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Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
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.

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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

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year (s)	Additional comments
Legg and Jewell. 1995. A 1:50.000 scale Forest Map of Sri Lanka: The basis for National Geographic System. Christopher Legg and Nicholas Jewell. The Sri Lanka Forester. Special Issue 1995.	H	Vegetation types & canopy cover	1992	Satellite imageries and aerial photos taken in 1992 and field checking
GOSL. 2000. Forest Cover Mapping 2000. Forest Inventory Division. Forest Department. Sri Lanka	H	Vegetation types & canopy cover	1996	Satellite imageries and aerial photos taken in 1996 and field checking
FAO. 1996. Sri Lanka Profile, In Asia Pacific Agroforestry Profiles: Second Edition. RAP Publication 1996/20. Asia – Pacific Agroforestry Network. FAO. Bangkok.	M	Land use type & extent	1994	
CBSL. 2004. Sri Lanka Socio-Economic Data 2004, Vol Xxvii, Central Bank Of Sri Lanka, June 2004	M	Rubber Plantation	1978-2003	
GOSL. 1999. Biodiversity Conservation in Sri Lanka – A framework for Action, Ministry of Forestry & Environment Sri Lanka	M	Definitions		

1.2.2 Classification and definitions

National class	Definition
Closed Canopy Forests	All lands, with a forest cover with canopy density of 70 percent or above
a. Montane Forest	Altitude 1500 – 2500 m. Annual rainfall 2500 – 5000 mm. No dry months
b. Sub-Montane Forest	Altitude 1000 – 1500 m. Annual rainfall 2500 – 5000 mm. No dry months

c. Lowland Forest (Tropical Wet Evergreen Forest)	Altitude 0 – 1000 m. Annual rainfall 2500 – 5000 mm. No dry months
d. Moist Monsoon Forest (Moist Evergreen Forest)	Altitude 0 – 1000 m. Annual rainfall 1900 – 2500mm. Less than 3 dry months
e. Dry Monsoon Forest (Dry Mixed Evergreen Forest)	Altitude 0 – 500 m. Annual rainfall 1250 – 1900 mm. 4-5 dry months
f. Riverine Forest	Forests found along the rivers and streams
g. Mangrove Forest	Area covered by Mangrove Vegetation
Open Canopy Forests a. Sparse Forests	All lands, with a forest cover with canopy density less than 70 percent

(Source: Biodiversity Conservation in Sri Lanka – A framework for Action, Ministry of Forestry & Environment – 1999)

1.2.3 Original data

Land Use in Sri Lanka (1994)

Land category	Specific land use	Ha
Urban Land		
	Built-up land	22,640
	Associated non-agricultural land	7,319
Agricultural land		
	Homesteads	781,280
	Tree & Other Perennial Crops	
	Tea	201,630
	Rubber	166,500
	Coconut	332,140
	Cinnamon	8,880
	Cashew	580
	Oil-palm	1,070
	Other perennial crops	54,740
Crop land		
	Paddy	494,460
	Sparsely used cropland	1,069,990
	Other crop land	599,110
Forestland		
	Natural Forest	
	Dense forest	1,582,700
	Open forest	463,800
	Forest Plantations	72,300
Range land		
	Scrub land	205,630
	Grass land	91,190
Wet land		
	Forested	
	MANGROVES	20,150
	Non-forested	
	Marsh	42,400
Water		290,520
Barren land		77,480
Total		6,586,509

(Source: Asia – Pacific Agroforestry Profiles: Second Edition, Sri Lanka Profile, Asia – Pacific Agroforestry network)

Area of Natural Forest by National Classes, 1992 & 1996

Forest Class	1992 (ha)	1996 (ha)
Montane Forest	3,108	3,099
Sub-montane Forest	68,838	65,792
Lowland Rain Forest	141,549	124,340
Moist Monsoon Forest	243,877	221,977
Dry Monsoon Forest	1,094,287	1,027,544
Riverine Dry Forest	22,411	18,352
Mangroves	8,687	9,530
Sparse Forest	463,842	471,583
Forest Plantations Excluding Rubber	72,340	79,940
Total Forest Area	2,118,940	2,022,160
Total Land Area	6,586,509	6,616,628

Area of Rubber Plantations

Category	1978	1997	1998	1999	2000	2001	2002	2003
Main Agricultural Crops								
Rubber Plantations (000 ha)	226	158	158	159	157	157	157	129

(Source: Sri Lanka Socio-Economic Data 2004, Vol Xxvii, Central Bank Of Sri Lanka, June 2004)

1.3 Analysis and processing of national data

1.3.1 Calibration

The calibration step was implemented as country land area figures did not match with the FAOSTAT. The forests figures were kept intact and all necessary adjustments were made in the area of “Other lands”. Further, the area of inland water bodies was taken as maintained by FAOSTAT. All the forest classes listed in 1992 and 1996 were classified as “forests”. However to match country definition the rubber plantation areas were not included in the area under forests.

FRA 2005 Categories	Area (1000 hectares)	
	1992	1996
Forest excluding rubber	2119	2022
Other Wooded Land	0	0
Other Land	4,344	4,441
.....of which with tree cover	1,115	n.a.
Inland water bodies	98	98
TOTAL	6,561	6,561

1.3.2 Estimation and forecasting

A. Excluding Rubber Plantations

The available data provides information for 1992 and 1996. Therefore, figures for 1990 and 2000 were estimated using linear-interpolation and the figure for 2005 was forecasted using linear extrapolation. To match national definitions the area of rubber plantation was included.

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest excluding rubber	2167	1925	1804
Other Land	4296	4538	4659
Inland water bodies	98	98	98
TOTAL	6,561	6,561	6,561

B. Rubber Plantations

The estimate of area in 1990 under rubber trees was developed by linear interpolation method. The information for 2000 was directly available in the original data. Based on personnel communication of the National Correspondent with Rubber authorities, the figure for 2003 was taken as the figure for 2005.

Category	Area in 000 ha		
	1990	2000	2005
Rubber Plantations	183	157	129

C. Including Rubber Plantations

The area of rubber plantation was added to area of forest to match FRA 2005 definition of forests.

