

GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Micronesia (Federated States of)

Rome, 2014

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Global Forest Resources Assessment (FRA). This country report is prepared as a contribution to the FAO publication, the Global Forest Resources Assessment 2015 (FRA 2015).

The content and the structure are in accordance with the recommendations and guidelines given by FAO in the document Guide for country reporting for FRA 2015 (<http://www.fao.org/3/a-au190e.pdf>). These reports were submitted to FAO as official government documents.

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No report has been received from Micronesia. This report is the result of a desk study prepared by the FRA secretariat in Rome, which is based on the existing available information using the established format for FRA 2015 country reports	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Introductory Text

Place an introductory text on the content of this report

The Federated States of Micronesia (FSM) is a collection of four island states: Yap, Pohnpei, Chuuk, and Kosrae. These states account for over 600 islands that stretch 2900 km across the Caroline Islands of the northwest Pacific Ocean. Temperatures are warm and humidity is high with frequent intense rainfall, especially in the western part of the Carolines. Occasional typhoons cause severe damage, primarily in the western part of the islands. Forests are composed of medium- to large-diameter trees of several tropical species, interspersed with agroforest in the more populated areas.

Inventory data in this report were derived from a forest inventory conducted in 2005 on Kosrae, and 2006 in Yap, Chuuk, and Pohnpei by a multinational crew that included foresters from the FSM, American Samoa, and the U.S. Department of Agriculture, Forest Service.

Desk Study?

Check "yes" if this survey is a Desk Study, "no" otherwise	
Desk Study?	yes

1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

1.1 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 in situ. 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 ; 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".
...of which with tree cover (<i>sub-category</i>)	Land considered as "Other land", that is predominantly agricultural or urban lands use and has patches of tree cover that span 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. It includes bothe forest and non-forest tree species.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.
Forest expansion	Expansion of forest on land that, until then, was not defined as forest.
...of which afforestation (<i>sub-category</i>)	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not defined as forest.
...of which natural expansion of forest (<i>sub- category</i>)	Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).
Deforestation	The conversion of forest to other land use or the longterm reduction of the tree canopy cover below the minimum 10 percent threshold.
...of which human induced (<i>sub-category</i>)	Human induced conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold.
Reforestation	Natural regeneration or re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.
...of which artificial reforestation (<i>sub- category</i>)	Re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.

1.2 National data

1.2.1 Data sources

References to sources of information	Variables	Years	Additional comments
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1	Liu, Z., Fischer, L. In press. The Federated States of Micronesia Vegetation Mapping Using Very High Resolution Imagery: Methodology. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region, Forest Health Protection. URL: http://www.fs.fed.us/r5/spf/fhp/fhm/landcover/islands/index.shtml	Land cover	2005-6	Data and methods available on the web site. Satellite data spans 2005-6.
2	MacLean, C. D., C. D. Whitesell, T. G. Cole, and K. E. McDuffie. 1988. Timber Resources of Kosrae, Pohnpei, Truk, and Yap, Federated States of Micronesia. Resource Bulletin PSW-24, USDA Forest Service, Pacific Southwest Forest and Range Experiment Station, in cooperation with Pacific Northwest Forest and Range Experiment Station, Portland, OR, Berkeley, CA.	Forest land area	1983	N/A
3	Falanruw, M. C., C. D. Whitesell, T. G. Cole, C. D. MacLean, and A. H. Ambacher. 1987a. Vegetation survey of Yap, Federated States of Micronesia. Resource Bulletin PSW-RB-21, USDA Forest Service, Berkeley, CA.	Forest land area	1976	N/A
4	Falanruw, M. C., T. G. Cole, A. H. Ambacher, K. E. McDuffie, and J. E. Maka. 1987b. Vegetation Survey of Moen, Dublon, Fefan, and Eten, State of Truk, Federated States of Micronesia. Resource Bulletin PSW-20, Pacific Southwest and Pacific Northwest Forest and Range Experiment Stations, USDA Forest Service, Berkeley, CA.	Forest land area	1976	N/A

5	MacLean, C. D., T. G. Cole, C. D. Whitesell, M. V. Falanruw, and A. H. Ambacher. 1986. Vegetation survey of Pohnpei, Federated States of Micronesia. PSW-18, Pacific Southwest Forest and Range Experiment Station, USDA Forest Service.	Forest land area	1983	N/A
6	Whitesell, C. D., C. D. MacLean, M. C. Falanruw, T. G. Cole, and A. H. Ambacher. 1986. Vegetation Survey of Kosrae, Federated States of Micronesia. Resource Bulletin PSW-RB-17, U.S.D.A. Forest Service, Berkeley, CA.	Forest land area	1983	N/A

