

GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Mozambique

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.

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Introductory Text

Place an introductory text on the content of this report

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Desk Study?

Check "yes" if this survey is a Desk Study, "no" otherwise	
Desk Study?	no

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
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1	Jansen, L et al. 2006. Satellite image interpretation of land-cover types in Manica and Maputo Provinces at nominal scale of 1:250 000 and at National level scale of 1: 1000000. DNTF_AIFM, Maputo	Land use, forest cover	2005	Visual interpretation of Landsat TM scale 1:1 000 000 with support of field observations
2	Coetzee, H & Alves, T. 2005. National Afforestation Strategy Republic of Mozambique. FAO, UTF/MOZ/074/MOZ Mozambique.	Forest plantations	1990-2005	Extensive literature review on forest plantation areas in Mozambique
3	Marzoli, A 2007. Inventário Florestal Nacional	Total and commercial growing stock	2005	National forest Inventory, field work data.
4	DNTF, 2006. Relatório Estatístico Anual. Maputo	Afforestation areas	2005	Yearly statistical report
5	DNTF, 2009. Relatório Anual 2008. Maputo	Afforestation areas	2006-2008	Yearly statistical report
6	DNTF, 2010. Relatório Anual 2009, 2010, 2011, 2012 Maputo	Afforestation areas	2009 - 2012	Yearly statistical report
7	DNTF, Plano Económico Social 2006 - 2012. Maputo	Forest Plantations	2006 - 2012	Yearly production plan
8	Forestry Department Food and Agriculture Organization of the United Nations FRA2010/140 Rome, 2010 GLOBAL FOREST RESOURCES ASSESSMENT 2010 COUNTRY REPORT Mozambique	FRA2010 data	2010	Five years country report

1.2.2 Classification and definitions

National class	Definition
(Semi)-evergreen dense forests	5 m) with a closed canopy cover (> 65%) belonging to the (semi)-natural terrestrial vegetation. Some vegetation types can have 2 to 3 layers." /> Refers to stands of broad-leafed (semi)-evergreen trees (height > 5 m) with a closed canopy cover (> 65%) belonging to the (semi)-natural terrestrial vegetation. Some vegetation types can have 2 to 3 layers.
(Semi)-deciduous dense forests	5 m) with a closed canopy cover (> 65%) belonging to the (semi)-natural terrestrial vegetation. Some vegetation types can have 2 to 3 layers." /> Refers to stands of broadleaved (semi)-deciduous trees (height > 5 m) with a closed canopy cover (> 65%) belonging to the (semi)-natural terrestrial vegetation. Some vegetation types can have 2 to 3 layers.

(Semi)-evergreen open forests	5 m) with canopy cover ranging between 40-65%, belonging to the (semi) natural terrestrial vegetation. May or may not have a second layer of shrubs." /> Refers to stands of broad-leafed (semi)-evergreen trees (height > 5 m) with canopy cover ranging between 40-65%, belonging to the (semi) natural terrestrial vegetation. May or may not have a second layer of shrubs.
(Semi)-deciduous open forests	5 m) with canopy cover ranging between 40-65%, belonging to the (semi)-natural terrestrial vegetation. May or may not have a second layer of shrubs. " /> Refers to stands of broadleaved (semi)-deciduous trees (height > 5 m) with canopy cover ranging between 40-65%, belonging to the (semi)-natural terrestrial vegetation. May or may not have a second layer of shrubs.
Thickets (evergreen and (semi)-deciduous)	Refers to stands of broad-leafed (semi)-evergreen or (semi)-deciduous thickets. This class is typical in more arid areas.
Shrublands (evergreen and (semi)-deciduous)	< 5 m) with canopy cover less than 40%. Emergent trees may occasionally occur." /> Refers to stands of broad-leafed (semi)-evergreen or (semi)-deciduous shrubs (height < 5 m) with canopy cover less than 40%. Emergent trees may occasionally occur.
Grasslands	Closed to open herbaceous vegetation with shrubs. Occasionally trees can be found as well
Forested areas with shifting cultivation	Closed to open trees surrounded by scattered clustered small-sized field(s) of rainfed herbaceous crop(s). (The tree covers is constituted by a mixed class of forest and woodlands).
Mangrove	3 m) with a canopy cover ranging from 40-65% to more than 65%) belonging to the (semi)-natural aquatic or regularly flooded vegetation" /> Refers to stands of broad-leafed (semi)-evergreen trees (height > 3 m) with a canopy cover ranging from 40-65% to more than 65%) belonging to the (semi)-natural aquatic or regularly flooded vegetation
Aquatic/regularly flooded shrublands	Open shrubs on temporarily flooded lands
Aquatic/regularly flooded herbaceous vegetation	Herbaceous vegetation temporarily to permanently flooded
Cultivated aquatic or regularly flooded areas	Continuous field(s) of graminoid crops; in flat to almost flat land level; dominant crop Cereal-Rice (<i>Oryza</i> spp.)
Tree crops	3 m) crop(s) (fruits & nuts) and permanently cropped areas with rainfed tree crops (wood & timber), both with closed crop cover > 70-60% (plantations)" /> This class includes permanently cropped areas with rainfed broad-leafed evergreen tree (height > 3 m) crop(s) (fruits & nuts) and permanently cropped areas with rainfed tree crops (wood & timber), both with closed crop cover > 70-60% (plantations)
Shrub crops	< 5 m) crop(s); dominant crop Beverage-Tea (<i>Camellia sinensis</i> (L.) L.K.). Closed crop cover > 70-60% plantation(s)." /> This class includes permanently cropped area with rainfed broad-leafed evergreen shrub (height < 5 m) crop(s); dominant crop Beverage-Tea (<i>Camellia sinensis</i> (L.) L.K.). Closed crop cover > 70-60% plantation(s).
Field crops (generic)	This class includes both rainfed and irrigated field (herbaceous and shrubs) crops. These crops comprise tobacco and cotton, but also subsistence crops like cassava, etc.

Shifting cultivation with forested areas	Scattered clustered small-sizes field(s) of rainfed herbaceous crops cultivated for a number of years surrounded by a open to closed forests.
Built-up areas	This unit includes urban, industrial and associated areas
Bare areas	This unit includes all sort of bare soil
Natural water bodies	This unit includes all natural water bodies (rivers, inland water, etc).
Artificial water bodies	This unit includes artificial water bodies (dams).

