier 3 : Systematic survey (e.g. via inventory or aerial damage assessment) Tier 2 : Management records Tier 1 : Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

8.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Burned area	The data was obtained from remote sensing and it covers the whole country	The area and number of fires varies depending on the weather condition over the years. Where the area and number of fires is high, the country experienced prolonged drought and strong winds.
Insects	Most of the damage is in plantation forests since 2008 to date. The extend of damage increases as the years progress.	Though there is only data from plantations, in 2013 there was an outbreak of a defoliator (yet to be identified) on <i>Sclerocarya berrea</i> , the damaged area by this defoliator was not recorded.
Diseases	No data	N/A
Severe weather events	N/A	This is the first of its kind hence cannot make comparison.

Other general comments to the table

The data varies from year to year, it can be attributed to climate change and extreme weather conditions per given period. Recently there has been an increase of reported forest fires, pests and storm damages in the country. There was no feedback from the industry on the *Sirex noctilio* yet it has been affected by this pest.

9. What is the forest area with reduced canopy cover?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

Category	Definition
Reduction in canopy cover	Forest that has undergone a reduction of canopy cover of more than 20% between the years 2000 and 2010 within the forest canopy cover range of 30-80% as detected by the MODIS VCF sensor.

Table 9

Category	Area of forest with reduced canopy cover (000 ha)
Reduction in canopy cover	115.37

Tiers

Category	Tier for reported trend
Reduction in canopy cover	Tier 2

Tier criteria

Category	Tier for reported trend
Reduction in canopy cover	Tier 3 : Remote sensing with ground truthing and/or Landsat imagery Tier 2 : Remote sensing using Modis (using pre-filled data provided by FAO) Tier 1 : Expert opinion

Comments

Category	Comments related to data definitions etc
Reduction in canopy cover	The reduction of canopy cover is due to wild and forest fires that the country has and still experiencing.

Other general comments

--

10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

10.1 Categories and definitions

Category	Definition
Policies supporting sustainable forest management	Policies or strategies that explicitly encourage sustainable forest management.
Legislation and regulations supporting sustainable forest management	Legislation and regulations that govern and guide sustainable forest management, operations and use.

10.2 National data

10.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	N/A	1999	Secondary data source
2	National Forest Policy	N/A	2002	Secondary data source
3	Flora Protection Act	N/A	2001	Secondary data source
4	Environment Management Act	N/A	2001	Secondary data source

10.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

10.2.3 Original data

--

No need.

10.3 Data

Table 10

Category				
	National	Sub-national		
		Regional	Provincial/State	Local
Policies supporting sustainable forest management	yes	yes	yes	yes
... of which, in <u>publicly</u> owned forests	yes	yes	yes	yes
... of which, in <u>privately</u> owned forests	yes	yes	yes	yes
Legislation and regulations supporting sustainable forest management	yes	yes	yes	yes
... of which, in <u>publicly</u> owned forests	yes	yes	yes	yes
... of which, in <u>privately</u> owned forests	yes	yes	yes	yes

10.4 Comments

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	The National Forest Policy (2002) supports sustainable forest management on all types of forests
Legislation and regulations supporting sustainable forest management	The Draft Forest Bill of 2013, Flora Protection Act of 2001, Environment Management Act of 2001,

Other general comments

--

11. Is there a national platform that promotes stakeholder participation in forest policy development?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

11.1 Categories and definitions

Category	Definition
National stakeholder platform	A recognized procedure that a broad range of stakeholders can use to provide opinions, suggestions, analysis, recommendations and other input into the development of national forest policy.

11.2 National data

11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A

Table 11

Is there a national platform that promotes or allows for stakeholder participation in forest policy development?	no
---	----

11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	There is no national platform, however, when a need arises technical committees comprise of different stakeholders are put in place.

Other general comments

--

12. What is the forest area intended to be in permanent forest land use and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

12.1 Categories and definitions

Category	Definition
Forest area intended to be in permanent forest land use	Forest area that is designated or expected to be retained as forest and is highly unlikely to be converted to other land use.
...of which permanent forest estate (<i>sub-category</i>)	Forest area that is designated by law or regulation to be retained as forest and may not be converted to other land use.