1.2.2 Classification and definitions

National class	Definition
Timberland	Forest land capable of producing at least 1.4 cubic meters per hectare (20 ft ³ /acre) per year of industrial wood and not withdrawn from timber utilization.
Upland Forest	Highland forest of tropical, primarily native and naturalized, tree species
Mangrove Forest	Lowland, tidally inundated forest composed of mangrove species.
Palm Forest	A forest composed primarily of palm species.
Swamp Forest	A perennially-wet substrate forest in lowland areas where drainage is hindered.
Agroforest	Trees, shrubs, and herbs are cultivated for food or medicines among a cover of other forest trees.
Secondary vegetation	A vegetation type characterized by small, fast-growing trees and vines, usually weedy invaders.
Other forest land, steep or scrub	12.5 cm dbh) because of adverse site conditions or land that is physically unsuited for the production of continuous crops of industrial wood because of rocky or steep terrain." /> Forest land incapable of producing trees of merchantable size (> 12.5 cm dbh) because of adverse site conditions or land that is physically unsuited for the production of continuous crops of industrial wood because of rocky or steep terrain.
Nonforest land	Land that has never supported forests or land that formerly supported forests but is developed for nonforest use.
Savanna/Other Shrub/Grass	Nonforest land with less than 10 percent tree cover that supports grass, shrub, fern, or other vegetation.
Cropland	Nonforest land used for growing food or fiber crops.

Barren	Nonforest land that has little or no vegetation cover.
Urban Builtup	Nonforest land that is urban land use.
Urban Cultivated	Nonforest land that is under cultivation in urban areas.
Marsh	Nonforest wetland.
Water	Streams, lakes, or other water bodies.

1.2.3 Original data

Forest area	
1983	Area (ha)
Land class	
Forest land:	
Timberland	24326
Other forest:	
Steep	6043
Scrub	601
Total forest land	30970
Secondary vegetation	3,861
Agroforest	20072
Nonforest	5456
Water	266
All lands	60625

Data from tables dated 1983 (MacLean et al. 1988) did not separate inland water from nonforest lands. The vegetation survey reports by MacLean et al. (1986), Whitesell et al. (1986) and Falanruw et al. (1987a & b), where vegetation types were mapped, does report the area of inland water for each island group. These values were subtracted from the total nonforest figure here and included as Water.

FSM 2005-2006				State		
Forest		Chuuk	Kosrae	Pohnpei	Yap	Grand Total
	<i>hectares</i>					
Upland Forest		1678	7378	19546	3129	31730
Agroforest		4295	1492	5912	2731	14429
Mangrove Forest		1287	1397	5658	1067	9409
Palm Forest		79	0	1832	0	1910
Swamp Forest		0	456	99	25	580
Secondary Vegetation		312	263	896	398	1869
Forested subtotal		7651	10985	33942	7349	59928
Nonforest						
Savanna/ Other Shrub/ Grass		277	6	987	1657	2927
Cropland		60	2	12	6	79
Barren		17	16	5	74	113
Urban Builtup		313	127	393	292	1125

Urban Cultivated		213	177	178	121	690
Marsh		222	61	134	125	543
Water		57	23	33	9	121
Nonforest subtotal		1159	412	1742	2284	5598
Grand Total		8810	11397	35685	9634	65526

1.3 Analysis and processing of national data

1.3.1 Adjustment

Forest area					
Calibration factor 1983 = $(70000/60625) = 1.15463917525773$					
Calibration factor 2006 = $(70000/65526) = 1.068278241$					
	1983 Area (ha)	1983 FAO Calibrated Area (ha)		2006 Area (ha)	2006 FAO Calibrated Area (ha)
Total Forest	54903	63393		59928	64020
Other Land	5722	6300		5477	5851
Inland Water	0	307		121	129
Total	60625	70000		65526	70000

1.3.2 Estimation and forecasting

Forest area				
	FAO Calibrated Data 1983 (ha)	FAO Calibrated Data 2006 (ha)	Total change in 23 years	Area # per year
All forest land	63393	64020	627	27.25
Other land	6478	5851	-449	-19.52
Inland water	129	129	0	0
Total	70000	70000		

1.3.3 Reclassification

Forest area	
National class	FAO reclassification
Timberland	Forest
Upland Forest	Forest
Mangrove Forest	Forest
Palm Forest	Forest
Swamp Forest	Forest
Agroforest	Forest
Secondary vegetation	Forest
Other forest land	Forest
Nonforest land	Other land
Savanna/Other Shrub/Grass	Other land
Cropland	Other land
Barren	Other land

Urban Builtup	Other land
Urban Cultivated	Other land
Marsh	Other land
Water	Inland water bodies

The national classes of agroforest and secondary vegetation were combined with forest land classes timberland, steep and scrub forest for the 1983 data. Agroforest and secondary vegetation were combined with upland, mangrove, palm, and swamp forests to calculate totals for forest cover in the 2006 data.