1.2.3 Original data

Source 1 - 2005 data:	
National class	Areas in 1000 hectares Reference year 2005
(Semi)-evergreen dense forests	5516
(Semi)-deciduous dense forests	17003
(Semi)-evergreen open forests	883
(Semi)-deciduous open forests	15507
Thickets (evergreen and (semi)-deciduous))	7605
Shrublands (evergreen and (semi)-deciduous))	802
Grasslands	1093
Forested areas with shifting cultivation	5568
Mangrove	357
Aquatic/regularly flooded shrublands	446
Aquatic/regularly flooded herbaceous vegetation	7191
Cultivated aquatic or regularly flooded areas	2168
Tree crops	3682
Shrub crops	1738
Field crops (generic)	5934

Shifting cultivation with forested areas	15
Built-up areas	850
Bare areas	731
Natural water bodies	31
Artificial water bodies	872
Total	77992

Source 2 – Forest Plantations (1995 to 2005) & Source 7 - Forest Plantations (2006 - 2012)

Category	Area in hectares									
	1990	2000	2005	2006	2007	2008	2009	2010	2011	2012
Forest Plantations	38000	38000	24000	1000	1000	5000	5000	12000	20000	20000

Source 4, 5 & 6 – Afforestation area (2005 to 2012)

Affore/ station	2005	2006	2007	2008	2009	2010	2011	2012
Area in ha	80	4091	6273	8595	14067	15787	14329	9060

1.3 Analysis and processing of national data

1.3.1 Adjustment

Forest area

The 2005 data (source 1) have been calibrated to the FAOSTAT land area as follows:

National land area in 1 000 ha	77089
FAOSTAT land area in 1 000ha	78638
Calibrating factor	1.0200937

Calibrating the 2005 data (source 1)

National land areas class	Calibrated areas in 1000 ha reference year 2005
(Semi)-evergreen dense forests	5627
(Semi)-deciduous dense forests	17345
(Semi)-evergreen open forests	901
(Semi)-deciduous open forests	15819
Thickets (evergreen and (semi)-deciduous))	7758
Shrublands (evergreen and (semi)-deciduous))	818
Grasslands	1115
Forested areas with shifting cultivation	5680
Mangrove	364
Aquatic/regularly flooded shrublands	455
Aquatic/regularly flooded herbaceous vegetation	7335
Cultivated aquatic or regularly flooded areas	2212
Tree crops	3756
Shrub crops	1773
Field crops (generic)	6053
Shifting cultivation with forested areas	15

Built-up areas	867
Bare areas	746
Total	78638

Forest expansion, reforestation

Regarding the second source, it is assumed that there is no need to adjust the data.

1.3.2 Estimation and forecasting

1.1.1 Estimation and forecasting

Forest

- Natural Forest

For (semi)-natural forest a rough estimate of deforestation rate for the entire country was derived based on a model, using a similar approach of that used in FRA 1990 (Marzoli, 2007). The main assumption of the model is that population pressure is the main factor in deforestation. Thus, using a good correlation between population pressure and land cover, it was possible to simulate a deforestation rate of 219 000 ha per year.

In 2005, there is 40 055 000 ha, and knowing that the deforestation rate is 219 000 ha/y, the following table has been established.

Natural Forest	1990	2000	2005	2010	2015
Area in 1000 ha	43340	41150	40055	38960	37865

• Planted Forest

In 2010, planted forest is equal to 12 000 ha

During the period of 2011 to 2012, total of new plantations was 14 329 ha+ 9 060 ha.

Based on expert judgement, it is assumed that a total of 11 778 ha will be planted in 2013, 15 311 ha in 2014 and 19 905 ha in 2015 (an annual increment of 30%).

Meanwhile during 2005 to 2010, the total harvesting of forest plantation is estimated to be equal to 7 000 ha.

Therefore planted forest in 2015 will equal to: $(12\ 000 + 14\ 329 + 9\ 060 + 11\ 778 + 15\ 311 + 19\ 905) - 7000$ ha = 75 383 ha.

Planted Forest - Year	1990	2000	2005	2010	2015
Area in 1000 ha	38	38	24	12	75

Then Forest = Natural Forest + Planted forest

Other Wooded Lands (OWL)

Based on the Marzoli's model (2007, as above), the OWL decrease was estimated at 29 000 ha per year for other wooded land between 1990-2002. The rate was maintained constant for the entire period of study.

In 2010, there is 14 566 000 ha, and knowing that the OWL decrease is 29 000 ha/y, the following table has been established.

OWL	1990	2000	2005	2010	2015
Area in 1000 ha	15146	14856	14711	14566	14421

1.3.3 Reclassification

Forest area

The 2010 data (source 8)

National land areas class	Forests		OWL	OL
	Natural	Planted		
(Semi)-evergreen dense forests	100.00%			
(Semi)-deciduous dense forests	100.00%			
(Semi)-evergreen open forests	100.00%			
(Semi)-deciduous open forests	100.00%			
Thickets (evergreen and (semi)-deciduous))			100.00%	
Shrublands (evergreen and (semi)-deciduous))			100.00%	
Grasslands				100.00%
Forested areas with shifting cultivation (1)			100.00%	
Mangrove	100.00%			
Aquatic/ regularly flooded shrublands			100.00%	
Aquatic/ regularly flooded herbaceous vegetation				100.00%
Cultivated aquatic or regularly flooded areas				100.00%
Tree crops (2)		0.32%		99.68%

Shrub crops				100.00%
Field crops (generic)				100.00%
Shifting cultivation with forested areas				100.00%
Built-up areas				100.00%
Bare areas				100.00%

Notes: (1) Forest and shifting cultivation was considered under OWL as the tree covers is constituted by a mixed class of forest and woodlands and no distinction is made from the source;

(2) Considering that “tree crops” class (3 756 000 ha) includes the planted forest (12 000 ha).