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forests including rubber	2350	2082	1933
Other Wooded Land	0	0	
Other Land	4,113	4,381	4,530
.....of which with tree cover	n.a.	n.a.	n.a.
Inland water bodies	98	98	98
TOTAL	6,561	6,561	6,561

1.4 Reclassification into FRA 2005 classes

FRA 2005 Categories	Percentage allocation of a national category to FRA categories				
	Forests	Other Wooded land	Other Land	... of which with tree cover	Inland water bodies
Forests including rubber	100				
Other Wooded Land		100			
Other Land			100		
.....of which with tree cover				100	

Inland water bodies				100
TOTAL				

1.5 Data for National reporting table T1

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest	2350	2082	1933
Other wooded land			
Other land	4113	4,381	4,530
...of which with tree cover ¹⁾			
Inland water bodies	98	98	98
TOTAL	6561.00	6561.00	6561.00

1.6 Comments to National reporting table T1

The country does not consider rubber as part of forests. The above table has been developed for the purposes of FRA 2005 only.

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)
FSMP. 1995. Forestry Sector Mater Plan. Sri Lanka.	H	Ownership	1993

2.2.2 Classification and definitions

National class	Definition
Area with Forest Department	Forest areas administered by the Forest Department
FOREST RESERVE	Natural Forest areas which, have been gazetted as Forest Reserves & Forest Plantations
Proposed Reserve	Natural Forest areas pending to be gazetted as Forest Reserves
National Heritage Wilderness Area	Forest Lands declared under National Heritage Wilderness Area Act
Area with Department of Wildlife Conservation	Areas declared under the Flora & Fauna Protection Ordinance and administered by the Department of Wildlife Conservation
JUNGLE CORRIDORS	Area that has been used to combine two or more areas administered by the Department of Wildlife Conservation
National Parks	Area open for general public and used for ecotourism development activities
Nature Reserves	Restricted visitor activities and mainly focus on Biodiversity Conservation
Sanctuaries	Both private and public land where development activities are controlled
Strict Natural reserves	Areas strictly reserved for Biodiversity conservation and only research works are allowed

2.2.3 Original data

Data of table 1 was used for this table.

2.3 Analysis and processing of national data

2.3.1 Calibration

This step is not necessary.

2.3.2 Estimation and forecasting

Almost all the natural forestland in Sri Lanka is administered by the state. Two state agencies responsible for forest administration are the Forest Department and the Department of Wildlife Conservation. The State Plantation Corporations, Land Reform Commission and few private individuals administer the forests found in other areas, which are in very small extents, and no data are available in this regard.

Forest plantations are owned by the Forest Department except Rubber plantations which are owned by private companies and individuals. Therefore, the area of Rubber plantations in Table 1 have been included under Private ownership.

2.4 Reclassification into FRA 2005 classes

This step is not necessary.

2.5 Data for National reporting table T2

FRA 2005 Categories	Area (1000 hectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	183	158	-	-
Public ownership	2,167	1,925	-	-
Other ownership	-	-	-	-
TOTAL	2,350	2,082	-	-

2.6 Comments to National reporting table T2

Almost all the natural forestland in Sri Lanka is administered by the state. Two state agencies responsible for forest administration are the Forest Department and the Department of Wildlife Conservation. The State Plantation Corporations, Land Reform Commission and few private individuals administer the forests found in other areas, which are in very small extents, and no data are available in this regard.

Forest plantations are owned by the Forest Department except Rubber plantations which are owned by private companies and individuals. Therefore, the area of Rubber plantations in Table 1 have been included under Private ownership.

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)
FSMP. 1995. Forestry Sector Mater Plan. Sri Lanka	M	Plantation Areas	1992
GOSL. 2003. Forest Department Annual Report - 2003	H	Plantation Areas	2003
UNEP_WCMC. 2005. The World Database on Protected Areas (WDPA).	H	Protected Areas	2004
Legg and Jewell. 1995. A 1:50.000 scale Forest Map of Sri Lanka: The basis for National Geographic System. Christopher Legg and Nicholas Jewell. The Sri Lanka Forester. Special Issue 1995.	H	Vegetation types & canopy cover	1992

3.2.2 Classification and definitions

National class	Definition
Area with Forest Department	Forest areas administered by the Forest Department
FOREST RESERVE	Natural Forest areas which, have been gazetted as Forest Reserves & Forest Plantations
Proposed Reserve	Natural Forest areas pending to be gazetted as Forest Reserves
National Heritage Wilderness Area	Forest Lands declared under National Heritage Wilderness Area Act
Area with Department of Wildlife Conservation	Areas declared under the Flora & Fauna Protection Ordinance and administered by the Department of Wildlife Conservation
JUNGLE CORRIDORS	Area that has been used to combine two or more areas administered by the Department of Wildlife Conservation
National Parks	Area open for general public and used for ecotourism development activities
Nature Reserves	Restricted visitor activities and mainly focus on Biodiversity Conservation
Sanctuaries	Both private and public land where development activities are controlled
Strict Natural reserves	Areas strictly reserved for Biodiversity conservation and only research works are allowed

3.2.1 Original data

National statistics are not maintained by designation of forests as given in FRA 2005 categories and definitions. However, areas administered by the Department of Wildlife Conservation Department could be further classified according to the objectives of management. Areas under Forest Department can also be broadly categorised into three categories based on management objectives.

A. Forest Plantations Excluding Rubber

The main production activity in forest areas in Sri Lanka is confined to plantation areas. The following table provides the area under plantations in 1995 based on FSMP (1995) and Legg and Jwell (1995).

Species	Extent in 000 ha
Conifers	16.8
Eucalyptus and Acacias	16.2
Teak	35.3
Mahogany	4.0
Total	72.3

The above figures of area under plantations are being regularly updated by successive plantation inventories. The country information for FRA 2000 provides the following

information by purpose of plantations in 1998 based on Plantation Management Plans of Pines, Eucalyptus, Teak and Mahogany.

