



Forestry Department
Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT 2010**

COUNTRY REPORT

SEYCHELLES

**FRA2010/188
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The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions important at the global, national and local scales, and play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2010 (FRA 2010).

The reporting framework for FRA 2010 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes variables related to the extent, condition, uses and values of forest resources, as well as the policy, legal and institutional framework related to forests. More information on the FRA 2010 process and the results - including all the country reports - is available on the FRA Web site (www.fao.org/forestry/fra).

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The Global Forest Resources Assessment Country Report Series is designed to document and make available the information forming the basis for the FRA reports. The Country Reports have been compiled by officially nominated country correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to validation by forestry authorities in the respective countries.

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Introduction

Seychelles is a Small Island Developing State which comprises a group of 115 islands located in the western Indian Ocean between 4 and 11 degrees south of the Equator. Its land area covers 45500 ha (455 km²). 41 islands are granitic with rugged topography. They include the so-called inner islands, of which Mahé (15500 ha), Praslin (3800 ha) and La Digue (1000 ha) are the most important ones. All the granitic islands are situated within a distance of 50 km from Mahé. The rest of the islands are coralline, raising only a few meters above sea level, and scattered throughout.

Seychelles being an active member of the FAO has contributed greatly to the Forest Resource Assessment Global Reporting. In 2000 this was possible because a forest inventory was conducted in 1993 by INDUFOR using aerial photograph and field data. For FRA2005 the same data that were used for FRA2000 were used again. In 2005 the Seychelles Government has recognised the need to conduct a recent forest inventory to update the data and has submitted various proposals to international countries and organisations for funding. To date Seychelles has not received any funding.

It has become apparent that these data have become outdated to be used for FRA2010 Forest Resource Assessment Reporting. Adopting the same reporting for FRA2005 will lead to believe that no change has occurred in the Forest Sector. However this is not the case as our economy and population are expanding and the demand for forest resource utilisation is increasing.

Recent data are needed not only to improve the use of the forest resource but to maintain sustainable forest management thereby enhancing the resource to be used by the future generation. Seychelles has been left behind and has not optimised the use of its forest resource. Updated data not only improve reporting but also improve planning and management of the forest.

1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2010 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 <i>in situ</i> . 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 <i>in situ</i> ; 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”.
Other land with tree cover (Subordinated to “Other land”)	Land classified as “Other land”, spanning 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.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

1.2 National data

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
INDUFOR Oy, (1993). <i>Seychelles Forest Management Plan/ Sector Study</i> . Department of Environment	M	Land use, forest cover	The reference year is 1992	Study based on aerial photo and field checking

1.2.2 Classification and definitions

National class	Definition
Albizia dominant forests	Mixture of various species, but dominated by <i>Albizia falcata</i> . Can be found mostly in riverine forests in valleys
Mixed forests	Mixture of endemic and exotic species with a height predominantly over 10m.
Plantation forests	Forests established by planting for commercial or protective purposes
Coconut dominant forest	Natural forests mixed with coconut trees. Normally on lower elevations and close to agricultural lands.
Bush vegetation	Mixture of cinnamon, prune de France and various tree species, generally lower than 10m.
Deforested areas	Eroded and burnt areas.
Cultivated or built up areas	Areas under housing, agriculture or other non – forest uses.

1.2.3 Original data

Land area by vegetation types (hectares)

	Albizia	Mixed	Plantation	Coconut	Bush	Deforested	Other	Total
Mahé	960	3 570	410	2 310	4 450	40	3 730	15 470
Praslin	30	1 210	50	60	1 350	270	790	3 760
Curieuse	0	110	20	10	120	30	0	290
La Digue	10	390	0	90	270	0	250	1 010
Silhouette	410	400	0	430	600	0	160	2 000
Other	0	18 600	4 400	0	0	0	10	23 000
All Islands	1 410	24 280	4 880	2 900	6 790	340	4 940	45 540

1.3 Analysis and processing of national data

1.3.1 Calibration

Source	Total land Area
National data	45 540 hectares
FAOSTAT	46 000 hectares

There is a need to perform calibration since the national land area data does not match the FAOSTAT land area. There is a need to multiply by 1.010101010.