Results after reclassifying 2010 data (source 8)

National land areas class	Forests		OWL	OL
	Natural	Planted		
(Semi)-evergreen dense forests	5473	0	0	0
(Semi)-deciduous dense forests	16871	0	0	0
(Semi)-evergreen open forests	876	0	0	0
(Semi)-deciduous open forests	15387	0	0	0
Thickets (evergreen and (semi)- deciduous))	0	0	7682	0
Shrublands (evergreen and (semi)- deciduous))	0	0	810	0
Grasslands	0	0	0	1115

Forested areas with shifting cultivation	0	0	5624	0
Mangrove	354	0	0	0
Aquatic/ regularly flooded shrublands	0	0	451	0
Aquatic/ regularly flooded herbaceous vegetation	0	0	0	7335
Cultivated aquatic or regularly flooded areas	0	0	0	2212
Tree crops	0	12	0	3733
Shrub crops	0	0	0	1773
Field crops (generic)	0	0	0	6053
Shifting cultivation with forested areas	0	0	0	15
Built-up areas	0	0	0	867
Bare areas	0	0	0	746
Total	38960	12	14566	23849

Standard FRA classes (areas in 1000 hectares)

Forests		OWL	OL
Natural	Planted		
38960	12	14566	23849
38972		14566	23849

Forest expansion, reforestation

The National Afforestation Strategy designed on 2005 was detailed in national action plan for afforestation which the implementation started in 2010 and most of pulp and paper companies started to require the land and to establish some plots to select the suitable species. Therefore it increased the reforested area. Now the companies are preparing to start with the establishment of plantation.

1.4 Data

Table 1a













Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
	Forest	43378	41188	40079	38972	37940
	Other wooded land	15146	14856	14711	14566	14421
	Other land	20114	22594	23848	25100	26277
	... of which with tree cover	N/A	N/A	N/A	N/A	N/A
	Inland water bodies	1300	1300	1300	1300	1300
	TOTAL	79938.00	79938.00	79938.00	79938.00	79938.00

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	24	12	N/A	N/A	24	12
	... of which afforestation	N/A	N/A	24	12	N/A	N/A	24	8
	... 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	219	219	N/A	N/A	N/A	N/A
	... of which human induced	N/A	N/A	219	219	N/A	N/A	N/A	N/A
	Reforestation	N/A	N/A	N/A	N/A	N/A	N/A	0	4
	... of which artificial	0	0	0	0	0	0	0	4

Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 3	Tier 2

Other wooded land	Tier 3	Tier 2
Forest expansion	Tier 1	Tier 1
Deforestation	Tier 3	Tier 2
Reforestation	Tier 1	Tier 1

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 Tier 2 : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago) 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>

1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends
Forest	This category includes (Semi) - natural dense and open forests and mangrove classes and forest plantation (1% of tree crops) area from the National land-cover map by Jansen et al (2007).	For (semi)-natural forest a rough estimate of deforestation rate for the entire country was derived based on a model, using a similar approach of that used in FRA 1990 (Marzoli, 2007). The main assumption of the model is that population pressure is the main factor in deforestation. Thus, using a good correction between population pressure and land cover, it was possible to simulate a deforestation rate of 219000 ha per year.
Other wooded land	This category includes thickets, shrublands and Forested areas with shifting cultivation classes from the National land-cover types	Using same model of above (Marzoli, 2007). The deforestation was estimated at 29000 ha per year for other wooded land between 1990-2002. The rate was maintained constant for the entire period of study.
Other land	This category includes grasslands, Aquatic/regularly flooded herbaceous vegetation, Shifting cultivation with forested areas, Tree crops, Field crops (generic), Cultivated aquatic or regularly flooded areas, Built-up areas and Bare areas from the National land-cover types	Other land was then adjusted (plus/minus) of forest and other wooded lands gain/lost in a period of time.
Other land with tree cover	This category includes Shifting cultivation with forested areas, Tree crops and shrub crops from the National land-cover types. But original classification and definitions do not allow assigning data into FRA 2010 categories.	No data is available to build the trend on other land with tree cover

Inland water bodies	Data on Inland water bodies from FAOSTAT	It was maintained constant
Forest expansion	Data not available	The National Afforestation Strategy designed on 2005 was detailed in national action plan for afforestation which the implementation started in 2010 and most of pulp and paper companies started to require the land and to establish some plots to select the suitable species. Therefore it increased the reforested area. Figures for the reporting period (2010) refer to the averages for 5 years from sources 4, 5 & 6(2008-2012).
Deforestation	N/A	Assuming that population pressure is the main factor in deforestation and using a good correction between population pressure and land cover, it was possible to simulate a deforestation rate of 219000 ha per year.
Reforestation	Data not available. It seems that no significant reforestation activities took place before 2005.	Data not available. It seems that no significant reforestation activities took place from 2008 - 2012.

Other general comments to the table

Different forest area estimation initiatives in Mozambique provide dissimilar data, misleading discussions on forest changes. Due to the different forest definitions used in subsequent forest inventories, the extent of forest cover has been reported differently in various sources. It is not possible to identify whether this discrepancy is due to real changes or classification errors. The extent of forests cover was estimated of 20 million hectares in 1990 (Saket 1994). However, current estimate of forest cover is 40 million hectares (Marzoli, 2007). Therefore the conversion of FRA 2005 division to current FRA 2010 classification system has been difficult and a clear trend is not observable. Only mangrove forests were continuously assessed by comparing different forest inventories, namely, 1972, 1994 and 2005. For the present study, the 2005 study is taking as the starting point, because it is recent, and it used the more updated technology (on-screen visual interpretation) for satellite image interpretation allowing a new approach for future land cover change assessments, in which land cover recognizes that changes come in two types: (1) conversion from one category to another; and (2) modification within one category. Original data of the table is derived by a land-use/cover map produced (at 1: 1 000 000 nominal scale) using visual interpretation of satellite images (LANDSAT 5 TM) of the period 2004/2005. The land cover classification adopted FAO, Land Cover Classification System # LCCS). The land cover map accuracy ranges between 86% to 80% for the main land cover classes and it is greater than 90% for the forest classes. The mapping was also based on extensive field-work in the entire country for control and validation of interpretation. Comments for pending fixes: About the tiers, taking into account that the data are from forest inventory (Marzoli 2007) and the tier criteria, the forest, other wooded land and deforestation are tier 3.