Species	Area in 1998			
	Productive	Protective	Conservation	Total
Conifers	12.1	2.5	1.0	15.6
Eucalyptus	5.1	3.3		8.4
Teak	18.4	10.7	3.9	33.0
Mahogany	3.0	0.1		3.1
Total	38.6	16.6	4.9	60.1
Percentage	64	28	8	100

The forest statistics provides following information on plantations in for 2003

Species	Area in 000 ha
Conifers	16.4
Eucalyptus and Acacias	27.5
Teak	31.7
Mahogany	2.8
Miscellaneous	14.5
Total Including Misc.	93.0
Total Excluding Misc.	78.5

B. Area of Rubber plantations

The information from Table T1 has been used.

C. Conservation of Biodiversity

The protected area details at the website of UNEP-WCMC provides following information on PAs in Sri Lanka.

Year	Area in ha.	Year	Area in ha.	Year	Area in ha.
1875	6,283	1931	493	1992	3,125
1888	150	1932	7,030	1998	-45
1890	5,455	1933	379	Till 2000	551,571
1892	6,163	1935	7,536		
1893	1,747	1936	5,540		
1894	861	1937	506		
1895	24	1938	1,528		
1896	16,781	1939	21,165		
1897	196	1940	24,234		
1898	0	1941	4,367		
1899	86	1942	26,580		
1901	458	1943	539		
1902	47,259	1944	5,664		
1903	636	1946	2,746		
1912	8,730	1948	103		
1918	145	1949	73		
1921	122,500	1950	2,520		

1922	285	1970	10,360		
1924	3,313	1978	1,372		
1927	82,225	1979	45		
1929	110,881	1980	3,416		
1930	8,117	Till 1990	548,491		

3.3 Analysis and processing of national data

3.3.1 Calibration

This step is not needed.

3.3.2 Estimation and forecasting

A. Forest Plantation Excluding Rubber

The net plantation area has been calculated using the ratio (0.83) between the area of plantations contained in management plans for plantations and reported in FSMP. Further, the ratio of production, protective and conservation plantations from management plans has been used to break down the net plantation figure into these categories. Lastly linear interpolation and extra-polation method has been used to estimate following figures for 1990, 2000 and 2005.

Variable	1992	2003	1990	2000	2005
Gross Total Plantation Area (000 ha)	72.3	78.5	71.2	76.8	79.6
Ratio Net/Total	0.83	0.83	0.83	0.83	0.83
Net Total Plantation Area (000 ha)	60.0	65.2	59.1	63.8	66.1
Production Plantation (000 ha)	38.4	41.7	37.8	40.8	42.3
Protective Plantation (000 ha)	16.8	18.2	16.5	17.9	18.5
Conservation Plantation (000 ha)	4.8	5.2	4.7	5.1	5.3

B. Rubber Plantation

These plantation has been treated as productive plantation.

Variable	Area in 000 ha		
	1990	2000	2005
Rubber Plantations	183	157	129

C. Protected Area

The 2005 forecast has been developed through linear extra-polation method. It has been assumed that all the area is forested with more than 10 percent cover.

Variable	Area in 000 ha		
	1990	2000	2005
Protected Areas	548.5	551.6	553.15

D. Forests for Protection of Soil and Water

The area of protective plantations has been used for this purpose.

D. Remaining forest

The total forest area except that under plantations and protected areas has been assumed to serve multiple purpose function.

3.4 Reclassification into FRA 2005 classes

A. Primary Function

National Category	Percentage allocation of a National Class to FRA Categories- Primary Function					
	Production	Protection	Conservation	Social Service	Multipurpose	No o r Unknown
Production Plantation	100					
Protective Plantation		100				
Conservation Plantations			100			
Protected Areas			100			
Rubber Plantations	100					
Remainder Forest Areas					100	

B. Total Area with Function

National Category	Percentage allocation of a National Class - Total Area with Function			
	Production	Protection	Conservation	Social Service
Production Plantation	100			
Protective Plantation		100	100	
Conservation Plantations		100	100	100
Protected Areas		100	100	100
Rubber Plantations	100			
Remainder Forest Areas	100	100	100	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	221	199	171	1780	1507	1356
Protection of soil and water	17	18	19	2129	1884	1762
Conservation of biodiversity	553	557	558	2129	1884	1762
Social services				2113	1866	1743
Multiple purpose	1559	1308	1185	not appl.	not appl.	not appl.

No or unknown function				not appl.	not appl.	not appl.
Total – Forest	2350	2082	1933	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				not appl.	not appl.	not appl.
Total – Other wooded land				not appl.	not appl.	not appl.

3.6 Comments to National reporting table T3

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

This table uses data mainly from Table T3.

4.2.2 Classification and definitions

The following table present the national definitions that are available for some of the national classes being used in this table.

National class	Definition
Primary Forest	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
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.

4.2.1 Original data

Based on expert consultation national data on characteristics of forests (excluding rubber plantations) in Sri Lanka for 1992 & 1996 will be as follows;

National Data on the following	Forest	
	1992	1996
Primary	245	221
Modified natural	1,802	1,723
Semi-natural		
Productive plantation excluding rubber	72	78
Protective plantation		
TOTAL	2,119	2,022

4.3 Analysis and processing of national data

4.3.1 Calibration

This step is not needed.

4.3.2 Estimation and forecasting

A. Primary Forest

The linear interpolation and extrapolation method was used to estimate and forecast the area of primary forests using the original data for 1992 and 1996.

Variable	Area in 000 ha		
	1990	2000	2005
Primary Forest	257	197	167

B. Productive plantations

The area of productive plantations has been taken from Table 3

C. Protective Plantations

The area of protective plantations has been taken from Table 3

D. Conservation Plantations

The area of conservation plantations has been taken from Table 3 and added to protective plantations.