1.4 Data

Table 1a












Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
	Forest	63.584	63.856	63.993	64.129	64.265
	Other wooded land	0	0	0	0	0
	Other land	6.163	5.968	5.87	5.773	5.637
	... of which with tree cover	N/A	N/A	N/A	N/A	N/A
	Inland water bodies	0.253	0.176	0.137	0.098	0.098
	TOTAL	70.00	70.00	70.00	70.00	70.00

Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
	Forest expansion	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which afforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which natural expansion of forest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which human induced	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Reforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	... of which artificial	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 1	Tier 1
Other wooded land	Tier 1	Tier 1
Forest expansion	N/A	N/A
Deforestation	N/A	N/A
Reforestation	N/A	N/A

Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> • Forest • Other wooded land • Afforestation • Reforestation • Natural expansion of forest • Deforestation 	<p>Tier 3 : Data sources: Either recent (less than 10 years ago) National Forest Inventory or remote sensing, with ground truthing, or programme for repeated compatible NFIs Tier 2 : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago) Tier 1 : Other</p>	<p>Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other</p>

1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends
Forest	Forest area for FRA 2000 did not include the agroforest and secondary vegetation as defined above. It is included here because of the gradation between forest types and no quantitative threshold was defined.	N/A
Other wooded land	N/A	N/A
Other land	N/A	N/A
Other land with tree cover	N/A	N/A
Inland water bodies	N/A	Inland water is not expected to change systematically through time. Construction or demolition of reservoirs or changes in drainage regimes may lead to changes in inland water. Observed differences likely are attributable to differences in land cover mapping and imagery resolution.
Forest expansion	N/A	N/A
Deforestation	N/A	N/A

Reforestation	N/A	N/A
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Other general comments to the table

FRA 2000 reported 30,000 ha closed forest, 4,000 ha secondary vegetation, and 20,000 ha of agroforest.

2. What is the area of natural and planted forest and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

2.1 Categories and definitions

Term	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Naturalized introduced species	Other naturally regenerated forest where the tree species are predominantly non-native and do not need human help to reproduce/maintain populations over time.
Introduced species	A species, subspecies or lower taxon occurring <i>outside</i> its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Category	Definition
Primary forest	Naturally regenerated forest of native species where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
...of which of introduced species (<i>sub-category</i>)	Other naturally regenerated forest where the trees are predominantly of introduced species.
...of which naturalized (<i>sub-sub category</i>)	Other naturally regenerated forest where the trees are predominantly of naturalized introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
...of which of introduced species (<i>sub-category</i>)	Planted forest where the planted/seeded trees are predominantly of introduced species.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
...of which planted (<i>sub-category</i>)	Mangroves predominantly composed of trees established through planting.

2.2 National data

2.2.1 Data sources

References to sources of information	Variables	Years	Additional comments
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1	Liu, Z., Fischer, L. In press. Preliminary Vegetation Mapping of The Federated States of Micronesia Using Very High Resolution Imagery: Methodology. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region, Forest Health Protection. URL: http://www.fs.fed.us/r5/spf/fhp/fhm/landcover/islands/index.shtml	Land cover	2005-6	Data and methods available on the web site. Satellite data spans 2005-6.
2	Falanruw, M. C., C. D. Whitesell, T. G. Cole, C. D. MacLean, and A. H. Ambacher. 1987a. Vegetation survey of Yap, Federated States of Micronesia. Resource Bulletin PSW-RB-21, USDA Forest Service, Berkely, CA.	Forest land area	1976	N/A
3	Falanruw, M. C., T. G. Cole, A. H. Ambacher, K. E. McDuffie, and J. E. Maka. 1987b. Vegetation Survey of Moen, Dublon, Fefan, and Eten, State of Truk, Federated States of Micronesia. Resource Bulletin PSW-20, Pacific Southwest and Pacific Northwest Forest and Range Experiment Stations, USDA Forest Service, Berkeley, CA.	Forest land area	1976	N/A
4	MacLean, C. D., T. G. Cole, C. D. Whitesell, M. V. Falanruw, and A. H. Ambacher. 1986. Vegetation survey of Pohnpei, Federated States of Micronesia. PSW-18, Pacific Southwest Forest and Range Experiment Station, USDA Forest Service.	Forest land area	1983	N/A
5	Whitesell, C. D., C. D. MacLean, M. C. Falanruw, T. G. Cole, and A. H. Ambacher. 1986. Vegetation Survey of Kosrae, Federated States of Micronesia. Resource Bulletin PSW-RB-17, U.S.D.A. Forest Service, Berkeley, CA.	Forest land area	1983	N/A

