



Forestry Department

Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT**

COUNTRY REPORTS

COOK ISLANDS

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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).

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The Global Forest Resources Assessment 2005 Country Report Series is designed to document and make available the information forming the basis for the FRA 2005 reports. The Country Reports have been compiled by officially nominated country correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to validation by forestry authorities in the respective countries.

Report preparation and contact person

No official report has been received from Cook Islands.

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

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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
Oliver, W. 1992 Plantation forestry in the South Pacific: A compilation and assessment of Practices. Project RAS/86/036, UNDP/FAO, Rome		Plantation area	1991	
Oliver, W. 1999. An update of plantation forestry in the South Pacific RAS/97/330 Working Paper, UNDP/FAO, Rome		Land cover types	1998	

1.2.2 Classification and definitions

National class	Definition
Littoral Forest	The littoral zone in the Cook Islands, where not pre-empted by human modification, includes coastal forests dominated by some combination of the trees <i>Barringtonia asiatica</i> , <i>Calophyllum inophyllum</i> , <i>Cordia subcordata</i> , <i>Guettarda speciosa</i> , <i>Hernandia nymphaeifolia</i> , <i>Hibiscus tiliaceus</i> , <i>Pandanus tectorius</i> , <i>Pisonia grandis</i> , <i>Sophora</i>

	<i>tomentosa</i> , <i>Timonius polygamus</i> and <i>Tournefortia argentea</i> , and the shrubs <i>Morinda citrifolia</i> , <i>Pemphis acidula</i> , <i>Pipturus argenteus</i> , <i>Scaevola taccada</i> , <i>Schleinitzia insularum</i> and <i>Suriana maritima</i> .
Makatea Forest	The vegetation of makatea is generally well preserved because the rough surface is unsuitable for cultivation or human habitation. Examples can be seen on the islands Atiu, MANGaia, Ma'uke, and Miti'aro. The vegetation becomes more species-rich with distance inland. The coastal makatea forest changes with distance inland from a combination of <i>Cocos nucifera</i> , <i>Hernandia nymphaeifolia</i> , <i>Hibiscus tiliaceus</i> , and <i>Pandanus tectorius</i> , with occasional <i>Barringtonia asiatica</i> and <i>Casuarina equisetifolia</i> , to a tree assemblage in which <i>Elaeocarpus tonganus</i> , <i>Guettarda speciosa</i> , <i>Pisonia grandis</i> , <i>Schleinitzia insularum</i> and <i>Sophora tomentosa</i> become dominant. Fronting the forest is a shrub layer dominated by <i>Scaevola taccada</i> , with <i>Euphorbia atoto</i> , <i>Timonius polygamus</i> and <i>Wollastonia biflora</i> . <i>Pemphis acidula</i> forms a narrow belt closest to the coast. The inland makatea includes all of the woody species from the coastal makatea except <i>Pemphis acidula</i> , and includes in addition trees of <i>Aleurites moluccana</i> , <i>Calophyllum inophyllum</i> and <i>Hernandia moerenhoutiana</i> that form a higher canopy. Other woody species include <i>Cyclophyllum barbatum</i> , <i>Ficus prolixa</i> , <i>F. tinctoria</i> , <i>Glochidion sp.</i> , <i>Morinda citrifolia</i> and <i>Pipturus argenteus</i>
Other Natural Forest	Includes montane forest and cloud forest. This come from an assumption since no further explanation is given in the source.
Plantation	No definition is provided
Other Land	Mainly agriculture

1.2.3 Original data

Source: Oliver, W. 1999. Reference year-1998

National Classification	Area (ha)
Littoral Forest	4900
Makatea Forest	5000
Other Natural Forest	4500
Plantations	1100
Other Land	7800

Source: Oliver, W. 1992. Reference year-1991

Area occupied by plantations =510 ha

1.3 Analysis and processing of national data

1.3.1 Estimation and forecasting

The estimated area of natural forests from the original (14215 ha) reported for all three reporting years.

The plantation area reported in 1998 (1086 ha) is the same area used for 2000 and 2005.

The plantation area reported in 1991 (510ha) is reported as the plantation area for 1990. This was then added to the area of natural forests to give the forest area for 1990.

1.4 Reclassification into FRA 2005 classes

National class	FRA CLASSIFICATION		
	Forest	Other wooded land	Other land
Littoral Forest	100%		
Makatea Forest	100%		
Other natural Forest	100%		
Plantations	100%		
Other Land			100%

1.5 Data for National reporting table T1

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest	14.9	15.5	15.5
Other wooded land			
Other land	8.4	7.8	7.8
...of which with tree cover ¹⁾			
Inland water bodies	0	0	0
TOTAL	23.3	23.3	23.3

1) Area of "Other land with tree cover" is included in the area reported under "Other land" and should therefore be excluded when calculating the total area for the country.