	Albizzia	Mixed	Plantation	Coconut	Bush	Deforested	Other	Total
Mahe	970	3606	414	2333	4495	40	3768	15626
Praslin	30	1222	51	61	1364	273	798	3798
Curieuse	0	111	20	10	121	30	0	293
La Digue	10	394	0	91	273	0	253	1020
Silhouette	414	404	0	434	606	0	162	2020
Other	0	18788	4444	0	0	0	10	23232
All Islands	1424	24525	4929	2929	6859	343	4990	46000

1.3.2 Estimation and forecasting

National classes	1992	1990	2000	2005	2010
Albizia	1424	1424	1424	1424	1424
Mixed	24525	24525	24525	24525	24525
Plantation	4929	4929	4929	4929	4929
Coconut	2929	2929	2929	2929	2929
Bush	6859	6859	6859	6859	6859
Deforested	343	343	343	343	343
Other	4990	4990	4990	4990	4990
Total	46000	46000	46000	46000	46000

Since data was only present for 1992, base on the high protection that Seychelles put on the environment then data was estimated to be the same for the year 2000, 2005 and 2010. Most or all the development is concentrated on the coast.

1.3.3 Reclassification into FRA 2010 categories

National classes	Forest	Other land
Albizia	100%	
Mixed	100%	
Plantation	100%	
Coconut	100%	
Bush	100%	
Deforested		100%
Other		100%

Coconut and bush lands can be classified as forest as they are not predominantly used as agriculture

FRA categories	Area (ha)
Forest	40 666
Other land	5 333
Total	46 000

1.4 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	40.7	40.7	40.7	40.7
Other wooded land	0	0	0	0
Other land	5.3	5.3	5.3	5.3
...of which with tree cover	n/a.	n/a.	n/a.	n/a.
Inland water bodies	0	0	0	0
TOTAL	46	46	46	46

1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest	The same as FAO definition can be used. It has to be noted that most of the Seychelles Islands are covered with trees that are 5 m or more. May include some areas of other wooded land. It also includes areas of coconut palms as they are not predominantly used for coconut production.	Expert estimate of no change due to the lack of recent data. It has been considered that the change might be not significant.
Other wooded land	It is very difficult estimate the area from available national data. There may exist some areas of OWL but they are included within the forest category.	-
Other land	Same as FAO definition	-

Other land with tree cover		
Inland water bodies		

Other general comments to the table

FRA 2000 gives a total forest area of 30 000, for 1990 and 2000. This differs from the results presented here due to the use of different source of information and different land classification system. The country has decided to consider the data coming from the INDUFOR 1993 as most reliable, since these are based on aerial photograph and field checking.

As the Country has not conducted any recent inventory on the forest and its resources it has been decided that the same data in INDUFOR 1993 is used for FRA 2010.

In accordance with FAO Stat, the total country area is equal to 46 000 ha in the FRA 2010. Figures have been calibrated consequently.

Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping

Field inventory	
Remote sensing survey / mapping	

Due to the lack of funding it was not possible to carry field inventory. Any field inventory and remote sensing survey will depend on the availability of fund. National forest inventory is a priority project for the Forestry Section; however with the current economic crisis and the reform being taken by the Government, the human resources and the budget allocation for the section have been greatly reduced.

2 Table T2 – Forest ownership and management rights

2.1 FRA 2010 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.
Private ownership	Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
Individuals (<i>sub-category of Private ownership</i>)	Forest owned by individuals and families.
Private business entities and institutions (<i>sub-category of Private ownership</i>)	Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.
Local communities (<i>sub-category of Private ownership</i>)	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.
Indigenous / tribal communities (<i>sub-category of Private ownership</i>)	Forest owned by communities of indigenous or tribal people.
Other types of ownership	Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.
Categories related to the holder of management rights of public forest resources	
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 institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit 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.

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
INDUFOR Oy, (1993). <i>Seychelles Forest Management Plan/ Sector Study</i> . Department of Environment	M	Land use, forest cover	The reference year is 1992	Study based on aerial photo and field checking

2.2.2 Classification and definitions

National class	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.
Private ownership	Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
Private institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit institutions and associations, etc., through long-term leases or management agreements.

2.2.3 Original data

Year 1992	Private	Government	Total
Conservation areas	30	18 190	18 220
Forest (non-conservation areas)	1 640	6 400	8 040
Agriculture	9 000	1 000	10 000
Other	2 870	6 410	9 280
Total Area	13 540	32 000	45 540

2.3 Analysis and processing of national data

2.3.1 Reclassification into FRA 2010 categories

As it was very difficult to get the exact amount for private and government ownership, these have been estimated and the estimated percentages are given below.