E. Modified Natural Forests

All remaining areas of forest (excluding primary forests and plantations)

4.4 Reclassification into FRA 2005 classes

National Category	Percentage allocation of a National class to FRA Categories				
	Primary	Modified	Semi-natural	Productive Plant	Protective Plant.
Primary	100				
Productive Plantations				100	
Protective Plantations					100
Remaining Forest Areas		100			

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	257	197	167			
Modified natural	1851	1664	1571			
Semi-natural						
Productive plantation	221	198	171			
Protective plantation	21	23	24			
TOTAL	2,350	2,082	1,933			

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)
FSMP. 1995. Forestry Sector Mater Plan. Sri Lanka.	H	Volume	1992
National Forestry Inventory - 1986	H	Volume	1982-85
FSMP. 1995. Forestry Sector Mater Plan. Sri Lanka.	H	Volume	1992
GOSL. 1995. A summary of the Methodology and results of the Indicative Inventory, 1993. J.H. Sandom. Forest Management and Plantation Project (GOSL/ODA).Forest Department, GOSL, Colombo.	H	Volume	
Legg and Jewell. 1995. A 1:50.000 scale Forest Map of Sri Lanka: The basis for National Geographic System. Christopher Legg and Nicholas Jewell. The Sri Lanka Forester. Special Issue 1995.	H	Volume	1992
GOSL. 2000. Forest Cover Mapping 2000. Forest Inventory Division. Forest Department. Sri Lanka	H	Volume	1996

5.2.2 Classification and definitions

5.2.3 Original data

There has been only one complete National Forest Inventory in 1986. It was spread over four years period from 1982 to 1985. Its data on volume in forest has been assumed to be from 1984 (one of the two mid years -1983 and 1984).

The 1986 figures for Low land Rain Forests, Monsoon Forests and Dry Monsoon Forests have been upgraded with the help of information from indicative inventory of 1993. The indicative inventory figures were conservative to the extent that it estimates volume from trees above 30 cm diameter only.

Similarly figures for growing stock of various species in plantations has been updated with the help of information coming from their respective management plans.

Forest Type	1992 (Legg and Jwell, 1995) (Area in ha)	1996 (GOSL, 2000) (Area in ha)	1984 and 1993 (NFI, 1986) and (GOSL, 1995) (cubic meter/ha)
Montane Forest	3,108	3,099	9
Sub-montane Forest	68,838	65,792	9
Lowland Rain Forest	141,549	124,340	126
Moist Monsoon Forest	243,877	221,977	29
Dry Monsoon Forest	1,094,287	1,027,544	15
Riverine Dry Forest	22,411	18,352	15
Mangroves	8,687	9,530	10
Sparse Forest	463,842	471,583	5
Forest Plantations Excluding Rubber	72,340	79,940	40

5.3 Analysis and processing of national data

5.3.1 Calibration

This step is not necessary.

5.3.2 Estimation and forecasting

A. Growing stock per hectare in Forests without Rubber Plantations

Following estimation of growing stock have been made assuming that the growing stock density of 1986 of different forest types also to hold good for 1992 and 1996.

Variables	Volume 1992	Volume 1996
Total Growing Stock	47,605.27	44,063.45
Total Forest Area (000 ha) excluding rubber	2,119	2,022
Growing Stock/ha	22.47	21.79

This leads to following estimates of growing stock per hectare in forests (excluding rubber plantations) in 1990, 2000 and 2005.

Variables	1990	2000	2005
Growing Stock (m ³ /ha) in Forests Excluding Rubber	22.80	21.12	20.28

B. Growing Stock per ha in Rubber Plantations

It has been assumed that growing stock per hectare in Rubber plantations in 1990, 2000 and 2005 is similar to that (40 m³/ha) in Forest plantations in 1986.

C. Total Growing Stock in 1990, 2000 and 2005

Variable	Growing Stock in million m ³		
	1990	2000	2005
Forest Excluding Rubber	49.43	40.66	36.59
Rubber Plantations	7.32	6.28	5.16
Total Forests	56.75	46.94	41.75

D. Commercial Growing Stock

The commercial growing stock is assumed as 40 percent of the total growing stock.

5.4 Reclassification into FRA 2005 classes

This step is not considered necessary.

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	56.75	46.94	41.75			
Commercial growing stock	22.70	18.77	16.70			

Supplementary information

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter at breast height of trees included in Growing stock (X)	Cm	10	
2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock	Cm	10	
3. Minimum diameter of branches included in Growing stock (W)	Cm	10	
4. Minimum diameter at breast height of trees in Commercial growing stock (Z)	Cm	-	
5. Volume refers to “Above ground” (AG) or “Above stump” (AS)	AG / AS	AS	
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

Since there were no new updated national forestry inventory to provide information on growing stock, the data of national forestry inventory – 1986 has been used. These estimates have been updated with the help of the indicative inventory of 1993 and the management plans of forest plantations.

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

No national information is available on biomass stock in forests. The information available in growing stock in Table 5 has been used following GPG. 2003.

References to sources of information	Quality (H/M/L)	Variable(s)	Year (s)
FAO. 1997. Estimating biomass and biomass change of tropical forests. A primer. Sandra Brown. Forestry Paper 134. FAO. Rome.	H	Biomass	
GPG. 2003. IPCC Good Practice Guidance for LULUCF. IPCC	H	Biomass	

6.2.2 Classification and definitions

There are no national classes and definitions relating to forest biomass.

6.2.3 Original data

The information available in growing stock in Table 5 has been used following GPG. 2003.

6.3 Analysis and processing of national data

6.3.1 Calibration

This step is not necessary

6.3.2 Estimation and forecasting

Following factors were recommended by the national expert consultation organised for advising on calculation of biomass;

- (a) Average Wood Density (WD) – 0.5 tonnes/m³
 (b) Root Shoot Ratio (R) – 0.35
 (c) Dead to live ratio – 0.11 as in GPG, 2003

The BEF has been calculated by using the following formula, (Sandra Brown, 1997) which is $BEF = EXP(3.213 - 0.506 * LN(\text{Stem biomass per hectare}))$. This formula yielded values of BEF ranging from 3.05 (Lowland Rain forests) to 15 (Sparse forests). To develop conservative estimates, the minimum expansion factor of 3.05 was adopted for all the forests areas.

Following calculations were carried out:

Variables	1990	2000	2005
Weighted densities	0.50	0.50	0.50
Total Growing Stock million m ³	56.75	46.94	41.75
Stem biomass (million tonnes)	28	23	21
Biomass Expansion Factor	3.05	3.05	3.05
Above Ground Biomass (million tonnes)	87	72	64
Root: Shoot ratio	0.35	0.35	0.35
Below Ground Biomass (million tonnes)	21	17	15
Total Live Biomass (million tonnes)	108	89	79
Dead to live ratio	0.11	0.11	0.11
Dead Wood Biomass (million tonnes)	12	10	9
Total Biomass (million tonnes)	120	99	88

6.4 Reclassification into FRA 2005 classes

This step is not necessary.

