



Forestry Department

Food and Agriculture Organization of the United Nations

GLOBAL FOREST RESOURCES
ASSESSMENT

COUNTRY REPORTS

TRINIDAD AND TOBAGO

FRA2005/220
Rome, 2005



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:

Mette Løyche Wilkie
Senior Forestry Officer
FAO Forestry Department
Viale delle Terme di Caracalla
Rome 00100, Italy

E-mail: Mette.LoycheWilkie@fao.org

Readers can also use the following e-mail address: fra@fao.org

DISCLAIMER

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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

This report has been prepared by:

Name Antony Ramnarine
Title: Conservator of Forests
Organization: Forestry Division
Address: Post Bag 30
Long Circular Road.
Tel/Fax: 1-868-622-4860
Email: forestry@tsst.net.tt

With the collaboration of:

Antony Ramnarine
Conservator of Forests
Forestry Division
Post Bag 30
Long Circular Road.
Tel:1-868-622-4860
Email forestry@tsst.net.tt

Seepersad Ramnarine
Director (NRRP)
Forestry Division
Post Bag 30
Long Circular Road.
Tel:1-868-622-5658
Email forestry@tsst.net.tt

Contents

1	TABLE T1 – EXTENT OF FOREST AND OTHER WOODED LAND	7
1.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	7
1.2	NATIONAL DATA.....	7
1.3	ORIGINAL DATA.....	10
1.4	RECLASSIFICATION.....	11
1.5	DATA FOR NATIONAL REPORTING TABLE T1	12
1.6	COMMENTS TO NATIONAL REPORTING TABLE	12
2	TABLE T2 – OWNERSHIP OF FOREST AND OTHER WOODED LAND	13
2.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	13
2.2	NATIONAL DATA.....	13
2.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	13
2.4	RECLASSIFICATION INTO FRA 2005 CLASSES	14
2.5	DATA FOR NATIONAL REPORTING TABLE T2	14
2.6	COMMENTS TO NATIONAL REPORTING TABLE T2	14
3	TABLE T3 – DESIGNATED FUNCTION OF FOREST AND OTHER WOODED LAND	15
3.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	15
3.2	NATIONAL DATA.....	15
3.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	16
3.4	RECLASSIFICATION INTO FRA 2005 CLASSES	16
3.5	DATA FOR NATIONAL REPORTING TABLE T3	17
3.6	COMMENTS TO NATIONAL REPORTING TABLE T3	17
4	TABLE T4 – CHARACTERISTICS OF FOREST AND OTHER WOODED LAND	18
4.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	18
4.2	NATIONAL DATA.....	18
4.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	18
4.4	RECLASSIFICATION INTO FRA 2005 CLASSES	19
4.5	DATA FOR NATIONAL REPORTING TABLE T4	19
4.6	COMMENTS TO NATIONAL REPORTING TABLE T4	19
5	TABLE T5 – GROWING STOCK	20
5.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	20
5.2	NATIONAL DATA.....	20
5.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	21
5.4	RECLASSIFICATION INTO FRA 2005 CLASSES	21
5.5	DATA FOR NATIONAL REPORTING TABLE T5	21
5.6	COMMENTS TO NATIONAL REPORTING TABLE T5	21
6	TABLE T6 – BIOMASS STOCK.....	22
6.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	22
6.2	NATIONAL DATA.....	22
6.3	ORIGINAL DATA.....	22
6.4	RECLASSIFICATION INTO FRA 2005 CLASSES	23
6.5	DATA FOR NATIONAL REPORTING TABLE T6	23
6.6	COMMENTS TO NATIONAL REPORTING TABLE T6	23
7	TABLE T7 – CARBON STOCK.....	24
7.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	24
7.2	NATIONAL DATA.....	24
7.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	25
7.4	RECLASSIFICATION INTO FRA 2005 CLASSES	25
7.5	DATA FOR NATIONAL REPORTING TABLE T7	25
7.6	COMMENTS TO NATIONAL REPORTING TABLE T7	25