National Classes		FRA 2010 Categories			
		Private forest	Public forest	Private Other land	Pub Other Land
Conservation areas	Private	100%			
	Government		100%		
Forest (non-conservation areas)	Private	100%			
	Government		100%		
Agriculture	Private	60%		40%	
	Government		67%		33%
Other	Private	82%		18%	
	Government		91%		9%

National classes	1992 (hectares)	
	Private forest	Government forest
Conservation areas	30	18190
Forest (non-conservation areas)	1640	6400
Agriculture	5400	670
Other	2353	5833
Total Area	9423	31093
Percentage	23.3%	76.7%

2.3.2 Estimation and forecasting

The above percentage of private/government forests has been applied to the total forest (40.700 ha). Due to a lack of information 1992 data has been used in order to estimate and forecast data for 1990, 2000, 2005 and 2010, assuming that the forest situation could be considered constant throughout the years.

2.4 Data for Table T2

Table 2a - Forest ownership

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership	31.2	31.2	31.2
Private ownership	9.5	9.5	9.5
...of which owned by individuals	n/a	n/a	n/a
...of which owned by private business entities and institutions	n/a	n/a	n/a
...of which owned by local communities	n/a	n/a	n/a
...of which owned by indigenous / tribal communities	n/a	n/a	n/a
Other types of ownership	0	0	0
TOTAL	40.7	40.7	40.7

Note: If other types of ownership is reported, please specify details in comment to the table.

Does ownership of trees coincide with ownership of the land on which they are situated?	<input checked="" type="checkbox"/> Yes
If No above, please describe below how the two differ:	

Table 2b - Holder of management rights of public forests

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public Administration	31.2	31.2	31.2
Individuals	0	0	0
Private corporations and institutions	0	0	0
Communities	0	0	0
Other	0	0	0
TOTAL	31.2	31.2	31.2

2.5 **Comments to Table T2**

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Public ownership		Due to no recent information it has been considered that the change was insignificant
Private ownership		
Other types of ownership		
Management rights		

Other general comments to the table

3 Table T3 – Forest designation and management

3.1 FRA 2010 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.
Protected areas	Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Categories of primary designated functions	
Production	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Protection of soil and water	Forest area designated primarily for protection of soil and water.
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.
Social services	Forest area designated primarily for social services.
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.
Other	Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.
No / unknown	No or unknown designation.
Special designation and management categories	
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.
Forest area under sustainable forest management	To be defined and documented by the country.
Forest area with management plan	Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
INDUFOR Oy (1993). Seychelles Forest Management Plan/ Sector Study. Department of Environment.	M	Land use, forest cover	1992	

3.2.2 Classification and definitions

National class	Definition
Biodiversity Zones	Primarily for conservation of biological and indigenous ecosystem
Catchments Zones	Primarily for conservation of water, soil and amenity
Production Zones	Primarily for production forestry
Catchment/ Biodiversity	Primarily for conservation of water and secondly for biodiversity
Catchment/ Production	Primarily for conservation of water and secondly for production forest
Non forest zones	Agricultural and housing areas where there are substantial amounts of trees which are grown for amenity purposes and for the production of non timber output.

3.2.3 Original data

On the total forest area, it is known the following about the forest functions:

	Forest in ha			
	Biodiversity	Catchment/ Biodiversity	Catchment/ Production	Production
Mahé	860	4050	4320	520
Praslin	390	690	1180	0
Curieuse	290	0	0	0
La Digue	30	300	230	0
Silhouette	480	1380	0	0
Others				
Total	2050	6420	5730	520

3.3 Analysis and processing of national data

3.3.1 Calibration

Source	Total land Area
National data	45 540 hectares
FAOSTAT	46 000 hectares

There is a need to perform calibration since the national land area data does not match the FAOSTAT land area. There is a need to multiply by 1.010101010.

	Biodiversity	Catchment/ Biodiversity	Catchment/ Production	Production
Area in ha	2050	6420	5730	520
Calibrated area in ha	2071	6485	5788	525

3.3.2 Reclassification into FRA 2010 categories

	Biodiversity	Catchment/ Biodiversity	Catchment/ Production	Production
Production				100%
Protection of soil and water		100%		
Conservation of biodiversity	100%			
Social services				
Multiple purpose			100%	
No or unknown function				

3.3.3 Estimation and forecasting

	Production	Conservation of biodiversity	Protection of soil and water	Multipe purpose
Calibrated area in ha	525	2071	6485	5788

Due to a lack of information 1992 data has been used in order to estimate and forecast data for 1990, 2000, 2005 and 2010, assuming that the forest situation could be considered constant throughout the years.