12.2 National data

12.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Thurland, M. 1999. Forest Resource Assessment	Definition and Land use cover	1990	Primary data source
2	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	N/A	1999	Secondary data source
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

12.2.2 Classification and definitions

National class	Definition
Wattle Forest	Man-made Forest. Highveld, <i>A. mearnsii</i> dominated forests.
Plantation	Man-made Forest. Man-made plantations of pines and eucalypts (mainly Highveld).
N/A	N/A
N/A	N/A

12.2.3 Original data

1990 and 1999

National Classes	1990	1999
Montane and Highland	11 930	15 765
Riparian	2 344	25 997
Moister Savannah	112 720	104 273
Acacia Savannah	150 590	180 546
Dryer Acacia Savannah	34 025	35 125
Bushveld	151 890	275 705
WattleForest	25 439	28 839
Plantation	135 034	122 596
Total	623 972	788 846

From original data of Question 1

National Classes	1990	1999
	(ha)	(ha)
WattleForest	25 439	28 839
Plantation	135 034	122 596

12.3 Analysis and processing of national data

12.3.1 Adjustment

No need since there is no new data sets.

12.3.2 Estimation and forecasting

The plantation and wattles forest areas have been estimated by linear extrapolation:

National Classes	1990(ha)	1999 (ha)	2000 (ha)	2005 (ha)	2010 (ha)
WattleForest	25 439	28 839	29 217	31 106	32 995
Plantation	135 034	122 596	121 214	114 304	107 394
Total	160 473	151 435	150 431	145 410	140 389



Assumptions:

1. Plantation areas and wattle forest areas are designated for production purposes.
2. The rest unknown

12.3.3 Reclassification

12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	143.8
	... of which permanent forest estate	98.4

Tiers

Category	Tier for status
Forest area intended to be in permanent forest land use	Tier 2
Permanent forest estate	Tier 2

Tier Criteria

Category	Tier for status
Forest area intended to be in permanent forest land use	Tier 3 : National or sub-national land use plans strategy documents or other reports within the past 10 years Tier 2 : National or sub-national land use plans strategy documents or other reports within the past 20 years Tier 1 : Other

Permanent forest estate	Tier 3 : National or sub-national land use plans strategy documents or other reports within the past 10 years Tier 2 : National or sub-national land use plans strategy documents or other reports within the past 20 years Tier 1 : Other
-------------------------	---

12.5 Comments

Category	Comments related to data definitions etc
Forest area intended to be in permanent forest land use	Forest area intended to be in permanent forest land use is the total Forest area that is appearing in the original data.
Permanent forest estate	Permanent forest estate is plantable area under commercial forests.

Other general comments

--

13. How does your country measure and report progress towards SFM at the national level?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

13.1 Categories and definitions

Category	Definition
Forest area monitored under a national forest monitoring framework	Forest area monitored by a national monitoring framework or systems that provide measurement based periodic monitoring of forest extent and quality.
Forest reporting at national scale	National reporting of forest extent and characteristics that includes some measure of progress toward sustainable forest management.

13.2 National data

13.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	N/A	1999	Secondary data source
2	Central Statistics Office Timber Statistics	N/A	1999	Primary data source
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

13.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

13.3 Data

Table 13a

Category	% of total forest area	Most recent year	Check all boxes that apply					
			Continuous	Periodic	Permanent ground plots	Temporary ground plots	Aerial/remote sensing sample based	Aerial/remote sensing full coverage
Forest inventory	45	1999	no	no	no	no	yes	yes
Other field assessments	N/A	N/A						
Updates to other sources	N/A	N/A						
Expert estimate	N/A	N/A						

Table 13b

Type of forest reporting used at national scale	Check boxes that apply
1 Criteria and Indicators reporting	no
2 Periodic national state of the forest report	no
3 Other (please document)	no
4 None	

Other type of forest reporting

The country has not been assessing progress on SFM because there is outdated inventory data. The last national forest inventory was conducted in 1999. So much has happened over time. There is a need to conduct a national forest inventory that will inform the monitoring process.