1.6 Comments to National reporting table T1

1990

It is assumed that the natural forest area reported for 1998 by Oliver (1999) can be used as a valid estimate for 1990.

Oliver (1992) reports the plantation area in 1992. As no date was provided the value given is assumed to refer to 1991.

2005

Due to the absence of additional information, the size of forests in 2000 and 2005 were assumed to be the same as the reported values for 1998

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
Oliver, W. 1999. Plantation forestry in the South Pacific: A compilation and assessment of Practices. Project RAS/86/036, UNDP/FAO, Rome	H	Land Ownership, Land cover area	1998	
Space, J.. 2000. Country Submission to FRA 2000		plantation forest area	2000	

2.2.2 Classification and definitions

No definitions were provided.

2.2.3 Original data

According to Oliver (1999), land ownership varies from island to island although most land is owned by families. The government does not own land.

2.3 Analysis and processing of national data

2.3.1 Estimation and forecasting

Values reported were based on table T1

2.4 Reclassification into FRA 2005 classes

It is assumed that all land is privately owned.

2.5 Data for National reporting table T2

FRA 2005 Categories	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	14.9	15.5		
Public ownership				
Other ownership				
TOTAL	14.9	15.5	NDA	NDA

2.6 Comments to National reporting table T2

According to Oliver (1999), land ownership varies from island to island although most land is owned by families. The government does not own land. For this reason, it is assumed that all land is privately owned.

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
Brown, C. 1997. Regional Study- the South Pacific: asia-pacific forestry Sector Outlook Study Working paper Series, Wp No. APFSOS/WP/01, FAO, Rome. 51 pp		Forest categories	1996	

3.2.2 Classification and definitions

No definitions available

3.2.3 Original data

Using the original data used for T1, we have:

	Area ('000 ha)	
	1990	2000
Natural Forests	14.4	14.4
Plantations	0.5	1.1

Source: Brown, C. 1997:

	Primary Use	Secondary Use
Natural Forests	Conservation and Watershed Protection	Timber production
Plantation Forests	Soil and Watershed Conservation	Timber production

3.3 Analysis and processing of national data

3.3.1 Estimation and forecasting

Plantation forests were estimated by linear extrapolation to estimate production forests.

The same proportion of the sum of forests in forest reserves and national parks was used in all 3 reporting years for estimating forests used for conserving biodiversity.

3.4 Reclassification into FRA 2005 classes

Plantation forests have been classified as “Protection of soil and water” using the figures reported in T1 for each reporting year.

Natural forests have been classified as “multiple purpose” using the figures reported in T1 for each reporting year.

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				14.9	15.5	15.5
Protection of soil and water	0.5	1.1	1.1	14.9	15.5	15.5
Conservation of biodiversity				14.4	14.4	14.4
Social services						
Multiple purpose	14.4	14.4	14.4	not appl.	not appl.	not appl.
No or unknown function				not appl.	not appl.	not appl.
Total - Forest	14.9	15.5	15.5	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.

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
Brown, C. 1997. Regional Study- the South Pacific: asia-pacific forestry Sector Outlook Study Working paper Series, Wp No. APFSOS/WP/01, FAO, Rome. 51 pp		Protective Plantations	1996	

4.2.2 Classification and definitions

None

4.2.3 Original data

Using the original data used for T1, we have:

	Area('000 ha)	
	1990	2000
Natural Forests	14.4	14.4
Plantations	0.5	1.1

Source: Brown, C. 1997. (Same as on page 12)

4.3 Reclassification into FRA 2005 classes

All plantations are classified as “protective plantations” and all natural forests are classified as “modified natural”.

4.4 Data for National reporting table T4

FRA 2005 Categories	Area (1000 hectares)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Primary						
Modified natural	14.4	14.4	14.4			
Semi-natural						
Productive plantation						
Protective plantation	0.4	1.1	1.1			
TOTAL	14.9	15.5	15.5	NDA	NDA	NDA

4.5 Comments to National reporting table T4

All plantations are classified as “protective plantations” and all natural forests are classified as “modified natural”.