3.4 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	0.5	0.5	0.5	0.5
Protection of soil and water	6.5	6.5	6.5	6.5
Conservation of biodiversity	2.0	2.0	2.0	2.0
Social services	0	0	0	0
Multiple use	5.8	5.8	5.8	5.8
Other (please specify in comments below the table)	0	0	0	0
No / unknown	25.9	25.9	25.9	25.9
TOTAL	40.7	40.7	40.7	40.7

Table 3b – Special designation and management categories

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	n/a	n/a	n/a	n/a
Forest area within protected areas	2	2	2	2
Forest area under sustainable forest management	n/a	n/a	n/a	n/a
Forest area with management plan	n/a	n/a	n/a	n/a

3.5 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production		As there was no data for 2010 data from 2005 was used estimate for 2010
Protection of soil and water		As there was no data for 2010 data from 2005 was used estimate for 2010
Conservation of biodiversity		As there was no data for 2010 data from 2005 was used estimate for 2010
Social services		
Multiple use		
Other		
No / unknown designation		
Area of permanent forest estate		
Forest area within protected areas		Conservation of biodiversity area is the forest area within protected areas.
Forest area under sustainable forest management		
Forest area with management plan		

Other general comments to the table

4 Table T4 – Forest characteristics

4.1 FRA 2010 Categories and definitions

Term / category	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Introduced species	A species, subspecies or lower taxon, occurring <u>outside</u> 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).
Characteristics categories	
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.
Other naturally regenerated forest of introduced species (sub-category)	Other naturally regenerated forest where the trees are predominantly of introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
Planted forest of introduced species (sub-category)	Planted forest, where the planted/seeded trees are predominantly of introduced species.
Special categories	
Rubber plantations	Forest area with rubber tree plantations.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
Bamboo	Area of forest and other wooded land with predominant bamboo vegetation.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
INDUFOR Oy (1993). Seychelles Forest Management Plan/ Sector Study. Department of Environment.	M	Primary forest	1992	
Lanier, L. 1996. <i>Les Seychelles: conditions naturelles et forestières, revue forestière française, April 1996</i> , Ecole nationale du génie rural, des eaux et des forêts, Nancy, France, p. 382-390.	M	Type of Forests	1992	The data from Lanier 1996 was taken from INDUFOR, 1993.
The world's mangrove 1980-2005, FAO 2007.	M	Mangrove	1980-2008	

4.2.2 Classification and definitions

National class	Definition
Albizia dominant forests	Mixture of various species, but dominated by <i>Albizia falcata</i> .
Mixed forests	Mixture of endemic and exotic species with a height predominantly over 10m.
Plantation forests	Forests established by planting for commercial or protective purposes
Coconut dominant forest	Natural forests mixed with coconut trees. Normally on lower elevations and close to agricultural lands.
Bush vegetation	Mixture of cinnamon, prune de France and various tree species, generally lower than 10m.
Deforested areas	Eroded and burnt areas.
Cultivated or built up areas	Areas under housing, agriculture or other non – forest uses.

4.2.3 Original data

From table T1

4.3 Analysis and processing of national data

4.3.1 Estimation and forecasting

Based on the data of the above table T1, the forest plantations has been estimated to 4 822 ha. Due to difficulties in reclassify the other vegetation formations into the category of primary forest, and other naturally regenerated forest, it has been assumed that primary forest could be estimated throughout the area of conservation forest as given in table 3 (as it was processed in the FRA 2005), and is equal at 2 000 ha. The rest has been considered as modified natural forest. As for the other tables the areas of primary forest, modified natural and forest plantations were considered constant within the period 1990-2010.

Data on mangrove has been extracted from The world's mangrove 1980-2005, FAO 2007.

Due to a lack of data 1992 data were used to estimate 1990, 2000, 2005 and 2010.

4.4 Data for Table T4

Table 4a

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest	2	2	2	2
Other naturally regenerated forest	33.9	33.9	33.9	33.9
...of which of introduced species	n/a.	n/a.	n/a.	n/a.
Planted forest	4.8	4.8	4.8	4.8
...of which of introduced species	n/a.	n/a.	n/a.	n/a.
TOTAL	40.7	40.7	40.7	40.7

Table 4b

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	2.5	2.5	2.5	2.5
Bamboo (Forest and OWL)	n/a	n/a	n/a	n/a

4.5 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest		
Other naturally regenerating forest		
Planted forest		
Rubber plantations		
Mangroves		
Bamboo		

Other general comments to the table

5 **Table T5 – Forest establishment and reforestation**

No data available for this table

6 Table T6 – Growing stock

6.1 FRA 2010 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm, and may also include branches to a minimum diameter of W cm.
Growing stock of commercial species	Growing stock (see def. above) of commercial species.