13.4 Comments

Category	Comments
N/A	N/A
N/A	N/A
N/A	N/A

Other general comments

--

14. What is the area of forest under a forest management plan and how is this monitored?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

14.1 Categories and definitions

Category	Definition
Forest area with management plan	Forest area that has a long-term documented management plan, aiming at defined management goals which is periodically revised
...of which for production (<i>sub-category</i>)	Forest management plan mainly focused on production
...of which for conservation (<i>sub-category</i>)	Forest management plan mainly focused on conservation
Monitoring of forest management plans	Government monitoring of forest management plan implementation conducted through field visits or audits of forest management plan performance

14.2 National data

14.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Thurland, M. 1999. Forest Resource Assessment	Definition and Land use cover	1990	Primary data source
2	Forest Policy and Legislation Project, DANCED/ MOAC/ FS	N/A	1999	Secondary data source
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	133.8
... of which for production	88.4
... of which for conservation	45.4

Table 14b

Indicate which (if any) of the following are required in forest management plans in your country	
1 Soil and water management	yes

2 High conservation value forest delineation	yes
3 Social considerations community involvement	yes

Table 14c

Percent of area under forest management plan that is monitored annually	100
--	------------

Tiers

Category	Tier for status
Forest area with management plan	Tier 3
Percent of area under forest management plan that is monitored annually	Tier 2

Tier criteria

Category	Tier for status
Forest area with management plan	Tier 3 : Reports that describe national records 5 years old or less that contain long-term forest monitoring plans Tier 2 : Industry or other records indicating the presence of a long-term forest management plan Tier 1 : Other
Percent of area under forest management plan that is monitored annually	Tier 3 : Government documentation of monitoring extent Tier 2 : Reports from forest managers or other documental sources Tier 1 : Other

14.4 Comments

Category	Comments
Forest area with management plan	This is the area under production and conservation. These are also monitored by FSC and the different conservation area managers. The natural forests do not have management plans. Only forest plantations have management plans at the moment.
N/A	N/A
N/A	N/A

Other general comments

--

15. How are stakeholders involved in the management decision making for publicly owned forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

15.1 Categories and definitions

Category	Definition
Stakeholder involvement	Stakeholder involvement is defined as significant inputs into at least one aspect of forest management at the operational scale

Table 15

Please indicate the type of stakeholder involvement in forest management decision making required in your country	
1. Planning phase	yes
2. Operations phase	yes
3. Review of operations	yes

Tiers

Category	Tier for status
Type of stakeholder inputs	Tier 1

Tier criteria

Category	Tier for status
Type of stakeholder inputs	Tier 3 : Government (national or sub-national) documentation of stakeholder inputs Tier 2 : Government (national or subnational) requirement but stakeholder inputs not documented Tier 1 : Other

15.2 Comments

Category	Comments
Type of stakeholder inputs	Stakeholders are consulted during the development of Policy frameworks, Strategies and Legislations in the Forest Sector. They are also consulted during National Dialogue that is meant to discuss current issues that impact on development of the country including the Forest Sector.
N/A	N/A
N/A	N/A

Other general comments

--

16. What is the area of forest under an independently verified forest certification scheme?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

16.1 Categories and definitions

Category	Definition
FSC certification	Forest area certified under the Forest Stewardship Council certification scheme
PEFC certification	Forest area certified under the Programme for the Endorsement of Forest Certification scheme
Other international forest management certification	Forest area certified under an international forest management certification scheme with published standards and is independently verified by a third-party, excluding FSC and PEFC certification.
Certified forest area using a domestic forest management certification scheme	Area certified under a forest management certification scheme with published standards that are nationally recognized and independently verified by a thirdparty

16.2 Data

Table 16a













International forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	FSC	17	17	17	17	17	17	17
	PEFC	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
	FSC	87	87	177	114	114	111	
	PEFC	0	0	0	0	0	0	
	Other	0	0	0	0	0	0	

Table 16b

Domestic forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	1.Name	0	0	0	0	0	0	0
	2.Name	0	0	0	0	0	0	0
	3.Name	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
	1.Name	0	0	0	0	0	0	
	2.Name	0	0	0	0	0	0	
	3.Name	0	0	0	0	0	0	

Tier criteria

Category	Tier for status
International forest management certification	Tier 3: International forest management scheme records maintained by the certifying organization for the reporting year Tier 2: International forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other
Domestic forest management certification	Tier 3: National registry reports for domestic forest management certification maintained by the certifying organization for the reporting year Tier 2: Domestic forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other

Tiers

Category	Tier for status
International forest management certification	Tier 3
Domestic forest management certification	Tier 2

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	This is external data
Domestic forest management certification	Non

Other general comments

--

17. How much money do governments collect from and spend on forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

17.1 Categories and definitions

Category	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose revenue include: <ul style="list-style-type: none"> • <u>Goods</u> : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products. • <u>Services</u> : including concession fees and royalties, stumpage payments, public timber sales revenue taxes and charges based on forest area or yield, taxes on domestic trade and export of forest products, special levies on forestry activities and payments into forest related funds, other miscellaneous inspection, licence and administrative fees levied by forest administrations, permit and licence fees for recreation and other forest related activities.
Public expenditure on forestry	All government expenditure on forest related activities.