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

5.2.2 Classification and definitions

National class	Definition

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

5.2.3 Original data

5.3 Analysis and processing of national data

5.3.1 Calibration

5.3.2 Estimation and forecasting

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						
Commercial growing stock						

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter at breast height of trees included in Growing stock (X)	cm		
2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock	cm		
3. Minimum diameter of branches included in Growing stock (W)	cm		
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		
6. Have any of the above thresholds (points 1 to 4) changed since 1990	Yes/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

6.2.2 Classification and definitions

National class	Definition

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

6.2.3 Original data

6.3 Analysis and processing of national data

6.3.1 Calibration

6.3.2 Estimation and forecasting

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						
Below-ground biomass						
Dead wood biomass						
TOTAL						

Thresholds used by the country are the following:

Specification of country threshold values	Unit	Value	Complementary information
1. Minimum diameter at breast height of trees included in Growing stock (X)	cm		
2. Minimum diameter at the top end of stem (Y) for calculation of Growing stock	cm		
3. Minimum diameter of branches included in Growing stock (W)	cm		
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		
6. Have any of the above thresholds (points 1 to 4) changed since 1990	Yes/No		
7. If yes, then attach a separate note giving details of the change	Attachment		

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

7.2.1 Data sources

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

7.2.2 Classification and definitions

National class	Definition

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

7.2.3 Original data

7.3 Analysis and processing of national data

7.3.1 Calibration

7.3.2 Estimation and forecasting

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						
Carbon in below-ground biomass						
Sub-total: Carbon in living biomass						
Carbon in dead wood						
Carbon in litter						
Sub-total: Carbon in dead wood and litter						
Soil carbon to a depth of _____ cm						
TOTAL CARBON						

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)	Additional comments

8.2.2 Classification and definitions

National class	Definition

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

8.2.3 Original data

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

8.4 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				
Disturbance by insects				
Disturbance by diseases				
Other disturbance				

8.6 Comments to National reporting table T8

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 Redlist				

9.2.2 Original data

Nesoluma polynesticum is listed as a vulnerable species in the IUCN redlist.

9.3 Data for National reporting table T9

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

9.4 Comments to National reporting table T9

Nesoluma polynesticum is listed as a vulnerable species in the IUCN Red List.

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

10.2.2 Original data

10.3 Analysis and processing of national data

10.3.1 Calibration

10.3.2 Estimation and forecasting

10.4 Data for National reporting table T10

FRA 2005 Categories / Species name (Scientific name and common name)	Growing Stock in Forests (million cubic meters)	
	1990	2000
Name of 1st most common species		
Name of 2nd most common species		
Name of 3rd most common species		
Name of 4th most common species		
Name of 5th most common species		
Name of 6th most common species		
Name of 7th most common species		
Name of 8th most common species		
Name of 9th most common species		
Name of 10th most common species		
Remainder of species		
TOTAL		

10.5 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
FAOSTAT		-Industrial roundwood production, -Wood fuel production	1988-2003 1988-2003	

11.2.2 Classification and definitions

No definitions available.

11.2.3 Original data

Industrial roundwood production (m3)

1988	1989	1990	1991	1992	1993	1994	1995
0	0	0	0	0	5000	5000	5000

1996	1997	1998	1999	2000	2001	2002	2003
5000	5000	5000	5000	5000	5000	5000	5000

FAOSTAT gives values under bark. To get the volume over bark, these values are multiplied by 1.15. The resulting original data is given below:

Industrial roundwood production (*1000m3)

1988	1989	1990	1991	1992	1993	1994	1995
0	0	0	0	0	5.75	5.75	5.75

1996	1997	1998	1999	2000	2001	2002	2003
5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75

11.3 Analysis and processing of national data

11.3.1 Estimation and forecasting

The average yearly data from 1988-1992 was used as the estimate for 1990 while the average yearly data from 1998-2002 used as the estimate for 2000. The original data for 2003 was used as the estimate for 2005.

11.4 Reclassification into FRA 2005 classes

Industrial roundwood -----→ 100% industrial wood removal.

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	0	5.75	5.75			
Woodfuel	NDA	NDA	NDA			
TOTAL for Country	ID	ID	ID	NDA	NDA	NDA

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

12.2.2 Classification and definitions

National class	Definition

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

12.2.3 Original data

12.3 Analysis and processing of national data

12.3.1 Estimation and forecasting

12.4 Reclassification into FRA 2005 classes

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						
Woodfuel						
TOTAL for Country						

12.6 Comments to National reporting table T12

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>
1. Food
2. Fodder
3. Raw material for medicine and aromatic products
4. Raw material for colorants and dyes
5. Raw material for utensils, handicrafts & construction
6. Ornamental plants
7. Exudates
8. Other plant products
<u>Animal products / raw material</u>
9. Living animals
10. Hides, skins and trophies
11. Wild honey and bee-wax
12. Bush meat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

13.2 National data

13.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
FAO 2000. Feasibility study on potential of sandalwood development as an alternative resource. FAO, Rome	H	Quantity of <i>Morinda citrifolia</i> exported	1999	

13.2.2 Classification and definitions

13.2.3 Original data

Cook Island now exports 3125 litres of *Mirinda citrifolia* (a medicinal plant) juice a month.

13.3 Analysis and processing of national data

13.3.1 Estimation and forecasting

It is assumed that 1 litre = 1 kg.