6.2 National data

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
INDUFOR Oy, (1993). <i>Seychelles Forest Management Plan/ Sector Study</i> . Department of Environment, Government of Seychelles.	L	Growing stock	1992	Expert Estimation

6.2.2 Classification and definitions

National class	Definition
Growing stock	Volume over bark of all living trees more than 5 cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of 5 cm, and may also include branches to a minimum diameter of 5 cm.
Commercial growing stock	The part of the growing stock of species that are considered as commercial or potentially commercial under current market conditions, and with a diameter at breast height of 20 cm or more.

6.2.3 Original data

As there was no data for 2010, data from FRA 2005 was used.

Growing stock by vegetation (m³):

	Albizia	Mixed	Plantation	Coconut	Bush	Total
Mahe	91 650	267 870	52 980	138 440	155 680	706 600
Praslin	3 050	91 090	6 150	3 660	47 250	151 200
Curieuse	0	8 430	2 000	540	4 080	15 050
La Digue	1 240	28 970	0	5 610	9 300	45 120
Silhouette	38 500	30 080	0	26 070	20 070	114 720
Other	0	1 395 000	572 000	0	0	1 967 000
All Islands	134 440	1 821 440	633 130	174 320	236 380	2 999 710

6.3 Analysis and processing of national data

6.3.1 Estimation and forecasting

Growing stock by vegetation (m³):

National classes	1992
Albizia	134 440
Mixed	1 821 440
Plantation	633 130
Coconut	174 320
Bush	236 380
Total	2 999 710

6.4 Data for Table T6

Table 6a – Growing stock

FRA 2010 category	Volume (million cubic meters over bark)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Total growing stock	3	3	3	3				
... of which coniferous	n/a	n/a	n/a	n/a				
... of which broadleaved	n/a	n/a	n/a	n/a				
Growing stock of commercial species	n/a	n/a	n/a	n/a				

Table 6c – Specification of threshold values

Item	Value	Complementary information
Minimum diameter (cm) at breast height ¹ of trees included in growing stock (X)	5 cm	
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	5 cm	
Minimum diameter (cm) of branches included in growing stock (W)	5 cm	
Volume refers to “above ground” (AG) or “above stump” (AS)	AS	

6.5 Comments to Table T6

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total growing stock		No change was assumed due to lack of more recent data.
Growing stock of broadleaved / coniferous		
Growing stock of commercial species		
Growing stock composition		

Other general comments to the table
As Seychelles put a lot of emphasis on the protection of the environment it is expected that the growing stock will remain the same. It is estimated that the amount cut and the amount planted is of insignificant to make a change. As for the commercial growing stock this will be difficult to estimate and by using also the one million metres cubic this unit also might be too large.
As there is no recent data to estimate the growing stock for 2010, the same data as 2005 was used.

¹ 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.

7 Table T7 – Biomass stock

7.1 FRA 2010 Categories and definitions

Category	Definition
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 2mm 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.

7.2 Analysis and processing of national data

7.2.1 Estimation and forecasting

Biomass was estimated from volume data given in table 5.

There was no specific biomass so the IPPC Good Practice Guidance Formula was used.

The volume was then multiplied by the wood density of 0.6 and the BEF of 3.4 to obtain the aboveground biomass.

$$AGB = 2\ 999\ 710 \times 0.6 \times 3.4 = 6\ 119\ 408 \text{ t}$$

Belowground biomass was calculated using the default value of 0.24 as recommended by the guidelines.
 $BGB = 6\ 119\ 408 \times 0.24 = 1\ 468\ 658 \text{ t}$

Biomass was considered constant throughout the years.

7.3 Data for Table T7

FRA 2010 category	Biomass (million metric tonnes oven-dry weight)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Above-ground biomass	6.12	6.12	6.12	6.12				
Below-ground biomass	1.47	1.47	1.47	1.47				
Dead wood	n/a	n/a	n/a	n/a				
TOTAL	n/a	n/a	n/a	n/a				

7.4 **Comments to Table T7**

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Above-ground biomass		Assume that the biomass has remained constant for all the year of reporting
Below-ground biomass		Assume that the biomass has remained constant for all the year of reporting
Dead wood		

Other general comments to the table

8 Table T8 – Carbon stock

8.1 FRA 2010 Categories and definitions

Category	Definition
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 specified depth chosen by the country and applied consistently through the time series.