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	87	72	64	0	0	0
Below-ground biomass	21	17	15	0	0	0
Dead wood biomass	12	10	9	0	0	0
TOTAL	120	99	88	0	0	0

6.6 Comments to National reporting table T6

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

No national data were available on Carbon stocks and therefore, information available in Table 6 was used for the calculation of Carbon stocks following GPG, 2003.

7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)
GPG, 2003. IPCC Good Practice Guidance for LULUCF. IPCC	H	Carbon Stock

7.2.2 Classification and definitions

No national classes and definitions relating to this table are available.

7.2.3 Original data

The information available in Table 6 was used. The default factor (GPG, 2003) of 0.5 suggested in GPG, 2003 to convert biomass into carbon was adopted for development of this table. Further, the GPG (2003) default factor of 2.1 tonnes/ ha has been used to estimate carbon in forest litter.

7.3 Analysis and processing of national data

7.3.1 Calibration

This step is not necessary.

7.3.2 Estimation and forecasting

Variable	Carbon Stock in million tonnes		
	1990	2000	2005
Carbon in Above Ground Biomass	43	36	32
Carbon in Below Ground Biomass	10	9	8
Carbon in Dead Wood Biomass	6	5	4
Carbon in Forest Litter	5	4	4

7.4 Reclassification into FRA 2005 classes

This step is not necessary.

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	43	36	32			
Carbon in below-ground biomass	10	9	8			
Sub-total: Carbon in living biomass	53	45	40			
Carbon in dead wood	6	5	4			
Carbon in litter	5	4	4			
Sub-total: Carbon in dead wood and litter	11	9	8			
Soil carbon to a depth of _____ cm	n.a.	n.a.	n.a.			
TOTAL CARBON	64	54	48			

7.6 Comments to National reporting table T7

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)
Reports from Field Staff & Annual Administration reports	H	EXTENT DAMAGED BY FIRE	
Reports from Field Staff & Annual Administration reports	H	EXTENT DAMAGED DUE TO DROUGHT	

8.2.2 Classification and definitions

No national classes or definition are available.

8.2.3 Original data

FRA-2005 Categories	Average annual area affected (1000 hectares)			
	Forests		Other wooded land	
	1990	2000	1990	2000
Disturbance by fire	0.032	0.026		
Disturbance by drought	0.018	0.027	0.211	0.119

8.3 Analysis and processing of national data

8.3.1 Calibration

This step is not necessary.

8.3.2 Estimation and forecasting

This step is not necessary.

8.4 Reclassification into FRA 2005 classes

National Category	Percentage allocation of a national category to FRA categories			
	Disturbance by fire	Disturbance by insects	Disturbance by diseases	Other disturbances
Disturbance by fire	100			
Disturbance by draught				100

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	0.032	0.026		
Disturbance by insects				
Disturbance by diseases				
Other disturbance	0.084	0.065	0.211	0.119

8.6 Comments to National reporting table T8

Apart from some fire damages due to human interventions, some small extents of young plantations have been reported to be damaged due to drought conditions.

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)
IUCN. 2004. IUCN Red List of Threatened species at its website.	H	Species	2004

9.2.2 Classification and definitions

There is no information available on national classes or definitions relating to this table.

9.2.3 Original data

Except number of native species, there is no national information available relating to this table. The following is the nationally examined data on threatened species.

FRA 2005 Categories	Number of species (year 2000)
Native tree species	932
Critically endangered tree species	9
Endangered tree species	45
Vulnerable tree species	

B. IUCN Red List 2004

The IUCN Red list of Threatened Species of 2004 mentions following 78 species as “Critically endangered” species , 73 species as “Endangered” species and 129 species as Vulnerable species. However this includes both tree and non-tree species.

Critically Endangered Species -78 (Includes tree and non tree plant species)

1	<i>Agrostistachys hookeri</i>	40	<i>Sauropus assimilis</i>
2	<i>Allophylus hispidus</i>	41	<i>Schumacheria alnifolia</i>
3	<i>Anodendron rhinosporum</i>	42	<i>Semecarpus ochracea</i>
4	<i>Aporosa fusiformis</i>	43	<i>Semecarpus pseudo-emarginata</i>
5	<i>Bhesa nitidissima</i>	44	<i>Shorea congestiflora</i>
6	<i>Calophyllum cuneifolium</i>	45	<i>Shorea cordifolia</i>
7	<i>Chaetocarpus pubescens</i>	46	<i>Shorea gardneri</i>
8	<i>Cinnamomum rivulorum</i>	47	<i>Shorea lissophylla</i>
9	<i>Cleistanthus robustus</i>	48	<i>Shorea megistophylla</i>
10	<i>Cotylelobium lewisianum</i>	49	<i>Shorea oblongifolia</i>
11	<i>Cotylelobium scabriusculum</i>	50	<i>Shorea ovalifolia</i>
12	<i>Debregeasia ceylanica</i>	51	<i>Shorea pallescens</i>
13	<i>Dicellostyles axillaris</i>	52	<i>Shorea stipularis</i>
14	<i>Dillenia triquetra</i>	53	<i>Shorea trapezifolia</i>
15	<i>Diospyros moonii</i>	54	<i>Shorea zeylanica</i>
16	<i>Diospyros rheophytica</i>	55	<i>Stemonoporus affinis</i>
17	<i>Dipterocarpus glandulosus</i>	56	<i>Stemonoporus canaliculatus</i>
18	<i>Dipterocarpus hispidus</i>	57	<i>Stemonoporus elegans</i>
19	<i>Dipterocarpus insignis</i>	58	<i>Stemonoporus gilimalensis</i>
20	<i>Dysoxylum peerisi</i>	59	<i>Stemonoporus gracilis</i>
21	<i>Eugenia insignis</i>	60	<i>Stemonoporus lanceolatus</i>
22	<i>Eugenia rheophytica</i>	61	<i>Stemonoporus lancifolius</i>
23	<i>Hopea brevipetolaris</i>	62	<i>Stemonoporus latisepalus</i>
24	<i>Horsfieldia iryaghedhi</i>	63	<i>Stemonoporus marginalis</i>
25	<i>Hortonia angustifolia</i>	64	<i>Stemonoporus moonii</i>
26	<i>Lasianthus rhinophyllus</i>	65	<i>Stemonoporus nitidus</i>
27	<i>Linociera albidiflora</i>	66	<i>Stemonoporus petiolaris</i>
28	<i>Loxococcus rupicola</i>	67	<i>Strychnos tetragona</i>
29	<i>Memecylon arnotianum</i>	68	<i>Symplocos versicolor</i>
30	<i>Memecylon elegantulum</i>	69	<i>Syzygium cyclophyllum</i>
31	<i>Memecylon gardneri</i>	70	<i>Syzygium phyllyraeoides</i>
32	<i>Memecylon orbiculare</i>	71	<i>Syzygium sylvestre</i>
33	<i>Memecylon rhinophyllum</i>	72	<i>Timonius jambosella</i>
34	<i>Mesua stylosa</i>	73	<i>Tricalysia erythrospora</i>
35	<i>Ochna rufescens</i>	74	<i>Uncaria thwaitesii</i>
36	<i>Ostodes minor</i>	75	<i>Urandra apicalis</i>
37	<i>Palaquium laevifolium</i>	76	<i>Vatica affinis</i>
38	<i>Podadenia thwaitesii</i>	77	<i>Vatica chinensis</i>
39	<i>Rapanea ceylanica</i>	78	<i>Walsura gardneri</i>