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	Marzoli 2007. Inventario Florestal Nacional. AIFM. DNTF, Maputo.	Mangrove and deforestation rates	2005	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
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2.2.2 Classification and definitions

National class	Definition
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
N/A	N/A
N/A	N/A
N/A	N/A

2.2.3 Original data

Planted Forest - Year	1990	2000	2005	2010	2015
Area in 1000 ha	38	38	24	12	75

2.3 Analysis and processing of national data

2.3.1 Adjustment

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2.3.2 Estimation and forecasting

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2.3.3 Reclassification

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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	43340	41150	40055	38960	37865
	... of which of introduced species	0	0	0	0	0
	... of which naturalized	0	0	0	0	0
	Planted forest	38	38	24	12	75
	... of which of introduced species	38	38	24	12	75
TOTAL		43378.00	41188.00	40079.00	38972.00	37940.00

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)	404	377	364	351	337
... of which planted	0	0	0	0	0

Tiers

Category	Tier for status	Tier for reported trend
Primary forest	Tier 2	Tier 2
Other naturally regenerated forest	Tier 2	Tier 2
Planted forest	Tier 2	Tier 2
Mangroves	Tier 2	Tier 2

Tier Criteria

Category	Tier for status	Tier for reported trend
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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>
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2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	Data are not available to estimate the situation of primary forest. Some patches may exist; but it is impossible to assess them. Consequently, all natural forests are under "Other naturally regenerated forest".	N/A
Other naturally regenerating forest	N/A	N/A
Planted forest	All planted forest are of introduced species, mainly from Eucalyptus and Pinus	N/A
Mangroves	N/A	It is assumed that the mangrove deforestation rate from 2005 to 2010 will remain equal to the period 1990 to 2015, which is 2644 ha/y.

Other general comments to the table

Data on planted and mangrove forest are based on reference 2, 3, 4, 5 & 6. respectively. The National Afforestation Strategy designed on 2005 was detailed in national action plan for afforestation which the implementation started in 2010 and most of pulp and paper companies started to require the land and to establish some plots to test and select the suitable species. Those companies will start the plantation of suitable species in 2014 - 2015. Therefore it will increase the reforested area in 2015.

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	Marzoli, A. 2007. Inventário Florestal Nacional. AIFM. DNTF, Maputo.	Total and commercial growing stock	2005	Based on intensive field work covering the entire country
2	2006 IPCC guidelines for National Greenhouse Gas Inventories. Volume 4, chapters 2 and 4.	Default values and conversion factors for estimating biomass and carbon	N/A	Defaults values referred to Tropical dry forests (in African)
3	INIA. 1997. Legenda da Carta Nacional de solos, Escala 1:1000 000.	Soil types (definitions and area)	1997	Remote sensing analysis with field work covering entire country during the mapping process

4	N/A	N/A	N/A	N/A
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3.2.2 Classification and definitions

National class	Definition
Dense Forest	See definition in Question 1
Open Forest	See definition in Question 1
Thicket/shrublands	See definition in Question 1
Forest with shifting cultivation	See definition in Question 1

3.2.3 Original data

Growing stock										
- Source 1- Growing stock (Natural Forests)										
Based on expert judgement, for the Growing Stock of forest plantations it was assumed an average of 150 m ³ /ha.										
Data from Question 1										
FRA Cate/gories	Area (1000 hectares)									
	Forest					Other wooded land				
	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
Natural area	43340	41150	40055	38960	37865	15146	14856	14711	14566	14421
Planted area	38	38	24	12	75	0	0	0	0	0

TOTAL	43378	41188	40079	38972	37940	15146	14856	14711	14566	14421

Biomass stock

Data from: Total growing stock

	Forest					Other wooded land				
	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
Grand total Growing Stock (Mm3)	1575	1495	1454	1420	1377	298	292	290	287	284

Default values and conversion factors for estimating biomass and carbon (2006 IPCC guidelines for National Greenhouse Gas Inventories).

Biomass	Default Value Forest	Default Value OWL
BCEFs	1.9	5
R	0.28	0.28

Considering hardwood and subtropical dry climatic zone

Carbon stock**Data from Question1: Total Forest area**

	Area (1000 hectares)									
	Forest					Other wooded land				
	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
TOTAL	43378	41188	40079	38972	37940	15146	14856	14711	14566	14421

Data from Total Biomass

Biomass (million metric tonnes)	Forest					Other wooded land				
	1990	2000	2005	4232	2015	1990	2000	2005	2010	2015
Above ground biomass	2993	2841	2763	2698	2614	1490	1460	1450	1435	1413
Below-grow biomass	838	795	774	755	733	417	409	406	402	397

Source 2: Default values and conversion factors for estimating carbon

Carbon content	Default Value
Carbon fraction (t C/d.m)	0.49

Carbon content in litter (t C/ha)	2.1
Carbon content in soil (t C/ha)	31

Considering subtropical broadleaf deciduous forest and sandy soils and trees d # 10 cm

3.3 Analysis and processing of national data

3.3.1 Adjustment

<p>Growing and biomass stock</p> <p>It is assumed that there is no need to calibrate the data.</p>

3.3.2 Estimation and forecasting

Growing stock											
<u>Calculating growing stock for forest and other wooded land</u>											
Calculating growing stock for modified forests and plantation by multiplying by their respective average volume per hectare gives:											
Total growing stock											
FRA Cate/ gories	Area (1000 hectares)										
	Forest					Other wooded land					
	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015	
Natural area (1000 ha)	43340	41150	40055	38960	37865	15146	14856	14711	14566	14421	

Volume per ha	36.2	36.2	36.2	36.2	36.2	19.7	19.7	19.7	19.7	19.7	
Total Growing Stock - Natural area (1000 m3)	1568908	1489630	1449991	1410352	1370713	298376	292663	289807	286950	284094	
Planted area (1000 ha)	38	38	24	12	75	0	0	0	0	0	
Volume per ha	150	150	150	150	150						
Total Growing Stock - Planted area (1000 m3)	5700	5700	3600	1800	11250	0	0	0	0	0	
Grand total Growing Stock (1000 m3)	1574608	1495330	1453591	1412152	1381963	298376	292663	289807	286950	284094	

Growing stock of commercial species

FRA Categories	Area (1000 hectares)
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Forest					Qvj gt 'y qqf gf 'hpf						
1990	2000	2005	2010	2015	1990	2000	2005	2010	2015		
Natural area	43340	41150	40055	38960	37865	15146	14856	14711	14566	14421	
Volume per ha	5.0	5.0	5.0	5.0	5.0	3.6	3.6	3.6	3.6	3.6	
Total growing stock natural area (1000 m3)	216700	205750	200275	194800	189325	54526	53482	52960	52438	51916	
Planted area	38	38	24	12	75	0	0	0	0	0	
Volume per ha	150	150	150	150	150						
Total growing stock planted area (1000 m3)	5700	5700	3600	1800	11250	0	0	0	0	0	
Grand total growing stock (1000 m3)	222400	211450	203875	196600	200575	54526	53482	52960	52438	51916	