8.2 National data

8.2.1 Original data

No national available data, data from table T7 was used

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

A conversion factor of 0.47 for converting biomass to carbon has been used as suggested by IPCC 2006 good practice guidelines.

Carbon in the litter has been estimated, based on the standard factor of 2.1 (tropical), and soil carbon, based on the factor of 39 (Using 2006 IPPC Guidelines as the country is considered tropical moist climate and mainly sandy soils)

Carbon in the litter = 40 700 (ha) x 2.1 = 85 470 tonnes C

Soil carbon = 40 700 (ha) x 39 = 1 587 300 tonnes C

8.4 Data for Table T8

FRA 2010 Category	Carbon (Million metric tonnes)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Carbon in above-ground biomass	2.88	2.88	2.88	2.88				
Carbon in below-ground biomass	0.69	0.69	0.69	0.69				
<i>Sub-total: Living biomass</i>	3.57	3.57	3.57	3.57				
Carbon in dead wood	n/a	n/a	n/a	n/a				
Carbon in litter	0.09	0.09	0.09	0.09				
<i>Sub-total: Dead wood and litter</i>	n/a	n/a	n/a	n/a				
Soil carbon	1.59	1.59	1.59	1.59				
TOTAL	n/a	n/a	n/a	n/a				

Soil depth (cm) used for soil carbon estimates	30
--	----

8.5 Comments to Table T8

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Carbon in above-ground biomass		
Carbon in below-ground biomass		
Carbon in dead wood		
Carbon in litter		
Soil carbon		

Other general comments to the table

9 Table T9 – Forest fires

9.1 FRA 2010 Categories and definitions

Category	Definition
Number of fires	Average number of vegetation fires per year in the country.
Area affected by fire	Average area affected by vegetation fires per year in the country.
Vegetation fire (supplementary term)	Any vegetation fire regardless of ignition source, damage or benefit.
Wildfire	Any <u>unplanned and uncontrolled</u> vegetation fire that, regardless of ignition source, may require suppression response, or other action according to agency policy.
Planned fire	A <u>management-ignited</u> vegetation fire that burns within prescription, i.e. the fire is confined to a predetermined area and produces the fire behaviour and fire characteristics required to attain planned fire treatment and/or resource management objectives.

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Senterre B. (2009) Forest fires and land degradation on Praslin	H	Forest Fire	2009	

9.2.2 Classification and definitions

National class	Definition
Wild fires	Same definition as used by FAO
Area affected by fire	Same definition as used by FAO

9.2.3 Original data

Mean number and surface of wild bush / forest fires per year, calculated by decade for different extent

Period	0 – 1ha fires		1 – 5ha fires		>5 ha fire/year		Total fire/year	
	Nb./year	ha/year	Nb./year	ha/year	Nb./year	ha/year	Nb./year	ha/year
1990 - 2000	0.5	0.1	0.1	0.2	0.4	10.6	1	10.8
2000 - 2008	3.4	0.3	1.0	1.1	0.3	3.4	5.4	4.8

Fire does not occur annually in Seychelles and if they occur only a small part of the area is burnt. If the 1000 hectares is used as the unit then the data is not significant (ns).

9.3 Data for Table T9

Table 9

FRA 2010 category	Annual average for 5-year period					
	1990		2000		2005	
	1000 hectares	number of fires	1000 hectares	number of fires	1000 hectares	number of fires
Total land area affected by fire	0.011	1	0.011	1	0.005	5
... of which on forest	n/a.	n/a.	n/a.	n/a.	n/a.	n/a.
... of which on other wooded land	n/a.	n/a.	n/a.	n/a.	n/a.	n/a.
... of which on other land	n/a.	n/a.	n/a.	n/a.	n/a.	n/a.

Table 9b

FRA 2010 category	Proportion of forest area affected by fire (%)		
	1990	2000	2005
Wildfire	100	100	100
Planned fire	0	0	0

9.4 Comments to Table T9

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Area affected by fire		
Number of fires		
Wildfire / planned fire		

Other general comments to the table

10 Table T10 – Other disturbances affecting forest health and vitality

No data available for this table, even if tree diseases exist.