8	TABLE T8 – DISTURBANCES AFFECTING HEALTH AND VITALITY	26
8.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	26
8.2	NATIONAL DATA.....	26
8.3	ORIGINAL DATA.....	26
8.4	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	26
8.5	DATA FOR NATIONAL REPORTING TABLE T8	26
8.6	COMMENTS TO NATIONAL REPORTING TABLE T8	26
9	TABLE T9 – DIVERSITY OF TREE SPECIES.....	27
9.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	27
9.2	NATIONAL DATA.....	27
9.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	28
9.4	RECLASSIFICATION	28
9.5	DATA FOR NATIONAL REPORTING TABLE T9	28
9.6	COMMENTS TO NATIONAL REPORTING TABLE T9	28
10	TABLE T10 – GROWING STOCK COMPOSITION	29
10.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	29
10.2	NATIONAL DATA.....	29
10.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	29
10.4	RECLASSIFICATION	29
10.5	DATA FOR NATIONAL REPORTING TABLE T10	30
10.6	COMMENTS TO NATIONAL REPORTING TABLE T10	30
11	TABLE T11 – WOOD REMOVAL	31
11.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	31
11.2	NATIONAL DATA.....	31
11.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	32
11.4	RECLASSIFICATION INTO FRA 2005 CLASSES	32
11.5	DATA FOR NATIONAL REPORTING TABLE T11	32
11.6	COMMENTS TO NATIONAL REPORTING TABLE T11	32
12	TABLE T12 – VALUE OF WOOD REMOVAL.....	33
12.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	33
12.2	NATIONAL DATA.....	33
12.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	33
12.4	RECLASSIFICATION INTO FRA 2005 CLASSES	34
12.5	DATA FOR NATIONAL REPORTING TABLE T12	34
12.6	COMMENTS TO NATIONAL REPORTING TABLE T12	34
13	TABLE T13 – NON-WOOD FOREST PRODUCT REMOVAL.....	35
13.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	35
13.2	ORIGINAL DATA.....	35
13.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	35
13.4	RECLASSIFICATION INTO FRA 2005 CLASSES	35
13.5	DATA FOR NATIONAL REPORTING TABLE T13	36
13.6	COMMENTS TO NATIONAL REPORTING TABLE T13	36
14	TABLE T14 – VALUE OF NON-WOOD FOREST PRODUCT REMOVAL	37
14.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	37
14.2	NATIONAL DATA.....	37
14.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	37
14.4	RECLASSIFICATION INTO FRA 2005 CLASSES	37
14.5	DATA FOR NATIONAL REPORTING TABLE T14	37
14.6	COMMENTS TO NATIONAL REPORTING TABLE T14	37
15	TABLE T15 – EMPLOYMENT IN FORESTRY.....	38
15.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	38
15.2	NATIONAL DATA.....	38
15.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	38

15.4	RECLASSIFICATION INTO FRA 2005 CLASSES	38
15.5	DATA FOR NATIONAL REPORTING TABLE T15	38
15.6	COMMENTS TO THE NATIONAL REPORTING TABLE T15	38
16	THEMATIC REPORTING TABLES	39

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

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forest Resource Inventory and Management Section Inventory of the indigenous Forests of Trinidad and Tobago 1980. Government of Trinidad and Tobago	H	Forest cover, forest type classification, land use/cover change	1970	Inventory of all public forests using Aerial photography from 1969 and ground truth in 1979
Internal Records Drawing Office Forestry Division	H	Forest cover,	1994	Aerial photography of forest reserves.
Caribbean island terrestrial habitats scitec.uwichill.edu.bb/bcs/courses/Ecology	H	Definitions	2005	
National geographic society, and WWF. Terrestrial ecoregions in the world. http://www.worldwildlife.org/wildworld	H	Definitions	2005	Refers to dry forest description

1.2.2 Classification and definitions

National class	Definition	Corresponding FAO Class for FRA 2005
Evergreen Seasonal forest	This is also termed moist forest and is found at slightly higher (100-300 m) or more sheltered locations. It comprises mainly broad-leaved evergreen trees with some foliage reduction in the dry season. Imagine the semi-evergreen seasonal forest just described but with scattered, emergent trees like sandbox (<i>Hura crepitans</i>), silk cotton (<i>Ceiba pentandra</i>) and cabbage palm (<i>Roystonea oleracea</i>). Some species in this community are also found in rainforest.	Forest
Semi evergreen seasonal forests	This is also termed moist forest and is found at slightly higher (100-300 m) or more sheltered locations. This is a two storied forest with an upper closed canopy at 20 m high and a lower tree layer at about half that height. The upper trees are mainly evergreens like Spanish oak (<i>Inga laurina</i>) and beefwood (<i>Pisonia fragrans</i>) but a minority (< 1/3) may shed their leaves in the dry season, e.g. locust (<i>Hymenaea coubaril</i>). The lower layer is evergreen (e.g. balata - <i>Manilkara bidentata</i>) with the macaw palm (<i>Aiphanes minima</i>) in this layer. A shrub layer with members of the coffee and guava families is present but there are few herbs and epiphytes. The canopy has many woody vines or lianas.	Forest
Deciduous seasonal forests*	This is also termed dry forest and is found in low-lying areas. It has an upper open canopy at 20 m high and a lower closed shrub/tree layer. The upper trees are mainly deciduous, shedding their leaves in the dry season, e.g. Whitewood (<i>Tabebuia</i> spp.) and birchum (<i>Bursera simaruba</i>). The lower shrubby layer can be quite dense and includes thorny species like bread 'n cheese (<i>Pithecellobium unguis-cati</i>) and ink berry (<i>Randia aculeata</i>). There are lianas but few if any epiphytes. What remains of this forest is often heavily impacted.	Forest
Dry evergreen forests	Is the littoral woodlands. It is situated near the sea exposed to the sea-blast. Structure varies greatly with exposure en amount of gale damage from low recumbent scrub to high forest or pure palm forest. Trees are evergreen and have thickly cutinized mesophyllous leaves and windswept crowns which present only a narrow edge to the wind. Flora is limited.	Forest
Seasonal montane forests	Sub-tropical temperatures. Evaporation ability of the air high on clear days due to exposure. Frequent mist. Abundant precipitation but available moisture seasonally low due to excessive soil drainage. A close tree canopy at 60 to 80 ft. somewhat open below. Deciduous tress present. Tremendously luxuriant lianas and epiphytes with abundant moss. Dense herbaceous ground layer, rare palms and tree ferns. Trees are often strongly buttressed.	Forest
Montane forests**	Includes lower montane rainforest, montante rain forest, Elfin woodlands.	Forest
Secondary Forests	Secondary forest is rainforest that has been disturbed in someway, naturally or unnaturally. Secondary forest can be created in a number of ways, from degraded forest recovering from selective logging, to areas cleared by slash and burn agriculture that have been reclaimed by forest. Generally, secondary forest is characterized (depending on its level of degradation) by a less developed canopy structure, smaller trees, and less diversity. Due to the lack of a full canopy, more light will reach the floor, supporting vigorous ground vegetation. "Jungle" is the term often applied to secondary forest with dense ground growth, but it is also applied to some tropical moist forests where seasonal variations permit thick ground growth	Forests