Note : Considering total forest plantations are growing commercial species

Biomass stock

Forest	Other wooded land
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	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
Growing Stock (Mm3)	1575	1495	1454	1420	1377	298	292	290	287	284
BCEFs	1.9	1.9	1.9	1.9	1.9	5	5	5	5	5
Above ground biomass	2992.5	2840.5	2762.6	2698.0	2616	1490.0	1460.0	1450.0	1435.0	1420.0
R	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Below-grow biomass	837.9	795.34	773.528	755.44	732,48	417.2	408.8	406	401.8	397,6

Carbon stock

- Carbon in the above-ground biomass and the below ground biomass

Carbon (million metric tonnes)	Forest					Other wooded land				
	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
Above ground biomass	1467	1392	1354	1322	1282	730	715	711	703	696
Below-grow biomass	411	390	379	370	359	204	200	199	197	195

- Carbon in the litter and in the soil

Carbon (million metric tonnes)	Forest					Other wooded land				
	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
Carbon content in litter (t C/ha)	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Carbon in litter	91.094	86.495	84.166	81.946	79674	31.807	31.198	30.893	30.589	30284
Carbon content in soil (t C/ha)	31	31	31	31	31	31	31	31	31	31
Carbon in soil	1344.718	1276.828	1242.449	1209.682	1176.140	469.526	460.536	456.041	451.546	447.051

3.3.3 Reclassification

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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	1575	1495	1454	1420	1377	298	292	290	287	284
 ... of which coniferous	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 ... of which broadleaved	N/A	N/A	N/A	N/A	N/A	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	Brachystegia spiciformis	Messassa	N/A	N/A	208	N/A
2 nd	Brachystegia boehmii	Mafuti	N/A	N/A	177	N/A
3 rd	Julbernardia globiflora	Messassa encarnada	N/A	N/A	140	N/A
4 th	Colophospermum mopane	Mopane	N/A	N/A	69	N/A
5 th	Pterocarpus angolensis	Umbila	N/A	N/A	63	N/A
6 th	Millettia stuhlmannii	Jambirre	N/A	N/A	53	N/A
7 th	Sclerocarya birrea	Canho	N/A	N/A	50	N/A
8 th	Pseudolachnostylis maprouneifolia	N/A	N/A	N/A	39	N/A
9 th	Uapaca kirkiana	Metongoro	N/A	N/A	36	N/A
10 th	Burkea africana	Mucarala	N/A	N/A	34	N/A
Remaining			N/A	N/A	585	N/A
TOTAL			.00	.00	1454.00	.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)	10	Diameter at breast height (DBH) refers to diameter over bark measured at a height of 1.30 m above ground level or 30 cm above buttresses if these are higher than 1 m (Source 3).
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	-	N/A
Minimum diameter (cm) of branches included in growing stock (W)	10	N/A
Volume refers to above ground (AG) or above stump (AS)	AG	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	N/A	N/A	N/A	N/A	N/A
	... of which coniferous	N/A	N/A	N/A	N/A	N/A
	... of which broadleaved	N/A	N/A	N/A	N/A	N/A

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	2993	2841	2763	2698	2614	1490	1460	1450	1435	1413
	Below ground biomass	838	795	774	755	733	417	409	406	402	397
	Dead wood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL		3831.00	3636.00	3537.00	3453.00	3347.00	1907.00	1869.00	1856.00	1837.00	1810.00

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	1467	1392	1354	1322	1282	730	715	711	703	696
	Carbon in below ground biomass	411	390	379	370	359	204	200	199	197	195
	<i>Subtotal Living biomass</i>	1878	1782	1733	1692	1641	934	915	910	900	891

	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	91	86	84	82	77	32	31	31	31	30
	<i>Subtotal Dead wood and litter</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Soil carbon	1345	1277	1242	1210	1176	470	461	456	452	447
TOTAL		3314.00	3145.00	3059.00	2984.00	2894.00	1436.00	1407.00	1397.00	1383.00	1368.00

Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 1	Tier 1
Net annual increment	N/A	N/A
Above ground biomass	Tier 1	Tier 1
Below ground biomass	Tier 1	Tier 1
Dead wood	Tier 1	Tier 1
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	Growing stock calculated based on the average growing stock for natural forests (36.2 m ³ /ha) and other wooded land (19.7 m ³ /ha) from reference; and forest plantations (150 m ³ /ha) based on expert judgement.	N/A
Growing stock of broadleaved coniferous	Data not available	N/A
Growing stock composition	No data to specify the growing stock composition between broad-leafed and coniferous	N/A
Net annual increment	N/A	N/A
Above-ground biomass	Growing stock from Table 6 times BCEF=1.9 (forest) and BCEF=5 (OWL), default values given by IPCC guidelines for hardwood in sub-tropical dry forests zone	Data based on table 6
Below-ground biomass	Above-ground from above times R = 0.28 (default value given by IPCC guidelines for sub-tropical dry forests)	Data based on table 6
Dead wood	Data not available	N/A
Carbon in above-ground biomass	Above-ground biomass from Table 7 times carbon fraction =0.49 (default value given by IPCC guidelines for tropical dry forests)	Data based on table 7

Carbon in below-ground biomass	Below-ground biomass from Table 7 times carbon fraction =0.49 (default value given by IPCC guidelines for tropical dry forests)	Data based on table 7
Carbon in dead wood	Data not available	N/A
Carbon in litter	Forest area from Table 1, carbon in litter = 2.1, assuming tropical climate broadleaf (default value given by IPCC guidelines for tropical dry forests)	N/A
Soil carbon	Forest area from Table 1 carbon content in soil = 31, assuming sandy soils (default value given by IPCC guidelines for tropical dry forests)	Data based on table 1

Other general comments to the table

Above-ground biomass and Below-ground biomass estimated by the following equations $AGB = GS * BCEFs$ Where: # GS - Taken from Table 6 # BCEFs (based on 2006 IPCC guidelines values for hardwood sub-tropical dry forests) $BGB = AGB * R$ # R (based on 2006 IPCC guidelines values for sub-tropical dry forests)

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	Marzoli, A. 2007. Inventario Florestal Nacional. DNTE, Maputo	Forestry zoning	2007	Based on land cover and forest inventory data
2	Forest Department, 2007	Yearly database on forest concessionaires	1997-2012	Database on forest concession areas
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

4.2.2 Classification and definitions

National class	Definition
Productive forest	Forest area with high potential for timber production, located out-side protected areas.