11 Table T11 – Wood removals and value of removals

11.1 FRA 2010 Categories and definitions

Category	Definition
Industrial roundwood removals	The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removals	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

11.2 National data

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
INDUFOR Oy (1993) <i>Seychelles Forest Management Plan/ Sector Study</i> . Department of Environment, Government of Seychelles	L	Wood Removal	1992	Expert Estimation

11.2.2 Original data

Potential Annual demand for Locally Produced Round Wood (m3)

	1992	2002*
Hardwood sawlogs	5 000	8 600
Fuel wood	5 500	3 700
Total	10 500	12 300

The two estimations were taken from INDUFOR Oy, (1993).

11.3 Analysis and processing of national data

11.3.1 Estimation and forecasting

The rate of change for sawlogs wood is 360 m3 per year, while the woodfuel production is decreasing of 180m3 per year.

Categories	Volume cubic meters of roundwood				
	Forest				
	1992	2002	1990	2000	2005
Industrial roundwood	5 000	8 600	4 280	7 880	9 680
Woodfuel	5 500	3 700	5 860	4 060	3 160
TOTAL for Country	10 500	12 300	10 140	11 940	12 840

Values were calculated for 1990 and 2000 by taking the difference between 1992 and 2002, which is for 10 years. Then the change per year was calculated.

11.4 Data for Table T11

FRA 2010 Category	Industrial roundwood removals			Woodfuel removals		
	1990	2000	2005	1990	2000	2005
Total volume (1000 m ³ o.b.)	4	8	10	6	4	3
... of which from forest	4	8	10	6	4	3
Unit value (local currency / m ³ o.b.)	n/a.	n/a.	n/a.	n/a	n/a	n/a
Total value (1000 local currency)	n/a	n/a	n/a	n/a	n/a	n/a
	1990	2000	2005			
Name of local currency	Seychelles rupee	Seychelles rupee	Seychelles rupee			

11.5 Comments to Table T11

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total volume of industrial roundwood removals		
Total volume of woodfuel removals		
Unit value		
Total value		

Other general comments to the table
No national data available data take from FRA 2005.

12 Table T12 – Non-wood forest products removals and value of removals

Some data is available but not complete. For the Global reporting the data is not significant.

13 Table T13 – Employment

No data is available for this table

14 Table T14 – Policy and legal framework

14.1 FRA 2010 Categories and definitions

Term	Definition
Forest policy	Forest policy is the set of orientations and principles of actions adopted by public authorities in harmony with national socio-economic and environmental policies in a given country to guide future decisions in relation to the management, use and conservation of forest and tree resources for the benefit of the society.
Forest law	Set of rules enacted by the legislative authority of a country regulating the access, management, conservation and use of forest resources.

14.2 Data for Table T14

Indicate the existence of the following (2008)		
1. Forest policy statement with national scope		<input checked="" type="checkbox"/> Yes
		<input type="checkbox"/> No
If Yes above, provide:	Year of endorsement	2000
	Reference to document	Environment Management Plan of Seychelles 2000 - 2010
2. National forest programme (nfp)		<input type="checkbox"/> Yes
		<input checked="" type="checkbox"/> No
If Yes above, provide:	Name of nfp in country	
	Starting year	
	Current status	<input type="checkbox"/> In formulation
		<input type="checkbox"/> In implementation
		<input type="checkbox"/> Under revision
		<input type="checkbox"/> Process temporarily suspended
Reference to document or web site		
3. Law (Act or Code) on forest with national scope		<input type="checkbox"/> Yes, specific forest law exists
		<input type="checkbox"/> Yes, but rules on forests are incorporated in other (broader) legislation
		<input type="checkbox"/> No, forest issues are not regulated by national legislation
If Yes above, provide:	Year of enactment	1955
	Year of latest amendment	1959, 1975, 1976,
	Reference to document	Forest Reserve Acts

In case the responsibility for forest policy- and/or forest law-making is decentralized, please indicate the existence of the following and explain in the comments below the table how the responsibility for forest policy- and law-making is organized in your country.		
4. Sub-national forest policy statements	Yes	
	No	
If Yes above, indicate the number of regions/states/provinces with forest policy statements		
5. Sub-national Laws (Acts or Codes) on forest	Yes	
	No	
If Yes above, indicate the number of regions/states/provinces with Laws on forests		

Explanatory notes to the reporting table:

1. The national forest policy document or statement describes the objectives, priorities and means for implementation of the forest policy. It is endorsed when it is officially recognised as a government policy or instruction. The endorsement is formalised by the Minister in charge of forests by a dated and signed document.
2. The term “national forest programme” is a generic expression referring to a wide range of approaches towards forest policy formulation, planning and implementation at national and sub-national levels and providing a framework and guidance for country-driven forest sector development in consultation and participation of all stakeholders and in consistence with policies of other sectors and international policies.
3. The term “law on forest” refers to a Law (Act or Code) providing specific rules on forests and forest sector management, such as access, management and use of forest resources. The Law is enacted when the legislative authority adopted its text.
4. Same as (1) but the policy documents or statements refer to sub-national administrative units, e.g. States in a Federation or Autonomous Regions or Provinces.
5. Same as (3) but indicate if specific Laws on forests exist at sub-national level (at the level of regions/states/provinces).

14.3 Comments to Table T14

Variable / category	Comments related to data, definitions, etc.
Forest policy statement with national scope	No explicit forest policy. Forest policy is part of the Environment Policy
National forest programme (nfp)	
Law (Act or Code) on forest with national scope	
Sub-national forest policy statements	
Sub-national Laws (Acts or Codes) on forest	

Other general comments to the table

15 Table T15 – Institutional framework

15.1 FRA 2010 Categories and definitions

Term	Definition
Minister responsible for forest policy-making	Minister holding the main responsibility for forest issues and the formulation of the forest policy.
Head of Forestry	The Head of Forestry is the Government Officer responsible for implementing the mandate of the public administration related to forests.
Level of subordination	Number of administrative levels between the Head of Forestry and the Minister.
University degree	Qualification provided by University after a minimum of 3 years of post secondary education.

15.2 Data for Table T15

Table 15a

FRA 2010 Category	2008			
Minister responsible for forest policy formulation : please provide full title	Department of Environment of the Ministry of Environment, Natural Resources & Transport			
Level of subordination of Head of Forestry within the Ministry	X	1 st level subordination to Minister Principal Secretary (Department of Environment)		
		2 nd level subordination to Minister (Denis Matatiken, Director General Nature & Conservation)		
		3 rd level subordination to Minister Director Forestry		
		4 th level subordination to Minister (Principal Forestry Officer)		
Other public forest agencies at national level				
Institution(s) responsible for forest law enforcement	National Parks & Forestry section of the Department of Environment			

Table 15b

FRA 2010 Category	Human resources within public forest institutions					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Total staff	174	n/a	118	n/a	86	n/a
...of which with university degree or equivalent	n/a	n/a	n/a	n/a	n/a	n/a

Note: Excludes people employed in State-owned enterprises, education and research, as well as temporary / seasonal workers.

15.3 *Comments to Table T15*

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Minister responsible for forest policy formulation		
Level of subordination of Head of Forestry within the Ministry		
Other public forest agencies at national level		
Institution(s) responsible for forest law enforcement		
Human resources within public forest institutions		

Other general comments to the table
Forestry Section in Government is getting smaller and smaller. Now it has shrink to 65 staff and with the economic reform the amount of staff might reduce further.

16 Table T16 – Education and research

16.1 FRA 2010 Categories and definitions

Term	Definition
Annual graduation of students	Number of students that have successfully completed a Bachelor's or higher degree in forest science or achieved a certificate or diploma as forest technician.
Doctor's degree (PhD)	University (or equivalent) education with a total duration of about 8 years.
Master's degree (MSc) or equivalent	University (or equivalent) education with a total duration of about five years.
Bachelor's degree (BSc) or equivalent	University (or equivalent) education with a duration of about three years.
Technician certificate or diploma	Qualification issued from a technical education institution consisting of 1 to 3 years post secondary education.
Publicly funded forest research centers	Research centers implementing research programmes on forest matters. Funding is public or channelled through public institutions.

16.2 Data for Table T16

FRA 2010 Category	Annual graduation of students within the country					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Master's degree in Forest Science	0	0	0	0	0	0
Bachelor's degree in Forest Science	0	0	0	0	0	0
Forest technician certificate / diploma	0	0	0	0	0	0
FRA 2010 Category	Professionals working in public forest research centres					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Doctor's degree (PhD)	0	0	0	0	0	0
Master's degree (MSc) or equivalent	0	0	0	0	0	0
Bachelor's degree (BSc) or equivalent	0	0	0	0	0	0

16.3 Comments to Table T16

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Annual graduation of students within the country		
Professionals working in public forest research centres		

Other general comments to the table

17 Table T17 – Public revenue collection and expenditure

No data is available for this table

Incomplete information that can not be used to reflect the public revenue collection and expenditure.