2.2.2 Classification and definitions

National class	Definition
Upland forest	Highland forest of tropical, primarily native and naturalized, tree species.
Palm forest	A forest composed primarily of palm species.
Swamp forest	Forest occurring in areas where soils are inundated with fresh or slightly saline water.
Mangrove forest	Lowland, tidally inundated forest composed of mangrove tree species.
Atoll forest	Primarily native forest occurring in the interior of larger, wetter atolls.
Plantation forest	Stands of planted trees used for commercial purposes.
Dwarf forest	Highland, wet moss forest with low growing trees.
Secondary vegetation	A vegetation type characterized by small, fast-growing trees and vines, usually weedy invaders.
Agroforest	Land where trees, shrubs, and herbs are cultivated for food or medicines among a cover of other forest trees.
Agroforest w/ coconuts	Land where primarily coconut trees are cultivated for food and building materials among a cover of other forest trees.
Coconut plantations	Stands of planted coconut trees used for commercial purposes.
Strand	Coastal vegetation occurring in narrow strips on sandy, rocky coasts. May include forest species as this vegetation grades into interior forest.
Marsh, fresh	A perennially-wet substrate forest in lowland areas where drainage is hindered. Dominated by fresh water.
Marsh, salt	A perennially-wet substrate forest in lowland areas where drainage is hindered. Dominated by salt water.
Grasslands	Nonforest land with less than 10 percent tree cover that is dominated by grasses and may be associated with, shrubs, ferns, and other vegetation.
Cropland	Nonforest land used for growing food or fiber crops.
Urban	Nonforest land that is urban land use.
Urban agriculture	Nonforest land that is under cultivation in urban areas.
Barren	Nonforest land that has little or no vegetation cover.
Water	Streams, lakes, or other water bodies.

2.2.3 Original data

1.1.1					
1983	Chuuk	Kosrae	Pohnpei	Yap	Grand Total
	<i>hectares</i>				
Upland forest	677	5090	12548	2556	20871
Palm forest	2		1383		1385
Swamp forest		345	214	155	714
Mangrove forest	306	1562	5525	1171	8564
Atoll forest			6		6
Plantation forest	1		6		7
Dwarf forest		69	1		70
Secondary vegetation	252	1272	1843	553	3920
Agroforest	66	1659	1945	1515	5185
Agroforest w/ coconuts	2312	926	9796	864	13898
Coconut plantations			124	159	283
Strand	5				5
Marsh, fresh	234	25	149	165	573
Marsh, salt			29	6	35
Grasslands	174	17	1476	2175	3842
Cropland	3	2	79	46	130
Urban	129	51	180	307	667

Urban agriculture		67	62	61	190
Barren	5	2	2	8	17
Water	4	99	125	38	266
Grand total	4170	11186	35493	9779	60628

Note: 1983 Yap urban is greater than reported in 1976 because of expansion of airstrip.

2006	Chuuk	Kosrae	Pohnpei	Yap	Grand Total
	<i>hectares</i>				
Upland Forest	1678	7378	19546	3129	31730
Palm Forest	79	0	1832	0	1910
Swamp Forest	0	456	99	25	580
Mangrove Forest	1287	1397	5658	1067	9409
Secondary Vegetation	312	263	896	398	1869
Agroforest	4295	1492	5912	2731	14429
Marsh	222	61	134	125	543
Savanna/ Shrub/Grass	277	6	987	1657	2927
Cropland	60	2	12	6	79
Urban Builtup	313	127	393	292	1125
Urban Cultivated	213	177	178	121	690
Barren	17	16	5	74	113
Water	57	23	33	9	121
Grand Total	8810	11397	35685	9634	65526

Note: More than twice the amount of land was surveyed for Chuuk in 2006 than in 1983..