Endangered Species – 73 (Includes tree and non-tree plant species)

1	<i>Areca concinna</i>	38	<i>Memecylon macrophyllum</i>
2	<i>Beilschmiedia zeylanica</i>	39	<i>Memecylon revolutum</i>
3	<i>Calophyllum trapezifolium</i>	40	<i>Palaquium canaliculatum</i>
4	<i>Cinnamomum citriodorum</i>	41	<i>Prunus ceylanica</i>
5	<i>Cryptocarya membranacea</i>	42	<i>Psychotria gardneri</i>
6	<i>Dichilanthe zeylanica</i>	43	<i>Psychotria glandulifera</i>
7	<i>Diospyros acuta</i>	44	<i>Psychotria longipetiolata</i>
8	<i>Diospyros attenuata</i>	45	<i>Psychotria plurivenia</i>
9	<i>Diospyros crumenata</i>	46	<i>Psychotria sordida</i>
10	<i>Diospyros ebenoides</i>	47	<i>Sageraea thwaitesii</i>
11	<i>Diospyros nummulariifolia</i>	48	<i>Saprosma scabridum</i>

12	<i>Diospyros oppositifolia</i>	49	<i>Semecarpus acuminata</i>
13	<i>Dipterocarpus zeylanicus</i>	50	<i>Semecarpus coriacea</i>
14	<i>Elaeocarpus ceylanicus</i>	51	<i>Shorea affinis</i>
15	<i>Elaeocarpus coriaceus</i>	52	<i>Shorea disticha</i>
16	<i>Eugenia glabra</i>	53	<i>Shorea dyeri</i>
17	<i>Eugenia hypoleuca</i>	54	<i>Shorea worthingtonii</i>
18	<i>Eugenia sripadaense</i>	55	<i>Stemonoporus acuminatus</i>
19	<i>Eugenia terpnophylla</i>	56	<i>Stemonoporus angustisepalus</i>
20	<i>Euonymus thwaitesii</i>	57	<i>Stemonoporus bullatus</i>
21	<i>Gaertnera ternifolia</i>	58	<i>Stemonoporus cordifolius</i>
22	<i>Garcinia thwaitesii</i>	59	<i>Stemonoporus gardneri</i>
23	<i>Garcinia zeylanica</i>	60	<i>Stemonoporus kanneliyensis</i>
24	<i>Goniothalamus gardneri</i>	61	<i>Stemonoporus laevifolius</i>
25	<i>Hopea cordifolia</i>	62	<i>Stemonoporus oblongifolius</i>
26	<i>Hopea discolor</i>	63	<i>Stemonoporus reticulatus</i>
27	<i>Ixora calycina</i>	64	<i>Stemonoporus revolutus</i>
28	<i>Lasianthus varians</i>	65	<i>Stemonoporus rigidus</i>
29	<i>Litsea glaberrima</i>	66	<i>Stemonoporus scaphifolius</i>
30	<i>Litsea nemoralis</i>	67	<i>Syzygium caryophyllatum</i>
31	<i>Madhuca microphylla</i>	68	<i>Syzygium fergusonii</i>
32	<i>Madhuca neriifolia</i>	69	<i>Syzygium spathulatum</i>
33	<i>Memecylon cuneatum</i>	70	<i>Syzygium turbinatum</i>
34	<i>Memecylon discolor</i>	71	<i>Syzygium umbrosum</i>
35	<i>Memecylon ellipticum</i>	72	<i>Vateria copallifera</i>
36	<i>Memecylon giganteum</i>	73	<i>Vatica obscura</i>
37	<i>Memecylon gracillimum</i>		

Vulnerable Species – 129 (Includes tree and non tree plant species)