17.2 National data

17.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Book of Estimated, Ministry of Finance	Budget	1995	N/A
2	Book of Estimated Ministry of Finance	Budget	2000	N/A
3	Book of Estimated Ministry of Finance	Budget	2005	N/A
4	Book of Estimated Ministry of Finance	Budget	2010	N/A

17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	N/A	N/A	N/A
Public expenditure on forestry	1246	4216	5645
	2000	2005	2010
Name of Local Currency	Lilangeni (E)	Lilangeni (E)	Lilangeni (E)

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	No data available. Usually in the National System of Account Forestry is combined with Agriculture hence it is difficult to know direct forest revenue.
Public expenditure on forestry	Operational expenditure This has been referred to as public expenditure in order to indicate the Department's expenditure. There are no government institutions dealing with forestry except private sector and government does not fund such entities. Public expenditure increases with time. The Department is growing and more activities are being added.
Other general comments	N/A

Other general comments

--

18. Who owns and manages the forests and how has this changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

18.1 Categories and definitions

Category	Definition
Public ownership	Forest owned by the State or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at national scale (<i>sub-category</i>)	Forest owned by the State at the national scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at the sub-national government scale (<i>sub-category</i>)	Forest owned by the State at the sub-national government scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
Private ownership	Forest owned by individuals, families, communities, private cooperatives corporations and other business entities, private, religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
...of which individuals (<i>sub-category</i>)	Forest owned by individuals and families.
...of which private business entities and institutions (<i>sub-category</i>)	Forest owned by private corporations cooperatives companies and other business entities as well as private nonprofit organizations such as NGOs nature conservation associations, and private religious and educational institutions etc.
...of which local tribal and indigenous communities (<i>sub-category</i>)	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area or forest owned by communities of indigenous or tribal people The community members are coowners that share exclusive rights and duties and benefits contribute to the community development.
Unknown ownership	Forest area where ownership is unknown includes areas where ownership is unclear or disputed.
Categories related to management rights of public forests	Definition
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private companies	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities private cooperatives, private nonprofit institutions and associations, etc., through long-term leases or management agreements.
Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

18.2 National data

18.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest Resource Assessment - Forest Policy and Legislation Project, DANCED/ MOAC/ FS	Definition and Land use cover	1990	Primary data
2	Timber Statistics – Central Statistics	Census for Timber Plantations and wood Processing	1990	Primary data
3	Timber Statistics - Central Statistics	Census for Timber Plantations and wood Processing	2000	Primary data
4	Menne, W. 2004. Timber Plantations in Swaziland. Timber Watch Coalition, 46p. http://www.wrm.org.uy/countries/Swaziland/Plantations.pdf	Private ownership	2004	Secondary data source.

18.2.2 Classification and definitions

National class	Definition
Forested area	This is a total area under forests which comprise of individual forests, private/registered companies and others.
Individual ownership	These are forests that are owned by individuals and partners
Registered companies	These are forests that are under sustainable forest management under registered companies
Community forests	These are forests on Swazi Nation Land and community woodlots
Other Land	These are forests without defined ownership.

18.2.3 Original data

National classification	Area (ha)	
	1990	2000
...Individuals ownership	5 437	4 600
...Registered companies	104 884	109 147

Other types of ownership	2 735	2 471
--------------------------	-------	-------

But, no information is available for 2005.

18.3 Analysis and processing of national data

18.3.1 Adjustment

--

18.3.2 Estimation and forecasting






There is no new data so there is no forecasting required.