Multiple use forest	Forest area with low potential for timber production and located out-side protected areas
N/A	N/A
N/A	N/A

4.2.3 Original data

Source 3 - Zoning of Natural Forests	
Natural Forest's Zoning	Área in 1000 ha (2005)
Productive forests	26907
Conservation forests	4256
Protection of soil and water	8905
Total Natural forest area	40068

4.3 Analysis and processing of national data

4.3.1 Adjustment

- Calibrating the 2005 data (source 3)	
	Area in 1000 ha (2005)
Forest Area in 1000 ha (from source 1)	40068
Forest Area in 1000 ha (from T1 FRA2010)	40055
Calibrating factor	0.999676

Calibrating the data

Natural Forest's Zoning	Calibrated areas in 1000 ha reference year 2005
Productive Forests	26898
Conservation Forests	4255
Protection of soil and water	8902
Total Natural forest area	40055

- For source 2, it is assumed that there is no need to calibrate the data .

4.3.2 Estimation and forecasting

Based on the total forest area for the period (1990, 2000, 2005, 2010 and 2015) from Question 1 and data on natural forest's zoning (2005), the data was calculated considering that the percentage of area for production (53%), protection of soil and water (22%) and conservation biodiversity (25%) in 2011 is constant for all period of the study.

4.3.3 Reclassification

FRA 2015 Categories	Production		Sub-Total
	Natural Forests	Planted forest	
Production	20069	75	20144
Protection of soil and water	8330	0	8330
Conservation of biodiversity	9466	0	9466
Social services	0	0	0

Multiple use	0	0	0
Other (please specify in comments below the table)	0	0	0
No/unknown	0	0	0
TOTAL	37865	75	37940

4.4 Data

Table 4a



Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Production forest	29138	27667	26922	26212	20144
	Multiple use forest	0	0	0	0	0

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Medicinal plants	Julbernardia globiflora, Tamarindus indica, Flacourtia indica, Markhamia obtusifolia, Sclerocarya birrea	N/A	5
2 nd	Raw material for handicrafts	Dalbergia melanoxylon, Berchemia zeyheri, Spirostachys africana, Trichilia emetica, etc.	N/A	5
3 rd	Raw material for construction	Bamboo, Palm trees	N/A	5
4 th	Food	Hyphaene Coriacea, Phoenix reclinata, Sclerocarya birrea, Strychnos madagascariensis, Senna petersiana	N/A	1
5 th	Fodder	Lonchocarpus capassa, Trichilia emetica, setaria sp., Panicum maximum, etc	N/A	2

6 th	Exudates	Ozoroa obovata and Harpagophyton procumbens	N/A	7
7 th	Aromatic products	N/A	N/A	3
8 th	Ornamental plants	N/A	N/A	6
9 th	N/A	N/A	N/A	N/A
10 th	N/A	N/A	N/A	N/A
TOTAL			.00	

2010	
Name of local currency	Metical (Mts)

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 beewax
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	691.03	378.64
1991	N/A	N/A
1992	N/A	N/A
1993	N/A	N/A
1994	N/A	N/A
1995	N/A	N/A
1996	N/A	N/A
1997	N/A	N/A
1998	N/A	N/A
1999	223.56	127.39
2000	317.86	176.94
2001	452.44	298.66
2002	600.76	400.86
2003	450.72	306.51
2004	612.09	416.08
2005	467.03	303.37
2006	472.97	263.74
2007	528.62	297.57
2008	571.29	368.7
2009	679.6	477.79
2010	735.03	451.57

2011	691.03	378.64
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Tiers

Category	Tier for status	Tier for reported trend
Production forest	Tier 3	Tier 3
Multiple use forest	Tier 3	Tier 3

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	Forest area suitable for timber production (this include natural forests and forest plantations)	N/A
Multiple use forest	Defined as other woodlands from the national land cover classification	N/A
Total wood removals	Total wood removed, including firewood. We used data from Mozambique National Directorate of Land and Forest Reports which has more realistic data. The conversion factor from Charcoal to m3 is 1/3 meaning that 1m3 = 3 bags of 50 kg of charcoal. and for others (stakes, firewood and bambu the conversion factor is 0.789 (Forest and wildlife law enforcement manual, DNTF, 2003)	N/A
Commercial value of NWFP	average price in main local markets	N/A

Other general comments to the table

There were no forest concessions before the reference year 2000. Forest area under sustainable forest management was defined for the purpose of this report as Certified Forest area. The multiple use forest is also used for production and we have forest concession for production on this area.

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	Marzoli, A 2007. Inventario Florestal Nacional	Total and commercial growing stock	2005	Zoning of Natural Forests

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
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

5.2.3 Original data

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5.3 Analysis and processing of national data

5.3.1 Adjustment

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5.3.2 Estimation and forecasting



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5.3.3 Reclassification

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5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
	Protection of soil and water	N/A	N/A	8902	8571	8330
	... of which production of clean water	N/A	N/A	N/A	N/A	N/A

	... of which coastal stabilization	N/A	N/A	N/A	N/A	N/A
	... of which desertification control	N/A	N/A	N/A	N/A	N/A
	... of which avalanche control	N/A	N/A	N/A	N/A	N/A
	... of which erosion, flood protection or reducing flood risk	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

Other

The information of protection of soil and water by objective is not available

Table 5b

Categories	Forest area (1000 hectares)				
	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	43340	41150	40055	38960	37865
...of which public recreation	N/A	N/A	N/A	N/A	N/A
...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 2	Tier 2
Ecosystem services, cultural or spiritual values	Tier 2	Tier 2

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	N/A	The information of protection of soil and water by objective is not available
Production of clean water	N/A	N/A
Coastal stabilization	N/A	N/A
Desertification control	N/A	N/A
Avalanche control	N/A	N/A
Erosion, flood protection or reducing flood risk	N/A	N/A
Other protective functions	N/A	N/A
Ecosystem services, cultural or spiritual values	N/A	N/A
Public recreation	N/A	N/A
Carbon storage or sequestration	N/A	N/A
Spiritual or cultural services	N/A	N/A
Other ecosystem services	N/A	N/A

Other general comments to the table
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The information of forest area by objective is not available
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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	Marzoli, A. 2007. Inventário Florestal Nacional. DNTF, Maputo	Forestry zoning	2007	Based on land cover and forest inventory data
2	Forest Department, 2007	Yearly database on forest concessionaires	1997-2007	Database on forest concession areas
3	MINISTÉRIO DO TURISMO 2012	INFORMAÇÃO SOBRE ÁREAS DE CONSERVAÇÃO EM MOÇAMBIQUE	2012	Consevation Area
4	N/A	N/A	N/A	N/A

6.2.2 Classification and definitions

National class	Definition
Conservation Forests	Forest area located within the protected areas and are subjected to a special management regime
N/A	N/A
N/A	N/A
N/A	N/A

6.2.3 Original data

See 4.2.3.