1	<i>Abarema bigemina</i>	67	<i>Litsea iteodaphne</i>
2	<i>Acacia ferruginea</i>	68	<i>Litsea longifolia</i>
3	<i>Actinodaphne albifrons</i>	69	<i>Madhuca fulva</i>
4	<i>Adenanthera bicolor</i>	70	<i>Madhuca moonii</i>
5	<i>Aglaiia apiocarpa</i>	71	<i>Mallotus fuscescens</i>
6	<i>Agrostistachys coriacea</i>	72	<i>Mangifera zeylanica</i>
7	<i>Allophylus zeylanicus</i>	73	<i>Mastixia macrophylla</i>
8	<i>Anisophyllea cinnamomoides</i>	74	<i>Mastixia nimali</i>
9	<i>Antidesma pyrifolium</i>	75	<i>Mastixia tetrandra</i>
10	<i>Aporusa cardiosperma</i>	76	<i>Memecylon clarkeanum</i>
11	<i>Aporusa lanceolata</i>	77	<i>Memecylon grande</i>
12	<i>Artocarpus nobilis</i>	78	<i>Memecylon hookeri</i>
13	<i>Axinandra zeylanica</i>	79	<i>Memecylon leucanthum</i>
14	<i>Bhesa ceylanica</i>	80	<i>Memecylon macrocarpum</i>
15	<i>Bridelia moonii</i>	81	<i>Memecylon ovoideum</i>
16	<i>Byrsophyllum ellipticum</i>	82	<i>Memecylon rostratum</i>
17	<i>Calophyllum bracteatum</i>	83	<i>Memecylon rotundatum</i>
18	<i>Calophyllum cordato-oblongum</i>	84	<i>Memecylon royenii</i>
19	<i>Calophyllum moonii</i>	85	<i>Memecylon sylvaticum</i>
20	<i>Calophyllum thwaitesii</i>	86	<i>Memecylon urceolatum</i>
21	<i>Calophyllum tomentosum</i>	87	<i>Memecylon varians</i>
22	<i>Calophyllum walkeri</i>	88	<i>Miliusa zeylanica</i>
23	<i>Camptosperma zeylanicum</i>	89	<i>Myristica ceylanica</i>
24	<i>Canarium zeylanicum</i>	90	<i>Nargedia macrocarpa</i>
25	<i>Canthium dicoccum</i>	91	<i>Nepenthes distillatoria</i>
26	<i>Canthium montanum</i>	92	<i>Palaquium grande</i>
27	<i>Carallia calycina</i>	93	<i>Palaquium pauciflorum</i>
28	<i>Chaetocarpus coriaceus</i>	94	<i>Palaquium rubiginosum</i>
29	<i>Chloroxylon swietenia</i>	95	<i>Palaquium thwaitesii</i>

30	<u><i>Cinnamomum capparucoronde</i></u>	96	<i>Palaquium zeylanicum</i>
31	<u><i>Cinnamomum litseifolium</i></u>	97	<i>Pericopsis mooniana</i>
32	<u><i>Cleistanthus collinus</i></u>	98	<i>Prunus walkeri</i>
33	<u><i>Cleistanthus ferrugineus</i></u>	99	<i>Pseudocarapa championii</i>
34	<u><i>Cryptocarya wightiana</i></u>	100	<i>Psychotria dubia</i>
35	<u><i>Cullenia ceylanica</i></u>	101	<u><i>Psychotria stenophylla</i></u>
36	<u><i>Diospyros acuminata</i></u>	102	<u><i>Psychotria waasii</i></u>
37	<u><i>Diospyros albiflora</i></u>	103	<u><i>Pterocarpus indicus</i></u>
38	<u><i>Diospyros atrata</i></u>	104	<u><i>Pterocarpus marsupium</i></u>
39	<u><i>Diospyros chaetocarpa</i></u>	105	<u><i>Saraca asoca</i></u>
40	<u><i>Diospyros hirsuta</i></u>	106	<u><i>Semecarpus gardneri</i></u>
41	<u><i>Diospyros oblongifolia</i></u>	107	<u><i>Semecarpus marginata</i></u>
42	<u><i>Diospyros quaesita</i></u>	108	<u><i>Semecarpus moonii</i></u>
43	<u><i>Diospyros thwaitesii</i></u>	109	<u><i>Semecarpus nigro-viridis</i></u>
44	<u><i>Diospyros trichophylla</i></u>	110	<u><i>Semecarpus obovata</i></u>
45	<u><i>Diospyros walkeri</i></u>	111	<u><i>Semecarpus parvifolia</i></u>
46	<u><i>Elaeocarpus glandulifer</i></u>	112	<u><i>Semecarpus pubescens</i></u>
47	<u><i>Elaeocarpus subvillosus</i></u>	113	<u><i>Semecarpus subpeltata</i></u>
48	<u><i>Enicosanthum acuminata</i></u>	114	<i>Semecarpus walkeri</i>
49	<u><i>Erythroxylum obtusifolium</i></u>	115	<i>Strychnos benthami</i>
50	<i>Eugenia amoena</i>	116	<i>Symplocos bractealis</i>
51	<u><i>Eugenia fulva</i></u>	117	<i>Symplocos cordifolia</i>
52	<u><i>Eugenia rivulorum</i></u>	118	<i>Symplocos hispidula</i>
53	<u><i>Eugenia rotundata</i></u>	119	<i>Syzygium firmum</i>
54	<u><i>Eugenia rufo-fulva</i></u>	120	<i>Syzygium makul</i>
55	<u><i>Euonymus walkeri</i></u>	121	<i>Syzygium micranthum</i>
56	<u><i>Gaertnera rosea</i></u>	122	<i>Syzygium neesianum</i>
57	<u><i>Gaertnera walkeri</i></u>	123	<i>Syzygium oliganthum</i>
58	<u><i>Garcinia quaesita</i></u>	124	<i>Syzygium rotundifolium</i>
59	<u><i>Glennia unijuga</i></u>	125	<i>Syzygium spissum</i>
60	<u><i>Goniothalamus hookeri</i></u>	126	<i>Terminalia parviflora</i>
61	<u><i>Goniothalamus salicina</i></u>	127	<i>Trichadenia zeylanica</i>
62	<u><i>Humboldtia laurifolia</i></u>	128	<i>Urophyllum ellipticum</i>
63	<u><i>Hydnocarpus octandra</i></u>	129	<i>Willughbeia cirrhifera</i>
64	<i>Ixora jucunda</i>		
65	<i>Lasianthus gardneri</i>		
66	<u><i>Litsea gardneri</i></u>		

9.3 Analysis and processing of national data

9.3.1 Calibration

This step is not necessary.

9.3.2 Estimation and forecasting

This step is not necessary.

9.4 Reclassification into FRA 2005 classes

This step is not necessary.