Swamp forests	Due to low relief the area is shallowly and more or less perpetually inundated with fresh water varying from a few inches to 3 ft. deep. A close and even tree canopy about 60 ft with no lower stratification. Trees developed enormous sinuous and spreading plank buttresses. 100 per cent evergreen leaves compound, mesophyllous and leathery. Very limited flora.	Forests
Bamboo	Clumps and stands of pure bamboo stand	Forests
Water	Dams for water production and open water bodies in the swamps	Inland water bodies
Abandoned forest plantation	Planted forest and abandoned	Forest
Mixed conversion forest	Degraded lands planted with a mixture of forest species	Forest
Teak and pine plantations	Pure stands of teak plantations and pure stands of pine plantations	Forests
Other plantations	shrub crops like cocoa, coffee, coconuts, citrus, sugar cane, bananas, citrus and coconuts	Other land

* Tropical dry forests in Trinidad and Tobago include both **deciduous** and **semi-evergreen** forests. A recent work by Howard Nelson suggests that areas which were formerly classified as **evergreen** forest also fit the criteria for dry forests.

In contrast to the moist forest ecoregion on Trinidad and Tobago, dry forest ecoregion is characterized by much more open forest, owing to the lack of a proper canopy. There is a greater proportion of deciduous trees and fewer large trees. Mosses and epiphytes are not common owing to the greatly reduced rainfall. Prominent trees in this area include *Lonchocarpus punctatus*, *Bursera simaruba*, *Machaerium robinifolium* and *Pithecellobium unguiscati*. Along the coast several species of cactus and the century plant (*Agave evadens*) are common. In the foothills of the Northern Range, especially the area north and east of Port of Spain, *Cordia alliodora* becomes common in the semi-deciduous forest. A small portion of this ecoregion also is found on the northern tip of Tobago. Here the canopy is at about 15 m and dominant trees include *Bursera simaruba*, *Lonchocarpus domingensis*, *Coccothrinax australis*. Though many of the dominant species are deciduous, the understory is mostly evergreen with *Eugenia* spp. and *Maypea caribaea* prominent.

** Lower montane forest: subtropical temperatures. No season drought. Available moisture more or less evenly distributed throughout the year and over 70 inches. Freedom from water logging and inundations. Exposure causes variations from true rainforest type. Canopy is lowered to between 70 and 100 ft. but is close at this level. No readily definable lower stratification. Dominants have long thin and clear boles. Lianas epiphytes poorly developed. Palms very rare. Ferns abundant but only small tree ferns. 100 percent evergreen. Leaves simple, mesophyllous, shiny and slightly leathery. Ground vegetation extremely sparse. Montane rain forest: Canopy at 60 ft. much wind damage. Lowered stratum 20-40 ft and understorey of free ferns and small palms. Lianas very abundant. Epiphytes tremendously luxuriant. Only small stemmed palms but abundant and several species of large tree-fern. 100 percent evergreen leaves simple, mesophyllous, leathery with epiphyllous. Dense herbaceous ground vegetation. Tree flora extremely poor.

Elfin woodland: Stunted gnarled thicket 15-25 ft. in height of stilt rooted, fleshy leaved trees with long straggling branches, festooned with moss and lichen. Canopy formed at 6-10 ft. understorey of trees-ferns and small palms. Flora extremely limited.

1.3 Original data

National classes	1970 ha _a	1994 ha _b
Forests land use		
Evergreen Seasonal Forest	98180	88718
Semi-evergreen seasonal forest	13928	12586
Deciduous Seasonal Forests	3617	3268
Dry evergreen forests	495	447
Seasonal montane forests	926	837
Montane forests	21619	19535
Swamp forests	16789	15171
Secondary forests	22650	20467
Teak and pine plantations	16308	15000
Other plantations	5306	5306
Bamboo	528	528
Water	1613	1613
Other areas within forests	53729	72212
Total forest land owned by state	255688	255688
Total Private forests	56000	56000
Private lands	201312	201312
Total land area	513000	51300

1.3.1 Analysis and processing of national data

The assumption of a rate of loss of forest cover for all forest types was made on the rate of loss of forest from forest reserves. This rate was applied to all forested lands in Reserves and other lands owned by the state except for lands under teak and pine plantations, water, and bamboo which is assumed as constant. Attempts are being made to collect data on loss of forest cover from all other land agencies but due to the steep deadline this approach is being used. This is shown under estimation and forecasting.

