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Food and Agriculture Organization of the United Nations

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ASSESSMENT**

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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 2005 (FRA 2005), which is the most comprehensive assessment to date. More than 800 people have been involved, including 172 national correspondents and their colleagues, an Advisory Group, international experts, FAO staff, consultants and volunteers. Information has been collated from 229 countries and territories for three points in time: 1990, 2000 and 2005.

The reporting framework for FRA 2005 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes more than 40 variables related to the extent, condition, uses and values of forest resources. More information on the FRA 2005 process and the results - including all the country reports - is available on the FRA 2005 Web site (www.fao.org/forestry/fra2005).

The Global Forest Resources Assessment process is coordinated by the Forestry Department at FAO headquarters in Rome. The contact person for matters related to FRA 2005 is:

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The Global Forest Resources Assessment 2005 Country Report Series is designed to document and make available the information forming the basis for the FRA 2005 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.

Report preparation and contact person

No official report has been received from Grenada.

This report is, therefore, the result of a desk study prepared by the FRA 2005 secretariat in Rome, which summarizes existing available information using the established format for FRA 2005 country reports.

This report contains information on the following tables only:

- Table T1 – Extent of Forest and Other wooded land
- Table T2 – Ownership of Forest and Other wooded land
- Table T3 – Designated function of Forest and Other wooded land
- Table T4 – Characteristics of Forest and Other wooded land
- Table T9 – Diversity of tree species
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1. Table T1 – Extent of Forest and Other wooded land

1.1. FRA 2005 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

Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
FAOSTAT	H	Country area	2005	Secondary data source
Paterson, G. 2000. Grenada Country Report: Forestry outlook study for the Caribbean. <i>In</i> : Proceedings of Sub-regional Workshop on Data Collection and Outlook Effort for Forestry in the Caribbean, Port-of-Spain, Trinidad and Tobago, 21-25 February 2000. FAO, Rome	M	Forest area	1991,	Secondary data source. Author cited the Caribbean Conservation Association as source for the data
Purey-Cust, J.R. 1992. Grenada National Forestry Action Programme report, FAO, Rome.	M	Forest area	1982	Secondary data source
Gumbs, F.A. 1992. Report on Land Use Watershed Management. Grenada. Tropical Forestry Action Plan. FAO, Rome.	M	Forest Class definitions	1992	

Classification and definitions

Gumbs, F.A. 1992

National class	Definition
Mountain rain forest	Montane thicket was replaced by clumps or groves of Mountain Cabbage (<i>Euterpe</i> sp) palms, sometimes 60-78 feet high and far overtopping the stunted forest. Montane Thicket in Grenada covered the summit of the main watershed from Mount Qua Qua south towards Mount Sinai and lesser ridge tops in the area. <i>Microrhopholis chrysiphylloides</i> was dominant;

	nearly all the big trees are of this species, some of them up to six feet in girth. Composition was probably affected by fellings in the past as in the case of the Rain Forest. There was virtually no shrub layer. Epiphytes seemed to be confined to small orchids and ferns, and while there were few climbers, the forest was extremely mossy. Ground vegetation was knee-high and thick beneath typical Montane Thicket, consisting of seedlings, ferns, and razor grass.
Closed evergreen rainforest	Including the lower montane rain forest and the primary and secondary rain forest.
Moist deciduous and semi-deciduous forest	Some low hills near the coastlines were covered with a degraded dry scrub woodland, cactus and acacia bush which probably represented the remnants of a narrow belt of "deciduous seasonal forest" formation which originally grew there.
Abandoned cropland/ grazing land	No definition provided
Scrub/cactus vegetation	This forest types includes; Deciduous Seasonal forest/ Cactus Scrub. Some low hills near the coastlines were covered with a degraded dry scrub woodland, cactus scrub and acacia bush wich probably represented the remnants of a natural narrow belt of deciduous seasonal forest formation wich originally grew here.
Mangrove swamp	Small areas of mangrove swamps: red mangrove, black mangrove, white mangrove and button mangrove.
Inland swamp	No definition provided

Original data

1982

National Classification	Area in Acres
Mountain rain forest	4 170
Closed evergreen rainforest	5 630
Moist deciduous and semi-deciduous forest	4 330
Abandoned cropland/ grazing land	7 000
Scrub/cactus vegetation	3 030
Mangrove swamp	470
Inland swamp	70
Total	24 700

1991

	Forest Area (acres)	Woodland and Scrub (acres)
Grenada	9 800	7 360
Carriacou	450	2 475
Total	10 250	9 835

1.3. Analysis and processing of national data

The original data were converted to hectares using the following conversion factor: 1 acre = 0.404686 ha; giving the following results:

1982

National Classification	Area in hectares
Mountain rain forest	1 688
Closed evergreen rainforest	2 278
Moist deciduous and semi-deciduous forest	1 752
Abandoned cropland/ grazing land	2 833
Scrub/cactus vegetation	1 226
Mangrove swamp	190
Inland swamp	28
Total	9 996

1991

	Forest Area (ha)	Woodland and Scrub (ha)
Grenada	3 966	2 978
Carriacou	182	1 002
Total	4 148	3 980

Estimation and forecasting

After reclassification, linear extrapolation and intrapolation was used to obtain estimates for all three reporting years.