9.5 Data for National reporting table T9

FRA 2005 Categories	Number of species (year 2000)
Native tree species	932
Critically endangered tree species ¹	78 ¹
Endangered tree species ¹	73 ¹
Vulnerable tree species ¹	129 ¹

(Note 1: Based on IUCN Red list 2004. The list includes tree as well as non-tree species.)

9.6 Comments to National reporting table T9

The number of threatened species are based on IUCN Red List 2004.

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

Since there were no national data were available Appendix 3, tables 3 - of the Guidelines were used to complete this section.

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)
FAOSTAT. FAO, Rome	m	Removals	1988 to 20002

11.2.2 Classification and definitions

No national definitions are available.

11.2.3 Original data

The following data has been taken from FAOSTAT.

A. Industrial Wood (under bark)

1988	1989	1990	1991	1992	1998	1999	2000	2001	2002
695	711	658	637	656	631	636	676	694	694

B. Wood fuel (under bark)

1988	1989	1990	1991	1992	1998	1999	2000	2001	2002
695	711	658	637	656	631	636	676	694	694

11.3 Analysis and processing of national data

11.3.1 Calibration

This step is not necessary

11.3.2 Estimation and forecasting

The five year average has been developed after converting the under bark figures to over bark figures using a multiplier (1.15) as suggested in FRA 2005 guidelines. The forecast for 2005 has been made using linear-extra-polation method.

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	772	766	763			
Woodfuel	8583	6780	5879			
TOTAL for Country	9355	7546	6642			

11.6 Comments to National reporting table T11

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

Since there were no national data were available Appendix 4, values of the Guidelines were used to complete this section.

12.2.1 Data sources

A. Quantity of Removal : Table 11

B. Price of Wood and Wood fuel: See below

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

12.2.2 Classification and definitions

There is no information on national classes or definitions relevant to this table.

12.2.3 Original data

FRA 2005 Categories	Volume in 1000 cubic meters of roundwood over bark					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	772	766	763			
Woodfuel	8583	6780	5879			
TOTAL for Country	9355	7546	6642			

12.3 Analysis and processing of national data

12.3.1 Calibration

This step is not needed.

12.3.2 Estimation and forecasting

A. Exchange Rates

Variables	Exchange Rate US \$ 1 = SLR (Sri Lankan Rupees)		
	1990	2000	2005
Sri Lankan Rupee	40.24	82.58	99.94

(Exchange rates 1990 and 2000 from FRA 2005 guidelines and 2005 from IMF - http://www.imf.org/external/np/fin/rates/rms_rep.cfm)

B. Price in Sri Lankan Currency

Variables	Values SLR per cubic meter		
	1990	2000	2005
Industrial roundwood	4023	5369	5998
Woodfuel	402	580	603

C. Price in US \$ (using above exchange rates)

Variables	US \$ Values per cubic meter		
	1990	2000	2005
Industrial roundwood	99.98	65.01	60.02
Woodfuel	10.00	7.02	6.04

D. Value in US \$

Variables	Value of wood removal in “000”US \$		
	1990	2000	2005
Industrial roundwood	77188	49798	45796
Woodfuel	85830	47626	35484

12.4 Reclassification into FRA 2005 classes

This step is not needed.

12.5 Data for National reporting table T12

FRA 2005 Categories	Value of roundwood removal (1000 USD)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	77188	49798	45796			
Woodfuel	85830	47626	35484			
TOTAL for Country	163018	97424	81280			

12.6 Comments to National reporting table T12

13 Table T13 – Non-wood forest product removal

Sufficient information is not available to report.

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

Sufficient information is not available to report.

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
Annual Records – Forest Department	H	No of employees	1990 & 2000	Includes staff categories belonging to all three categories defined above
Annual Records – Department of Wild Life Conservation	H	No of employees	1990 & 2000	Includes staff categories belonging to two categories (2 & 3) defined above
Annual Records – State Timber Corporation	H	No of employees	1990 & 2000	Includes staff categories belonging to two categories (1 & 3) defined above

15.2.2 Classification and definitions

There are no national definitions that match FRA 2005 definitions. Therefore following classification was used:

Primary Production of goods: according to the FRA 2005 definition above, persons involved in establishment, management and protection and felling of trees are included under this category. This includes Forest Department field staff responsible for establishment, maintenance and management and protection of forest plantations and State Timber Corporation staff involved in felling operations and employees of contractors carry out felling and transport of logs.

Provision of Services: according to the FRA 2005 definition above, persons involved in protection of soil and water and conservation of diversity like the field staff of the Department of Wild Life Conservation who are directly involved in protected area management are considered under this category.

Unspecified Forestry Activities: according to the FRA 2005 definition above, persons who could not be classified in one of the above two categories are considered under this category.

National class	Definition
Forestry Field Staff	Forest Department field staff involved in establishment, maintenance and management of forest plantations and protection of natural forests
Wild Life Field Staff	Staff of the Department of Wild Life Conservation assigned to the duties at Protected areas administered by the Department of Wild Life Conservation
Field Staff of the State Timber Corporation	Staff of the State Timber Corporation assigned to the duties at felling areas of forest plantations

15.2.3 Original data

Organization	1990	2000
Forest Department	1280	2400
Department of Wild Life Conservation	1100	1150
State Timber Corporation	1200	2432

15.3 Analysis and processing of national data

15.3.1 Calibration

This step is not necessary

15.3.2 Estimation and forecasting

No estimation or forecasting was required as original data were available for years 1990 and 2000.

15.4 Reclassification into FRA 2005 classes

According to the reclassification following categories were identified.

Organization	Primary production of goods	Provision of services
Forest Department	100	
Department of Wild Life Conservation		100
State Timber Corporation	100	

15.5 Data for National reporting table T15

FRA 2005 Categories	Employment (1000 person-years)	
	1990	2000
Primary production of goods	2.48	4.8
Provision of services	1.10	1.1
Unspecified forestry activities		
TOTAL	3.58	5.9

15.6 Comments to National reporting table T15

“Employment in Forestry” is very difficult area to be considered as it includes both direct and indirect employment opportunities in forestry and forestry related activities. Therefore, very clear definitions are needed to reclassify the types of employment under each category.