1.3.2 Calibration

Water area was calibrated to UN statistics and added to the of other land class.

1.3.3 Estimation and forecasting

National classes	1970 ha _a	1994 ha _b	1990 ¹ ha _c	2000 ¹ ha _d	2005 ¹ ha _e
Forests land use					
Evergreen Seasonal Forest	98180	88718	90295	86352	85381
Semi-evergreen seasonal forest	13928	12586	12810	12250	11970
Deciduous Seasonal Forests	3617	3268	3326	3180	3108
Dry evergreen forests	495	447	455	435	425
Seasonal montane forests	926	837	852	815	796
Montane forests	21619	19535	19882	19014	18580
Swamp forests	16789	15171	15441	14767	14430
Secondary forests	22650	20467	20831	19921	19466
Teak and pine plantations	16308	15000	15000	15000	15000
Other plantations	5306	5306	5306	5306	5306
Bamboo	528	528	528	528	528
Water	1613	1613	1613	1613	1613
Other areas within forests	53729	72212	64985	72143	74722
Private lands	201312	201312	201312	201312	201312
Total forest land owned by state	255688	255688	255688	255688	255688
Private forests	56000	56000	56000	56000	56000
Total land area	513000	51300	513000	513000	513000

ha_a = original data for year 1970

ha_b = estimated data for year 1994

ha_c = ha_b + (ha_a-ha_b)/24*4

ha_d = (ha_b - (ha_a-ha_b)/24 *6)

ha_e = (ha_b - (ha_a-ha_b)/24 * 11)

1.4 Reclasification

	Forest	other wooded land	other land	other land with trees	inland water
Evergreen Seasonal Forest	100%				
Semi-evergreen seasonal forest	100%				
Deciduous Seasonal Forests	100%				
Dry evergreen forests	100%				
Seasonal montane forests	100%				
Montane forests	100%				
Swamp forests	100%				
Secondary forests	100%				
Teak and pine plantations	100%				
Other plantations			100 %		
Bamboo	100%				
Water					100%
Other areas within forests		100%			
Private lands			100%		
Total forest land owned by state					
Private forests	100%				

1.5 Data for National reporting table T1

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest	235	228	226
Other wooded land	65	72	75
Other land	213	213	213
...of which with tree cover ¹⁾			
Inland water bodies	0	0	0
TOTAL	513	513	513

The category of “other plantation” has a percentage of other land with tree cover, but it was not possible to determine the extension.

1.6 Comments to National reporting table

An inventory was conducted in 1980 using 1969 photographs. This report is the basis for the forest data in 1970. An analysis of photographs was conducted for the forest reserves in 1994 but no ground surveys was conducted to verify. A rate of loss of forest reserve for the period 1980 to 1994 was applied to all forest areas even though the loss from other state-lands may have been greater. This loss of forest was transferred to other wooded lands.

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

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forest Resource Inventory and Management Section Inventory of the indigenous Forests of Trinidad and Tobago 1980. Government of Trinidad and Tobago	H	Ownership of forest lands	1970	Inventory of all public forests using Aerial photography from 1969 and ground truth in 1979

2.2.2 Classification and definitions

Same as table 1.

2.2.3 Original data

See 1.2.3 Original Data

There are different figures since 1970 that have been reported, on private forest and varies from 54,000 to 56,000 hectares. Ramdial (1980) claims 54,391 ha. Chalmers (1992) says 56,000. For this report, it has been used 56,000 ha but cannot verify whether the figure has been declining or increasing. It was assumed constant figure for private ownership through the different years.

2.3 Analysis and processing of national data

2.3.1 Calibration

2.3.2 Estimation and forecasting

There is no better information to make estimations on ownership. The 56,000 hectares reported, were subtracted from the total forest area, and is assumed constant for the year 1990 and 2000.

2.4 Reclassification into FRA 2005 classes

2.5 Data for National reporting table T2

FRA 2005 Categories	Area (1000 hectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	56	56		
Public ownership	179	172	65	72
Other ownership				
TOTAL	235	228	65	72

2.6 Comments to National reporting table T2

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

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Internal Documents Drawing Office Forestry Division	H	Productive Forest and protective forests	1990	Area determined by planimeter based on a scale of 1:150000 map.

3.2.2 Classification and definitions

National class	Definition
Same as FRA	

3.2.3 Original data

National data	1990 Area(ha)	FRA classification
Watersheds	8334	Protection of soil and water
Nature reserves	458	Conservation of biological diversity
Wildlife Sanctuaries	19004	Conservation of biological diversity
National Parks	5002	Social Services
Production forests	75,875	Production
Protective forests	42,986	Protection of soil and water
Total reserve and unproclaimed reserve	143324.7	

3.3 Analysis and processing of national data

3.3.1 Calibration

3.3.2 Estimation and forecasting

Using the above table, percentages were calculated and applied to the different forest areas for the reporting year 1990, 2000 and the categories of production, protection and social service of the year 2005. This is because by 2005 a further 3000 hectares will be managed as national parks.