1.4. Reclassification into FRA 2005 classes**1982**

National Classification	Forest	Other Wooded Land	Other land
Mountain rain forest	100%		
Closed evergreen rainforest	100%		
Moist deciduous and semi-deciduous forest		100%	
Abandoned ruinate cropland/ grazing land			100%
Scrub/cactus vegetation		100%	
Mangrove swamp	100%		
Inland swamp			100%

1991

National Classification	Forest	Other Wooded land	Other land
Forest	100%		
Woodland and scrub		100%	

This gives the following table:

FRA 2005 Categories	Area (1000 hectares)	
	1982	1991
Forest	4 156	4 148
Other wooded land	2 978	3 980
Other land	26 865	25 872
TOTAL	34 000	34 000

1.5. Data for National reporting table T1

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest	4.15	4.14	4.14
Other wooded land	3.78	4.78	5.28
Other land	26.07	25.08	24.58
...of which with tree cover ¹⁾	NDA	NDA	NDA
Inland water bodies	0.00	0.00	0.00
TOTAL	34	34	34

1.6. Comments to National reporting table T1

There has been no substantial change in the total area under forest cover. From the calculation it seems that some increase of other wooded land cover have occurred since 1990. This appears reasonable considering the decreasing population growth rate and considering a substantial decline of area under agricultural cultivation and in mixed cultivation agroforestry.

2. Table T2 – Ownership of Forest and Other wooded land

2.1. FRA 2005 Categories and definitions

Category	Definition
Private ownership	Land owned by individuals, families, private co-operatives, corporations, industries, religious and educational institutions, pension or investment funds, and other private institutions.
Public ownership	Land owned by the State (national, state and regional governments) or government-owned institutions or corporations or other public bodies including cities, municipalities, villages and communes.
Other ownership	Land that is not classified either as “Public ownership” or as “Private ownership”.

2.2. National data

Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Purey-Cust, J.R. 1992. Grenada National Forestry Action Programme report, FAO, Rome.	H	Forest ownership	1992	Secondary data source

Original data

According to Purey-Cust (1992), 69% of forests and woodland are state-owned while the rest (31%) is privately owned.

2.3. Analysis and processing of national data

Estimation and forecasting

Private ownership for a reporting year = 31% * (Forest + other wooded land estimate for the same reporting year).

Public ownership for a reporting year = 69% * (Forest + other wooded land estimate for the same reporting year).

2.4. Data for National reporting table T2

FRA 2005 Categories	Area (1000 hectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	2.49	2.83		
Public ownership	5.53	6.29		
Other ownership				
TOTAL	8.02	9.12		

2.5. Comments to National reporting table T1

No distinction has been made between forests and Other wooded land.

3. Table T3 – Designated function of Forest and Other wooded land

3.1. FRA 2005 Categories and definitions

Types of designation

Category	Definition
Primary function	A designated function is considered to be primary when it is significantly more important than other functions. This includes areas that are legally or voluntarily set aside for specific purposes.
Total area with function	Total area where a specific function has been designated, regardless whether it is primary or not.

Designation categories

Category / Designated function	Definition
Production	Forest / Other wooded land designated for production and extraction of forest goods, including both wood and non-wood forest products.
Protection of soil and water	Forest / Other wooded land designated for protection of soil and water.
Conservation of biodiversity	Forest / Other wooded land designated for conservation of biological diversity.
Social services	Forest / Other wooded land designated for the provision of social services.
Multiple purpose	Forest / Other wooded land designated to any combination of: production of goods, protection of soil and water, conservation of biodiversity and provision of social services and where none of these alone can be considered as being significantly more important than the others.
No or unknown function	Forest / Other wooded land for which a specific function has not been designated or where designated function is unknown.

3.2. National data

Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Purey-Cust, J.R. 1992. Grenada National Forestry Action Programme report, FAO, Rome.	H	Protected forest area	1991	Secondary data source
Renard, Y. 1998. Forest policy in Grenada, <i>Forestry policies in the Caribbean</i> , FAO Forestry Paper 137/2, p. 261-276.	H	plantation	1996	Secondary data source

Original data**1991**

Protected forested land tenures (1991)	Area (ha)
Grand Etang Forest Reserve	1 748
Annandale Watershed	202
Concord Watershed	96
Mt St Catherine State Land	573
Mt Hope/Clabony Watershed	262

1996

Plantation area = 214 ha

Estimation and forecasting

The values given in the original data were the same values used for all three reporting years.

3.3. Reclassification into FRA 2005 classes**1991**

Protected forested land tenures	FRA Classification
Grand Etang Forest Reserve	100% conservation of biodiversity
Annandale Watershed	100% Protection of soil and water
Concord Watershed	100% Protection of soil and water
Mt St Catherine State Land	100% conservation of biodiversity
Mt Hope/Clabony Watershed	100% Protection of soil and water

1996

Plantations = 100% Production

The remaining forest areas and all OWL have been classified as “no or unknown function”.