2.3 Analysis and processing of national data

2.3.1 Adjustment

Calibration factor 1983 = $(70000/60625) = 1.15463917525773$

Calibration factor 2006 = $(70000/65526) = 1.068278241$

2.3.2 Estimation and forecasting

Land cover	1983	2006	Change	per year
	<i>hectares</i>			
Upland forest	24098	33897	9798	426.01
Palm forest	1599	2041	442	19.21
Swamp forest	824	620	-205	-8.90
Mangrove forest	9888	10051	163	7.08
Atoll forest	7	0	-7	-0.30
Plantation forest	8	0	-8	-0.35
Dwarf forest	81	0	-81	-3.51
Secondary vegetation	4526	1997	-2529	-109.97
Agroforest	5987	15415	9428	409.90
Agroforest w/ coconuts	16047	0	-16047	-697.70
Coconut plantations	327	0	-327	-14.21

Strand	6	0	-6	-0.25
Marsh, fresh	662	580	-82	-3.56
Marsh, salt	40	0	-40	-1.76
Grasslands	4436	3127	-1309	-56.92
Cropland	150	84	-66	-2.87
Urban	767	1202	435	18.92
Urban agriculture	219	737	518	22.50
Barren	20	121	101	4.40
Water	307	129	-178	-7.73
Grand total	70000	70000		

Due to lack of information, primary forest and planted forest were considered constant in the period 2010-2015.

2.3.3 Reclassification

National class	FAO FRA 2010 Category
Upland forest	Primary forest
Palm forest	Primary forest
Swamp forest	Primary forest
Mangrove forest	Mangroves
Atoll forest	Primary forest
Plantation forest	Planted forest
Dwarf forest	Primary forest
Secondary vegetation	Other naturally regenerating forest
Agroforest	Planted forest
Agroforest w/ coconuts	Planted forest
Coconut plantations	Planted forest

2.4 Data

Table 2a







Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Primary forest	39.575	43.971	46.169	48.367	48.367
	Other naturally regenerated forest	3.756	2.657	2.107	1.557	1.693
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
	... of which naturalized	N/A	N/A	N/A	N/A	N/A
	Planted forest	20.252	17.229	15.717	14.205	14.205
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
TOTAL		63.58	63.86	63.99	64.13	64.26

Table 2b

Primary forest converted to (000 ha)								
1990-2000			2000-2010			2010-2015		
Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 2c

Categories	Area (000 hectares)				
	1990	2000	2005	2010	2015
Mangroves (forest and OWL)	9.938	10.008	10.044	10.079	10.114
... of which planted	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for status	Tier for reported trend
Primary forest	Tier 1	Tier 1
Other naturally regenerated forest	Tier 1	Tier 1

Planted forest	Tier 1	Tier 1
Mangroves	Tier 1	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend
Primary forest/Other naturally regenerated forest/Planted forest	<p>Tier 3 : Data sources: Recent (less than 10 years) National Forest Inventory or remote sensing with ground truthing or data provided by official agencies or programme for repeated compatible NFIs</p> <p>Tier 2 : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years)</p> <p>Tier 1 : Other</p>	<p>Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p>Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p>Tier 1 : Other</p>

2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	N/A	The increasing trend in upland primary forest is unexpected given the disturbance of forests at higher elevations to grow sakau. Changes in interpretation methods and imagery resolution may be responsible for reported changes.
Other naturally regenerating forest	N/A	N/A
Planted forest	N/A	N/A
Mangroves	N/A	Changes in interpretation methods and imagery resolution may be responsible for reported changes.

Other general comments to the table

N/A

3. What are the stocks and growth rates of the forests and how have they changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

3.1 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees with a minimum diameter of 10 cm at breast height (or above buttress if these are higher). Includes the stem from ground level up to a top diameter of 0 cm, excluding branches.
Net Annual Increment (NAI)	Average annual volume of gross increment over the given reference period less that of natural losses on all trees, measured to minimum diameters as defined for "Growing stock".
Above-ground biomass	All living biomass above the soil including stem stump branches bark seeds and foliage.
Below-ground biomass	All biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Dead wood	All non-living woody biomass not contained in the litter either standing lying on the ground or in the soil. Dead wood includes wood lying on the surface dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in above-ground biomass	Carbon in all living biomass above the soil including stem stump branches bark seeds and foliage.
Carbon in below-ground biomass	Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.
Carbon in dead wood	Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.
Carbon in litter	Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm) lying dead in various states of decomposition above the mineral or organic soil.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a soil depth of 30 cm.