3.4 Reclassification into FRA 2005 classes

National classes	FRA Classes				
	Production	Protection	Conservation of biodiversity	Social service	Multiple purpose
Watershed		100%			
Nature reserve			100%		
Wildlife			100%		
National parks					100%
Production of forests	100%				
Protective forests			100%		

3.5 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	46	44	44			
Protection of soil and water	31	30	30			
Conservation of biodiversity	12	11	14			
Social services	3	3	3			
Multiple purpose	0	0	0	not appl.	not appl.	not appl.
No or unknown function	143	140	135	not appl.	not appl.	not appl.
Total - Forest	235	228	226	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	65	72	75	not appl.	not appl.	not appl.
Total – Other wooded land	65	72	75	not appl.	not appl.	not appl.

3.6 Comments to National reporting table T3

Although 100,000 hectares are proposed in the system of national parks and protected areas only 5000 hectares of forested lands are managed as national parks.

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

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Internal document Forestry Division	H			

4.2.2 Classification and definitions

4.2.3 Original data

Table 1 and table 3.

4.3 Analysis and processing of national data

4.3.1 Calibration

4.3.2 Estimation and forecasting

The area of primary forest is the actual value of the protected area for the year 2005, on the assumption that the last 3,000 ha to be declared on 2005, has not been intervened by human activities. Production plantations are the values presented in table number 1. Modified natural is the difference between total forest area minus, primary forest and plantation forest.

4.4 Reclassification into FRA 2005 classes

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	14	14	14			
Modified natural	206	199	197	65	72	75
Semi-natural	0	0	0			
Productive plantation	15	15	15			
Protective plantation	0	0	0			
TOTAL	235	228	226	65	72	75

4.6 Comments to National reporting table T4

5 Table T5 – Growing stock

5.1 FRA 2005 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.
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 Z cm or more.

5.2 National data

5.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forest Resource Inventory and Management Section Inventory of the indigenous Forests of Trinidad and Tobago 1980. Government of Trinidad and Tobago	H	Biomass Volume	1980	

5.2.2 Classification and definitions

Same as FRA.

5.2.3 Original data

Forest Type	Area (hectares)	Total volume(1980) cubic metres
Crappo fineleaf carat	43076	4586690
mora	20228	4022918
Crappo debasse	19560	2749145
crapo fineleaf cocorite	8829	897747
crappo blackheart cocorite	5783.8	579232.6
Purpleheart bois lissette	4888.23	463008.3
Acurel mousarra jiggerwood	4594.13	364185.7
Acurel gommier	4139	513927.7
Moussara figuier	253.6	28800.5
Naked incense poui	3670.5	269573.8
Bois bande mountain guatecare	1030	170476.1
serette bois gris	21486	3038275
Secondary forest	21727.6	1791655
secondary forest emergents	2764.56	334218.2
marsh forest	2298	134023
savannah	354.7	107.5
other areas	74202.5	1396547
teak and pine plantation		
Total	238,885.62	21340530

5.3 Analysis and processing of national data

5.3.1 Calibration

5.3.2 Estimation and forecasting

The estimated volume is 89.33 cubic meters/ha and it was applied to the different forest areas presented in table number 1. Commercial volume is 48 cubic/meter

5.4 Reclassification into FRA 2005 classes

5.5 Data for National reporting table T5

FRA 2005 Categories	Volume (million cubic meters over bark)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Growing stock	21	20	20			
Commercial growing stock	11	11	11			

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter at breast height of trees included in Growing stock (X)	cm	20	
2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock	cm	Crown point or 10 cm . for teak and pine 7.3 cm	
3. Minimum diameter of branches included in Growing stock (W)	cm	Natural forests no branches	Teak and pine plantation branches included
4. Minimum diameter at breast height of trees in Commercial growing stock (Z)	cm	48.5 natural forest.	14cm for pine and teak
5. Volume refers to “Above ground” (AG) or “Above stump” (AS)	AG / AS	AG	
6. Have any of the above thresholds (points 1 to 4) changed since 1990	Yes/No	No	
7. If yes, then attach a separate note giving details of the change	Attachment		

5.6 Comments to National reporting table T5

6 Table T6 – Biomass stock

6.1 FRA 2005 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 living 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 biomass	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.

6.2 National data

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forest Resource Inventory and Management Section Inventory of the indigenous Forests of Trinidad and Tobago 1980. Government of Trinidad and Tobago	H	Growing stock	1980	

6.2.2 Classification and definitions

6.3 Original data

FRA 2005 Categories	Volume (million cubic meters over bark)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Growing stock	21	20	20			
Commercial growing stock	11	11	11			

Thresholds used by the country are the following:

For pine plantations: BEF=1.3; R=0.32;

For natural forests: BEF=3.4; R=0.24;

Dead wood 18 tonnes per ha

6.3.1 Analysis and processing of national data

6.3.2 Calibration

6.3.3 Estimation and forecasting

For the estimation of stem biomass, a density of 0.57 was applied to the stock volume. This number is the result of the average density of the different species measured in the forestry inventory. A BEF 3.31 and the root ration of 0.24 which is the pondered average between broadleaved and pine forest was used. The dead wood production is estimated of 18 tonnes per hectare.