18.3.3 Reclassification

<p>The data is overall forest area regardless of the different categories.</p> <p>For 2015, it is assumed that the proportions among the different types of ownership remain stable.</p>
--

18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
	Public ownership	359.1	401.8	419.7	418.4
	... of which owned by the state at national scale	N/A	N/A	N/A	N/A
	... of which owned by the state at the sub-national government scale	N/A	N/A	N/A	N/A
	Private ownership	110.2	113.7	118.7	140.4
	... of which owned by individuals	N/A	N/A	N/A	N/A

	... of which owned by private business entities and institutions	N/A	N/A	N/A	N/A
	... of which owned by local, tribal and indigenous communities	N/A	N/A	N/A	N/A
	Unknown ownership	2.7	2.5	2.6	4.2
TOTAL		472.00	518.00	541.00	563.00

Tiers

Category	Tier for status	Tier for reported trend
Public ownership	Tier 2	Tier 1
Private ownership	Tier 3	Tier 2
Unknown ownership	Tier 2	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
Ownership	Tier 3: National forestry statistics registers of land titles or maps on land ownership or all forest area under one ownership category that is five years old or less. Tier 2: National forestry statistics registers of land titles or maps on land ownership or questionnaires that are more than five years old. Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)			
	1990	2000	2005	2010
Public Administration	359.1	401.8	419.7	418.4
Individuals	0	0	0	0
Private companies	110.2	113.7	118.7	140.4
Communities	0	0	0	0
Other	2.7	2.5	2.6	4.2
TOTAL	472.00	518.00	541.00	563.00

Category	Tier for reported trend	Tier for status
Public Administration	Tier 2	Tier 2
Individuals	Tier 1	Tier 1
Private companies	Tier 2	Tier 3
Communities	Tier 1	Tier 1
Other	Tier 1	Tier 1

18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	Forest owned by the State; or administrative units of the public administration; or by institutions or corporations owned by the public administration.	The figures show an increase in the area under public ownership due to public awareness campaigns on importance of tree planting.
Private ownership	These are forests owned by private registered companies who are into production. It should be noted that Three private companies own 101 000 ha of plantations	The area is increasing slightly under private companies.
Unknown ownership	Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.	N/A
Management rights	N/A	N/A

Other general comments to the table

User rights issues are still a challenge in Swaziland and Legislation is needed in order to address this in relation to land tenure and ownership. Communities have forests but are used communally.

19. How many people are directly employed in forestry?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

19.1 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment in forestry	Employment in activities related to production of goods derived from forests. This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

19.2 National data

19.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Public Service staff records and private forestry companies reports	N/A	1990	N/A
2	Public Service staff records and private forestry companies reports	N/A	2000	N/A
3	Public Service staff records and private forestry companies reports	N/A	2005	N/A
4	Public Service staff records and private forestry companies reports	N/A	2010	N/A

19.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A



19.2.3 Original data

1990	2000	2005	2010
------	------	------	------

2100	2300	2500	2500

19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
	Employment in forestry	2.1	2.3	2.5	2.5
	... of which female	0.3	0.2	0.4	0.6

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Employment in forestry	The data is for full time employees working for private companies and government.	The number of employees is increasing through out the reporting years. The number of female workers is also increasing.

Other general comments to the table

Information came from the Establishment register from Public Service for government employees and reports from private forestry companies over the reporting periods.

20. What is the contribution of forestry to Gross Domestic Product (GDP)?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

20.1 Categories and definitions

Category	Definition
Gross value added from forestry (at basic prices)	This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

20.2 Data

Table 20 (Pre-filled data from UNdata/EUROSTAT)

Category	Million	Currency	Year for latest available information
Gross value added from forestry (at basic prices)	72.38	Lilangeni	2011

20.3 Comments

Category	Comments
Gross value added from forestry (at basic prices)	The figure shows a decline compared to previous reporting years.

Other general comments

--

21. What is forest area likely to be in the future

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

21.1 Categories and definitions

Category	Definition
Government target/aspiration for forest area	Government target/aspiration for forest area for a specific year.
Forests earmarked for conversion	Forest area that is allocated/classified or scheduled to be converted into non-forest uses.

21.2 National data

21.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Department of Forestry annual work plans	N/A	2012 - 2014	projection is based on the target of 30,000 ha per year
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030
Government target/aspiration for forest area	766	886

Table 21b

Category	Forest area (000 ha)
	2013
Forests earmarked for conversion	10

21.4 Comments

Category	Comments
----------	----------

Government target/aspiration for forest area	It is assumed that government in collaboration with communities plants 30, 000 ha per year. Government is not into production but manage natural forests on Swazi Nation Land. It regulates the forest sector in Swaziland (both natural and privately owned forests)
Forests earmarked for conversion	This area is anticipated for sugar cane plantation and agricultural expansion based on on-going LUSIP/GEF project.

Other general comments

--