3.4. Data for National reporting table T3

FRA 2005 Categories / Designated function	Area (1000 hectares)					
	Primary function			Total area with function		
	1990	2000	2005	1990	2000	2005
Forest						
Production	0.21	0.21	0.21			
Protection of soil and water	0.56	0.56	0.56			
Conservation of biodiversity	2.32	2.32	2.32			
Social services						
Multiple purpose				not appl.	not appl.	not appl.
No or unknown function	1.06	1.05	1.04	not appl.	not appl.	not appl.
Total - Forest	4.15	4.14	4.14	not appl.	not appl.	not appl.
Other wooded land						
Production						
Protection of soil and water						
Conservation of biodiversity						
Social services						
Multiple purpose				not appl.	not appl.	not appl.
No or unknown function	3.87	4.98	5.54	not appl.	not appl.	not appl.
Total – Other wooded land	3.87	4.98	5.54	not appl.	not appl.	not appl.

4. Table T4 – Characteristics of Forest and Other wooded land

4.1. FRA 2005 Categories and definitions

Category	Definition
Primary	Forest / Other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Modified natural	Forest / Other wooded land of naturally regenerated native species where there are clearly visible indications of human activities.
Semi-natural	Forest / Other wooded land of native species, established through planting, seeding or assisted natural regeneration.
Productive plantation	Forest / Other wooded land of introduced species, and in some cases native species, established through planting or seeding mainly for production of wood or non wood goods.
Protective plantation	Forest / Other wooded land of native or introduced species, established through planting or seeding mainly for provision of services.

4.2. National data

Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Purey-Cust, J.R. 1992. Grenada National Forestry Action Programme report, FAO, Rome.	H	Undisturbed forest	1991	Secondary data source
Renard, Y. 1998. Forest policy in Grenada, <i>Forestry policies in the Caribbean</i> , FAO Forestry Paper 137/2, p. 261-276.	H	plantation	1996	Secondary data source

Original data

1991

1000 hectares of undisturbed climax natural forests remain.

1996

Plantation area= 214 ha

4.3. Analysis and processing of national data

Estimation and forecasting

Undisturbed climax natural forests reported for 1991 was assumed to be the same as for 1990. The same proportion of undisturbed climax natural forests was used for 2000 and 2005 reporting years.

The plantation area was assumed to be the same in all three reporting years.

4.4. Reclassification into FRA 2005 classes

Undisturbed climax natural forests = 100% primary forests

Plantations = 100% productive plantations

The remaining forest area obtained from Table T1 was re-classified as 100% Modified Natural

4.5. Data for National reporting table T4

FRA 2005 Categories	Area (1000 hectares)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Primary	1	0.775	0.662			
Modified natural	2.93	3.15	3.26			
Semi-natural						
Productive plantation	0.214	0.214	0.214			
Protective plantation						
TOTAL	4.15	4.14	4.14	3.78	4.78	5.28

4.6. Comments to National reporting table T4

No information was available for other wooded land.

5. Table T9 – Diversity of tree species

5.1. FRA 2005 Categories and definitions

Category	Definition
Number of native tree species	The total number of native tree species that have been identified within the country.
Number of critically endangered tree species	The number of native tree species that are classified as “Critically endangered” in the IUCN red list.
Number of endangered tree species	The number of native tree species that are classified as “Endangered” in the IUCN red list.
Number of vulnerable tree species	The number of native tree species that are classified as “Vulnerable” in the IUCN red list.

5.2. National data

Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
IUCN RED LIST	H	Vulnerable species, endangered species	2005	

Original data

Vulnerable tree species: *Cedrela odorata*

Endangered tree species: *Guaiacum officinale*, *Swietenia mahogani*

5.3. Data for National reporting table T9

FRA 2005 Categories	Number of species (year 2000)
Native tree species	
Critically endangered tree species	
Endangered tree species	2
Vulnerable tree species	1

5.4. Comments

The IUCN Red List includes the following species:

Vulnerable tree species: *Cedrela odorata*

Endangered tree species: *Guaiacum officinale*, *Swietenia mahogani*

6. Table T15 – Employment in forestry

6.1. FRA 2005 Categories and definitions

Category	Definition
Primary production of goods	Employment in activities related to primary production of goods, like industrial roundwood, woodfuel and non-wood forest products.
Provision of services	Employment in activities directly related to services from forests and woodlands.
Unspecified forestry activities	Employment in unspecified forestry activities.

6.2. National data

Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Purey-Cust, J.R. 1992. Grenada National Forestry Action Programme report, FAO, Rome.	H	Field staff, administrative staff	1991	Secondary data source

Original data

10 field staff, 3 administrative staff

6.3. Analysis and processing of national data

Values reported in the original data used for 1990 and 2000.

6.4. Reclassification into FRA 2005 classes

Due to lack of other information, all staff have been included in the category “unspecified forestry activities”.

6.5. Data for National reporting table T15

FRA 2005 Categories	Employment (1000 person-years)	
	1990	2000
Primary production of goods		
Provision of services		
Unspecified forestry activities	0.013	0.013
TOTAL	0.013	0.013