6.3 Analysis and processing of national data

6.3.1 Adjustment

See 4.3.1.



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	4605	4373	4255	4143	9485
	Forest area within protected areas	4605	4373	4255	4143	9485

Tiers

Category	Tier for status	Tier for reported trend
Conservation of biodiversity	Tier 2	Tier 2
Forest area within protected areas	Tier 2	Tier 2

Tier criteria

Category	Tier for status	Tier for reported trend
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<ul style="list-style-type: none"> • Conservation of biodiversity • Forests within protected areas 	<p>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</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>
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6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	Forest area within protected areas	N/A
Forest area within protected areas	Also known as conservation forest	N/A

Other general comments to the table

There were no forest concessions before the reference year 2000. Forest area under sustainable forest management was defined for the purpose of this report as Certified Forest area.

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	Marzoli, A 2007. Inventario Florestal Nacional	Invasive species	2007	National Forest Inventory
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

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

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7.3 Analysis and processing of national data

7.3.1 Adjustment

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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
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
Total	N/A	N/A

Tiers

Category	Tier for status	Tier for reported trend
Invasive species	N/A	N/A

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
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7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	N/A	There is no information about invasive species

Other general comments to the table
The studies do not report any area affected by woody invasive species

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	Marzoli, A 2007. Inventário Florestal Nacional	Annual Deforestation rate	2007	N/A
2	Moddis data	Daily reports	Annual data	N/A
3	Sismoque- Sistema de monitoria de queimadas Metodologia (in test) e Guia pelo Usuário	wildfire, forest fire	2010	we are using as experimental mode
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

8.3 Analysis and processing of national data

8.3.1 Adjustment

8.3.2 Estimation and forecasting

8.3.3 Reclassification

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	#
	Total land area burned	9675.3	143153	9675.8	109783	8752	158070	8729.8	133033	10433.5	150239
	... of which forest area burned	2450.37	N/A	2676.29	N/A	1712.29	N/A	3321.19	N/A	4618.69	N/A
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	10190.8	177078	10239.8	128771	10748.4	157926	9889.3	144940	8817	95002
	... of which forest area burned	3310.66	N/A	1620.49	N/A	3552.54	N/A	2918.42	N/A	3073.84	N/A

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
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N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

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 	N/A	N/A

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	vast area are burned annually all over the country	Average extent of burned areas almost stable but slight changes in location.
Insects	N/A	There is no studies reporting this matter
Diseases	N/A	There is no studies reporting this matter
Severe weather events	N/A	There is no studies reporting this matter

Other general comments to the table

The only one study that report a forest reduction is the National Forest Inventory 2008, that assumed that the deforestation rate is 219.000 ha/year and has anthropogenic causes. We are now developing the national methodology to estimate the area burned using the Moddis data which is more realistic for Mozambique condition. this methodology is called SISMOQUE - Wildfire Monitoring System.

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	N/A

Tiers

Category	Tier for reported trend
Reduction in canopy cover	Tier 1

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	It is not yet quantified. we quantify the volume requested by the forest explorers and assume that is the removals. this information is available on our annual reports.

Other general comments

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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	Informe do Sub sector de Florestas	Forest Policy and legislation	2013	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

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

--

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	no
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	We have the Police and Strategic of Development of Forest and wildlife at national level, approved in 1997
Legislation and regulations supporting sustainable forest management	We have Law and Regulation of forest and wildlife. Law approved in 1999 and regulation in 2002

Other general comments

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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	Report of Forest Forum 2012	2012	This forest forum is created in 2005
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?	yes
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11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	This platform is called Forest Forum, which involves the government institutions, private sector, localb communities, NGOs and Civil Society

Other general comments

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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	Ministerio de turismo. Informe sobre as áreas de conversacao 2012	Conservation area	2012	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

12.2.2 Classification and definitions

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

12.2.3 Original data

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12.3 Analysis and processing of national data

12.3.1 Adjustment

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12.3.2 Estimation and forecasting



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12.3.3 Reclassification

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12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	9051
	... of which permanent forest estate	9051

Tiers

Category	Tier for status
Forest area intended to be in permanent forest land use	Tier 3
Permanent forest estate	Tier 3

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	only conservation area because are designated by law

Permanent forest estate	The Forest area that is designated or expected to be retained as forest and is highly unlikely to be converted to other land use is conservation forest area which is designated by law or regulation to be retained as forest. Thus are the same.
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Other general comments

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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	Provincial Forest assessment. Sofala	Forest area monitored	2013	N/A
2	Marzoli, Inventario Florestal Nacional	Forest area monitored	2007	N/A
3	Agro-ecological Zoning	Forest area monitored	2013	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	100	2008	no	yes	yes	yes	yes	yes
Other field assessments	42.96	2013	no	yes	no	yes	yes	yes
Updates to other sources	100	2013	no	yes				
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	yes
3 Other (please document)	yes
4 None	no

Other type of forest reporting

field work report about forest monitor

13.4 Comments

Category	Comments
Agro ecological zoning	Is ongoing
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	DNTF, Relatório Anual 2008. Maputo	Forest concession and management plans	2002 - 2012	Yearly statistical report
2	Ministerio de Turismo. Informe sobre área de conservação de Moçambique	conservation área	2012	N/A
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	29051
... of which for production	20000
... of which for conservation	9051

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	65
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Tiers

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

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	Forest area with management plans approved . Conservation area with management plan is about 13000000 ha
N/A	N/A
N/A	N/A

Other general comments

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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 3