6.4 Reclassification into FRA 2005 classes

6.5 Data for National reporting table T6

FRA 2005 Categories	Biomass (million metric tonnes oven-dry weight)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Above-ground biomass	40	38	38			
Below-ground biomass	9.5	9.22	9.14			
Dead wood biomass	4.23	4.1	4.0			
TOTAL	54	51	51			

6.6 Comments to National reporting table T6

All calculations made for all forests without any separation of the other wooded land since the data could not be separated.

7 Table T7 – Carbon stock

7.1 FRA 2005 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 living 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 biomass	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 a minimum diameter chose by the country for lying dead (for example 10 cm), in various states of decomposition above the mineral or organic soil. This includes the litter, fomic, and humic layers.
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.

7.2 National data

7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forest Resource Inventory and Management Section Inventory of the indigenous Forests of Trinidad and Tobago 1980. Government of Trinidad and Tobago	H	Same as table 6.		

7.2.2 Classification and definitions

7.2.3 Original data

FRA 2005 Categories	Biomass (million metric tonnes oven-dry weight)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Above-ground biomass	40	38	38			
Below-ground biomass	9.5	9.22	9.14			
Dead wood biomass	4.23	4.1	4.0			
TOTAL	53.73	51.32	51.14			

7.3 Analysis and processing of national data

7.3.1 Calibration

7.3.2 Estimation and forecasting

Procedure was used as presented in the FRA 2005 guidelines.

7.4 Reclassification into FRA 2005 classes

7.5 Data for National reporting table T7

FRA 2005 Categories	Carbon (Million metric tonnes)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Carbon in above-ground biomass	19.8	19.21	19.04			
Carbon in below-ground biomass	4.75	4.66	4.57			
Sub-total: Carbon in living biomass	24.55	23.82	23.61			
Carbon in dead wood	2.15	2.05	2.03			
Carbon in litter						
Sub-total: Carbon in dead wood and litter						
Soil carbon to a depth of _30_ cm						
TOTAL CARBON	26.7	25.9	25.6			

7.6 Comments to National reporting table T7

All data reported under forest since data was not separated in forest and other wooded lands.

8 Table T8 – Disturbances affecting health and vitality

8.1 FRA 2005 Categories and definitions

Category	Definition
Disturbance by fire	Disturbance caused by wildfire, independently whether it broke out inside or outside the forest/OWL.
Disturbance by insects	Disturbance caused by insect pests that are detrimental to tree health.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as a bacteria, fungi, phytoplasma or virus.
Other disturbance	Disturbance caused by other factors than fire, insects or diseases.

8.2 National data

8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Annual report of Forestry Division	H	Fires	1988-1992; 1998 -2002	

8.2.2 Classification and definitions

8.3 Original data

No original data was provided by the country.

8.4 Analysis and processing of national data

8.4.1 Estimation and forecasting

The average of 1988-1992 was used to estimate 1990, and 1998 to 2002 to estimate 2000.

8.4.2 Reclassification into FRA 2005 classes

8.5 Data for National reporting table T8

FRA-2005 Categories	Average annual area affected (1000 hectares)			
	Forests		Other wooded land	
	1990	2000	1990	2000
Disturbance by fire	2	4		
Disturbance by insects	ID	ID		
Disturbance by diseases	ID	ID		
Other disturbance	ID	ID		

8.6 Comments to National reporting table T8

Data on fires could not be separated in fires in forests and fires in other wooded lands

9 Table T9 – Diversity of tree species

9.1 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.

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
IUCN 2004. <i>2004 IUCN Red List of Threatened Species</i> . www.redlist.org .	H		2004	
Dendrology manual of the Forest of Trinidad and Tobago	H	Number of tree species inventoried	1980	
Silviculture of Trinidad and Tobago 1939. R. C. Marshall	H		1939	Total number of tree species in Trinidad and Tobago including those not native

9.2.2 Classification and definitions

IUCN classification.

9.2.3 Original data

Endanger specie.

Swietenia mahagoni

AMERICAN MAHOGANY (E)
 CUBAN MAHOGANY (E)
 SMALL-LEAVED MAHOGANY (E)
 WEST INDIAN MAHOGANY (E)
 ACAJOU (F)
 MAHOGANI DE SAINT-DOMINIQUE (F)
 MAHOGANI PETITES FEUILLES (F)
 CAOBA (S)
 COABILLA (S)

9.3 Analysis and processing of national data

9.4 Reclassification

9.5 Data for National reporting table T9

FRA 2005 Categories	Number of species (year 2000)
Native tree species	267
Critically endangered tree species	nil
Endangered tree species	1
Vulnerable tree species	nil

9.6 Comments to National reporting table T9

This is the amount of species inventoried in 1980. However Marshall lists 325 of which 58 were introduced.

10 Table T10 – Growing stock composition

10.1 FRA 2005 Categories and definitions

List of species names (scientific and common names) of the ten most common species.

10.2 National data

10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Same as for Table 1.				