Quantity exported in a year = 3125 *12 = 37500 kg

13.4 Reclassification into FRA 2005 classes

Mirinda citrifolia (a medicinal plant) juice from crushed fruits= 100% Raw material for medicine and aromatic products

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					
2. Fodder					
3. Raw material for medicine and aromatic products		kg		37500	37500
4. Raw material for colorants and dyes					
5. Raw material for utensils, handicrafts & construction					
6. Ornamental plants					
7. Exudates					
8. Other plant products					
<u>Animal products / raw material</u>					
9. Living animals					
10. Hides, skins and trophies					
11. Wild honey and bee-wax					
12. Bush meat					
13. Raw material for medicine					
14. Raw material for colorants					
15. Other edible animal products					
16. Other non-edible animal products					

13.6 Comments to National reporting table T13

The above table is limited to only 1 NWFP making the table incomplete.

The quantity stated does not include the amount of juice consumed locally. It is assumed that the same quantity exported in 1999 was exported in 2000 and 2005.

It is assumed that 1 litre = 1 kg.

The quantity of juice exported monthly is assumed to be the average monthly amount since no indication of fluctuations with the plant cycle were stated.

It is neither known if the juice contains other additives (water, etc) that could significantly affect the weight of the juice nor whether the stated price per bottle sold was a wholesale or retail price.

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>
1. Food
2. Fodder
3. Raw material for medicine and aromatic products
4. Raw material for colorants and dyes
5. Raw material for utensils, handicrafts & construction
6. Ornamental plants
7. Exudates
8. Other plant products
<u>Animal products / raw material</u>
9. Living animals
10. Hides, skins and trophies
11. Wild honey and bee-wax
12. Bush meat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

14.2 National data

14.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
FAO 2000. Feasibility study on potential of sandalwood development as an alternative resource. FAO, Rome	H	Value of <i>Morinda citrifolia</i> juice exported,	1999	The quoted source is the Asian Development Bank
		Export value of <i>Alyxia elliptica</i> leaves	1997, 1991	

14.2.2 Classification and definitions

None

14.2.3 Original data

Mirinda citrifolia

Cook Island now exports 3125 litres of *Mirinda citrifolia* (a medicinal plant) juice a month.
A 750ml bottle of *Morinda citrifolia* juice now sells at NZ\$ 28.00.

Alyxia elliptica

1991 = US\$140 000

1997 = US\$230 000

14.3 Analysis and processing of national data

14.3.1 Estimation and forecasting

Mirinda citrifolia

From T13, the quantity of juice produced = 37500 kg

The value of juice produced in NZ\$ = $37500 * 28 / .75 = \text{NZ\$}1400000$

An assumption is made that the same quantity was produced in 1999 as in 2000

Considering that in 2000 1 US\$ = NZ\$2.272

The value of juice produced in US\$ = 616 197

Alyxia elliptica

Linear extrapolation was used to get the dollar value for 1990, 2000 and 2005.

This gives the following table:

	1990	2000	2005
Value in USD	125000	275000	350000

14.4 Reclassification into FRA 2005 classes

Morinda citrifolia juice exported = Raw material for medicine and aromatic products

Alyxia elliptica leaves = Raw material for medicine and aromatic products

14.5 Data for National reporting table T14

FRA 2005 Categories	Value of the of NWFP removed (1000 USD)		
	1990	2000	2005
<u>Plant products / raw material</u>			
1. Food			
2. Fodder			
3. Raw material for medicine and aromatic products	125	891	350
4. Raw material for colorants and dyes			
5. Raw material for utensils, handicrafts & construction			
6. Ornamental plants			
7. Exudates			
8. Other plant products			
<u>Animal products / raw material</u>			
9. Living animals			
10. Hides, skins and trophies			
11. Wild honey and bee-wax			
12. Bush meat			
13. Raw material for medicine			
14. Raw material for colorants			
15. Other edible animal products			
16. Other non-edible animal products			
TOTAL	ID	ID	ID

14.6 Comments to National reporting table T14

The above table is limited to only 2 NWFP making the table incomplete.

Mirinda citrifolia

The quantity of juice exported monthly is assumed to be the average monthly amount since no indication of fluctuations with the plant cycle were stated.

It is neither known if the juice contains other additives (water, etc) that could significantly affect the weight of the juice nor whether the stated price per bottle sold was a wholesale or retail price.

Alyxia elliptica

Linear extrapolation was used to get the dollar value for 1990, 2000 and 2005.

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

15.2.2 Classification and definitions

National class	Definition

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

15.2.3 Original data

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		
Provision of services		
Unspecified forestry activities		
TOTAL		

15.6 Comments to National reporting table T15

16 Thematic reporting tables

If countries would like to submit additional reporting tables, these should be included here.
(See the chapter on thematic reporting in the Guidelines for Country Reporting).