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
Government, Private sector and Local community	are involved in all process of forest management
NGOs and civil society	Are involved in planning phase and in the review of operations phase
N/A	N/A

Other general comments

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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	0	0	0	0	0	0	25
	PEFC	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
	FSC	25	25	71	71	52	52	
	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
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
		0	0	0	0	0	0	
		0	0	0	0	0	0	
		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 1
Domestic forest management certification	Tier 3

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	About 6000 ha certificated areas are from plantations, and about 46000 ha areas are from native forests.
Domestic forest management certification	N/A

Other general comments

The external data are corresponding the national data

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	DNTF, Relatório Anual 2008. Maputo	Land, Forest and wildlife revenues	2005 - 2012	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

17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	13218846	149642503	222538355
Public expenditure on forestry	N/A	N/A	N/A

	2000	2005	2010
Name of Local Currency	Mts	N/A	N/A

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	It refers to the sum of revenues coming from three sub-sectors, namely land, forest and wildlife. The forest sub-sectors contributes with about 90% of the all forest sector revenues.
Public expenditure on forestry	DNTF is part of Ministry of Agriculture and at provincial level we have the Directorates of Agriculture that has administrative autonomy. so is very difficult to get the information about expenditure on forestry
Other general comments	N/A

Other general comments

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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	Coetzee, H & Alves, T. 2005. National Afforestation Strategy Republic of Mozambique. FAO, UTF/MOZ/074/MOZ Mozambique.	Forest plantations	1990-2005	Extensive literature review on forest plantation areas in Mozambique
2	Forest Department, 2007	Yearly database on forest concessionaires	1997-2007	Database on forest concession areas
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

18.2.2 Classification and definitions

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

18.2.3 Original data

(Source 2) – Forest Plantations (1995 to 2005) & Source 7 - Forest Plantations (2006 - 2012)						
Category	Area in hectares					
	1990	2000	2005	2010	2011	2012
Forest Plantations	38000	38000	24000	12000	20000	20000

Source 6 - Forest concessions area (1997-2012): Individuals and private business entities and institutions forest management rights of public forests

Year	Area (ha)	
1997	174375	
1999	83909	
2000	772721	average 2000: 535660 ha
2001	911057	
2002	736237	
2003	626829	
2004	175776	
2005	599962	average 2000: 689598 ha
2006	1415571	
2007	629852	
2008		
2009		
2010		
2011		
2012	7596204	

Note information for 1998 is unknown; data (1997) will be used instead.

18.3 Analysis and processing of national data

18.3.1 Adjustment

It is assumed that there is no need to adjust the data.









18.3.2 Estimation and forecasting

18.3.3 Reclassification

Considering that forest plantations of public ownership are insignificant (expert knowledge), all forest plantations were considered as privately owned.

18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
	Public ownership	43340	41150	40055	38960
	... 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	38	38	24	12
	... 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	0	0	0	0
TOTAL		43378.00	41188.00	40079.00	38972.00

Tiers

Category	Tier for status	Tier for reported trend
Public ownership	Tier 3	Tier 3
Private ownership	Tier 3	Tier 3

Unknown ownership	Tier 3	Tier 3
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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	43340	40614	39365	N/A
Individuals	0	0	0	N/A
Private companies	0	536	690	N/A
Communities	0	0	0	N/A
Other	0	0	0	N/A
TOTAL	43340.00	41150.00	40055.00	.00

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

18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	All land and natural resources therein (natural forest included) are owned by the state. In the case of forest plantations trees belong to individuals who planted it.	N/A

Private ownership	Only Forest plantations might have Private ownership May include Forest plantations owner by local communities	N/A
Unknown ownership	N/A	N/A
Management rights	No distinction is made between individuals and private business entities and institutions regarding forest management rights of public forests in Mozambique. National definition of forest concession holders was considered as Private corporations and institutions. Referred in the study as entities with legal rights to use/manage forest resources	Communities have started to formalise their management's legal rights from 2002. However, not all communities have their areas gazetted and those areas cannot be reflected in the table.

Other general comments to the table

The state owns all the land and natural resources therein. No distinction is made between individuals and private business entities and institutions regarding forest management rights of public forests. 4 National Categories relate the holder of management rights of public forest resources, namely, Public administration, Communities, Simple licensing and Forest concession. National definition of forest concession holders was considered at Private corporations and institutions.

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	DNTF, Relatório Anual 2008. Maputo	Employment in forestry	2002-2012	Yearly statistical report
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

19.2.2 Classification and definitions



National class	Definition
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).
N/A	N/A
N/A	N/A
N/A	N/A

19.2.3 Original data

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19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
	Employment in forestry	N/A	10	10	18
	... of which female	N/A	N/A	N/A	N/A

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Employment in forestry	N/A	N/A

Other general comments to the table
Nao inclui os trabalhadores das serrações

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)	8655.4	Metical	2010

20.3 Comments

Category	Comments
N/A	N/A

Other general comments

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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	Marzoli, Inventario Florestal Nacional	Deforestation	2007	The inventory gives the rate of deforestation as 219.000 ha/year. with the prospections of petrol, coal and gas this rate will increase 300.000 ha/year in 2013
2	Annual report of DNTF	Afforestation/reforestation	2010-2013	The planted area will increase from now due to the pulp and paper companies finished the suitable species test thus will start the plantations for pulp productions
3	DNTF, National Strategy of Reforestation.	Reforestation plan	2010	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	N/A	N/A

Table 21b

Category	Forest area (000 ha)
	2013

Forests earmarked for conversion	300
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21.4 Comments

Category	Comments
Government target/aspiration for forest area	Implementing the REDD+, the establishment of plantation for pulp and paper and SFM the forest area will increase. the revision of legislation to dencourage the exploitation of native forest can contribute to archive the target. On the other hand, the national strategy of reforestation established in 1 million ha the target in 2030
Forests earmarked for conversion	There is assumption that the deforestation rate will increase in 2013 because of the gas and petrol prospecting works and the coal mines.

Other general comments

please note that the forest area in 2015 is **37.940.000 ha** (table 1.4). Taking into account the implementation of REDD+, the national strategy of reforestation, the government effort to dencourage the exploitation of native forest and the deforestation rate, the forest area will still decreasing highly in 2020 but will reduce the rate for next 10 years. thus in 2030 will be 32.000.000 ha and in 2030 will be 29.000.000 ha.