10.2.2 Original data

FRA 2005 categories/species scientific name and common names	Growing Stock in Forests (million cubic meters)	
	1990	2000
Mora excelsor Mora	3.469	3.317
Tectona grandis Teak	2.019	2.088
Pinus caribaea Caribbean Pine	1.316	1.225
Spondias mombin Hogplum	1.118	1.069
Pentaclethra macroloba Fineleaf	.958	.916
Sterculia caribaea Mahoe	.923	.993
Carapa guianensis Crappo	.853	.916
Eschweilera subglandulosa Guatecare	.836	.799
Pachira insignis Wild Chataigne	.789	.755
Bois gris	.508	.486
Reminder sps.	12.16	11.73
TOTAL	24.95	24.08

10.3 Analysis and processing of national data

10.3.1 Calibration

10.3.2 Estimation and forecasting

The category “remainder species” was calibrated in order to have the same results of table 5.

10.4 Reclassification

10.5 Data for National reporting table T10

FRA 2005 categories/species scientific name and common names	Growing Stock in Forests (million cubic meters)	
	1990	2000
Mora excelsor Mora	3.469	3.317
Tectona grandis Teak	2.019	2.088
Pinus caribaea Caribbean Pine	1.316	1.225
Spondias mombin Hogplum	1.118	1.069
Pentaclethra maculoba Fineleaf	.958	.916
Sterculia caribaea Mahoe	.923	.993
Carapa guianensis Crappo	.853	.916
Eschweilera subglandulosa Guatecare	.836	.799
Pachira insignis Wild Chataigne	.789	.755
Bois gris	.508	.486
Reminder sps.	8.211	7.436
TOTAL	21	20

10.6 Comments to National reporting table T10

11 Table T11 – Wood removal

11.1 FRA 2005 Categories and definitions

Category	Definition
Industrial wood removal	The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removal	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
Forestry Division Internal Reports	H	Round wood removal	1988-2003	

11.2.2 Classification and definitions

Same as FRA

11.2.3 .Original data

Year	Total yield from forests Cubic metres under bark
1988	45167
1989	62054
1990	52256
1991	43225
1992	58415
1993	42959
1994	49247
1995	66443
1996	58809
1997	71302
1998	50289
1999	47531
2000	71956
2001	63151
2002	60344
2003	70028

11.3 Analysis and processing of national data

11.3.1 Estimation and forecasting

If the data is under bark it should be multiply by 1.15

Year	Total yield from forests Cubic metres under bark	Over bark	Fiver years average for given years in 1000 cubic metres
1988	45167	51942.05	
1989	62054	71362.1	
1990	52256	60094.4	60.056
1991	43225	49708.75	
1992	58415	67177.25	
1993	42959	49402.85	
1994	49247	56634.05	
1995	66443	76409.45	
1996	58809	67630.35	
1997	71302	81997.3	
1998	50289	57832.35	
1999	47531	54660.65	
2000	71956	82749.4	67.45
2001	63151	72623.65	
2002	60344	69395.6	
2003	70028	80532.2	
2004			
2005			74.84

11.4 Reclassification into FRA 2005 classes

11.5 Data for National reporting table T11

FRA 2005 Categories	Volume in 1000 cubic meters of roundwood over bark					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	60	67	75			
Fuel wood	ID	ID	ID			
TOTAL for Country						

11.6 Comments to National reporting table T11

All wood removal reported are` for forest and other wooded land. No information available for fuel wood.

12 Table T12 – Value of wood removal

12.1 FRA 2005 Categories and definitions

Category	Definition
Value of industrial wood removal	Value of the wood removed for production of goods and services other than energy production (woodfuel).
Value of woodfuel removal	Value of the wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

12.2 National data

12.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forestry Division Internal Reports	H	Log prices at roadside	1990 2000 2005	

12.2.2 Classification and definitions

12.2.3 Original data

Table Roundlog prices per hoppus foot at roadside (TT\$) by classes

Year	Class I	Class II	ClassIII	Class IV
1990	15	9	6	4
2000	37.5	14.5	10	8
2005	39	14	8	6

12.3 Analysis and processing of national data

12.3.1 Estimation and forecasting

Price at roadside in TT\$/m³

Year	Class I	Class II	ClassIII	Class IV
1990	416.1	249.66	166.44	110.96
2000	1040.25	402.23	277.4	221.92
2005	1081.86	388.36	221.92	166.44

Note: 1 m³ = 27.74 hoppus foot

In 1990 4.25 TT=1US

In 2000 6.30TT=1US

In 2005 6.3TT=1US

Price at roadside in US\$/m3

Year	Class I	Class II	ClassIII	Class IV	TT\$/US\$
1990	97.91	58.74	39.16	26.11	4.25
2000	165.12	63.85	44.03	35.23	6.30
2005	171.72	61.64	35.23	26.42	6.30

Price at roadside in US\$/m3

Year	Class I	Class II	ClassIII	Class IV	TT\$/US\$
1990	97.91	58.74	39.16	26.11	4.25
2000	165.12	63.85	44.03	35.23	6.30
2005	171.72	61.64	35.23	26.42	6.30

	Removal in 1990 (m3 u.b.)	Removal in 2000 (m3 u.b.)	Removal in 2005 (m3 u.b.)	Value in 1990 (USD)	Value in 2000 (USD)	Value in 2005 (USD)
Class I	26,696	29,081	32,266	2,613,695	4,801,827	5,540,850
Class II	18,099	9,574	10,623	1,063,199	611,262	654,823
Class III	3,463	9,240	10,252	135,619	406,853	361,131
Class IV	3,965	10,758	11,936	103,519	378,955	315,344
Total	52,223	58,654	65,078	3,916,033	6,198,897	6,872,148

The distribution on classes 2005 is assumed to be the same as in 2000

12.4 Reclassification into FRA 2005 classes**12.5 Data for National reporting table T12**

FRA 2000 categories	Value of wood removal					
	forest			other wooded land		
	1990	2000	2005			
Industrial roundwood	3,916	6,199	6,872			
Fuelwood	ID	ID	ID			
Total for country						

12.6 Comments to National reporting table T12

Value for industrial roundwood are for both forest and other wooded land. Still attempting to collect data on firewood and charcoal use.

13 Table T13 – Non-wood forest product removal

13.1 FRA 2005 Categories and definitions

The following categories of non-wood forest products have been defined:

Category
<u>Plant products / raw material</u>
Food
Fodder
Raw material for medicine and aromatic products
Raw material for colorants and dyes
Raw material for utensils, handicrafts & construction
Ornamental plants
Exudates
Other plant products
<u>Animal products / raw material</u>
Living animals
Hides, skins and trophies
Wild honey and bee-wax
Bush meat
Raw material for medicine
Raw material for colorants
Other edible animal products
Other non-edible animal products

13.1.1 National data

13.1.2 Data sources

Expert opinion. refers to bush meat and some natural insecticide data. There is no other information available.

13.1.3 Classification and definitions

13.2 Original data

13.3 Analysis and processing of national data

13.3.1 Estimation and forecasting

13.4 Reclassification into FRA 2005 classes

13.5 Data for National reporting table T13

FRA 2005 Categories	Scale factor	Unit	NWFP removal		
			1990	2000	2005
<u>Plant products / raw material</u>					
1. Food			nd	nd	nd
2. Fodder			nd	nd	nd
3. Raw material for medicine and aromatic products			nd	nd	nd
4. Raw material for colorants and dyes			nd	nd	nd
5. Raw material for utensils, handicrafts & construction			nd	nd	nd
6. Ornamental plants			nd	nd	nd
7. Exudates			nd	nd	nd
8. Other plant products		cord		54	60
<u>Animal products / raw material</u>					
9. Living animals			nd	nd	nd
10. Hides, skins and trophies			nd	nd	nd
11. Wild honey and bee-wax			nd	nd	nd
12. Bush meat		Tons	54	120	120
13. Raw material for medicine					
14. Raw material for colorants			nd	nd	nd
15. Other edible animal products			nd	nd	nd
16. Other non-edible animal products			nd	nd	nd

13.6 Comments to National reporting table T13

Traditionally there is demand from the natural forests for handicraft materials, fruits, flowering plants, vines for basket manufacture, bamboo, roseau stems, collection of wild honey etc. The royalty rates are nominal and there is very little data capture of this important and valuable resource.

14 Table T14 – Value of non-wood forest product removal

14.1 FRA 2005 Categories and definitions

The following categories of non-wood forest products have been defined:

Category
<u>Plant products / raw material</u>
Food
Fodder
Raw material for medicine and aromatic products
Raw material for colorants and dyes
Raw material for utensils, handicrafts & construction
Ornamental plants
Exudates
Other plant products
<u>Animal products / raw material</u>
Living animals
Hides, skins and trophies
Wild honey and bee-wax
Bush meat
Raw material for medicine
Raw material for colorants
Other edible animal products
Other non-edible animal products

14.2 National data

Insufficient data to report on this table.

14.2.1 Data sources

14.2.2 Classification and definitions

14.2.3 Original data

14.3 Analysis and processing of national data

14.3.1 Estimation and forecasting

14.4 Reclassification into FRA 2005 classes

14.5 Data for National reporting table T14

14.6 Comments to National reporting table T14

15 Table T15 – Employment in forestry

15.1 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.

15.2 National data

15.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Internal Records of the Forestry Division	H		1990&2000	List of wood workers
Annual Reports of the Forestry Division	H		1990&2000	List of employees in Forestry Division

15.2.2 Classification and definitions

15.2.3 Original data

The number of persons in this table reflects the amount of Forestry Employees within the Forestry Division, the number of workers employed in the planting of forests and the number of persons directly involved in logging and harvesting of round logs.

15.3 Analysis and processing of national data

15.3.1 Estimation and forecasting

15.4 Reclassification into FRA 2005 classes

15.5 Data for National reporting table T15

FRA 2005 Categories	Employment (1000 person-years)	
	1990	2000
Primary production of goods	1.3	1.4
Provision of services		
Unspecified forestry activities		
TOTAL	1.3	1.4

15.6 Comments to the National reporting table T15

16 Thematic reporting tables

If countries would like to submit additional reporting tables, these should be included here.