3.2 National data

3.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments

1	Donnegan, J. A., K. Waddell, O. Kuegler, and B. A. Hiserote. 2008. Forest Inventory and Analysis: The Pacific Islands Database for American Samoa, Guam, Palau, the Northern Mariana's, Micronesia, and the Marshall Islands. Database version 2008-1. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, OR.	Forest land volume Biomass	2005-6	Data are collected on 0.067 ha plots spaced at approximately 3 km intervals across the forested landscape.
2	MacLean, C. D., C. D. Whitesell, T. G. Cole, and K. E. McDuffie. 1988. Timber Resources of Kosrae, Pohnpei, Truk, and Yap, Federated States of Micronesia. Resource Bulletin PSW-24, USDA Forest Service, Pacific Southwest Forest and Range Experiment Station, in cooperation with Pacific Northwest Forest and Range Experiment Station, Portland, OR, Berkeley, CA.	Timberland volume of commercial species	1983	Timberland area represents 44% of total forest land area.
3	Penman, J., M. Gytarsky, T. Hiraishi, T. Krug, D. Kruger, R. Pipatti, L. Buendia, K. Miwa, T. Ngara, K. Tanabe, and F. Wagner, editors. 2003. Good Practice Guidance for Land Use, Land-Use Change and Forestry. Intergovernmental Panel on Climate Change, National Greenhouse Gas Inventories Programme, Institute for Global Environmental Strategies (IGES), Hayama, Kanagawa, Japan,.	Carbon mass conversion factors, biomass expansion factors and ratio of aboveground to belowground biomass.	2003	N/A
4	N/A	N/A	N/A	N/A

3.2.2 Classification and definitions

National class	Definition
Net growing stock volume	Volume over bark of all living trees more than 12.5 cm in diameter at breast height (or above buttress and stilted roots if these are higher) minus rotten cull. Includes the stem from ground level to a top diameter of 1 cm. Does not include branches off of the main stem.

Timberland volume	Volume of wood on land that is capable of producing at least 1.4 cubic meters per hectare per year of industrial wood.
Live above-ground stem biomass	Biomass of live standing tree stems #2.5 cm at breast height from ground to 1 cm top. Does not include branch, leaf, or root biomass.
Dead above-ground stem biomass	Biomass of dead standing tree stems #2.5 cm at breast height from ground to 1 cm top. Does not include branch, leaf, or root biomass.
Total above-ground stem biomass	Biomass of live and dead standing tree stems #2.5 cm at breast height from ground to 1 cm top. Does not include branch, leaf, or root biomass.
National class	Definition
Carbon in above-ground tree stem biomass	Carbon in living tree stems # 2.5 cm in diameter at breast height from ground to 1 cm top. Does not include branches, bark, seeds, and foliage.
Carbon in dead tree stem biomass	Carbon in standing dead tree stems # 2.5 cm in diameter at breast height from ground to 1 cm top. Does not include branches, bark, seeds, and foliage.

3.2.3 Original data

Growing stock					
FSM 1983 Volume (thousand m³) of timber on timberland by state					
ForestType	Pohnpei	Kosrae	Chuuk	Yap	All States
	<i>thousand cubic meters</i>				
Upland	2007	163		45	2215
Palm	248				248
Mangrove	403	119	5	71	598
Swamp	30	56			86
All Types	2688	338	5	116	3147

FSM 2006: Net volume (thousand m³) of live trees # 12.5 cm d.b.h. on all forest land by state					
Forest type	Pohnpei	Kosrae	Chuuk	Yap	Total
	<i>thousand cubic meters</i>				
Agroforest	294	372	845	99	1610
Lowland tropical rainforest	4183	2869	715	458	8226
Mangrove swamps	4592	199	25	56	4872
Montane rainforest	1599	0	0	0	1599
Total	10668	3441	1585	613	16307

Biomass stock

2005-6 stem biomass, FSM								
	Live			Dead			Total	
	Total	SE¹		Total	SE		Total	SE
	<i>bone-dry tons²</i>							
<i>Sonneratia alba</i>	1,248,488	488,565		7,400	6,334		1,255,887	490,776
<i>Exorrhiza ponapensis</i>	1,063,678	398,148		5,607	3,184		1,069,285	400,394
<i>Camposperma brevipetiolata</i>	723,996	280,558		3,952	2,664		727,948	280,943
<i>Ficus prolixa</i>	647,794	354,146		1,717	1,694		649,511	354,148
<i>Xylocarpus granatum</i>	541,174	237,464		11,193	6,303		552,367	243,001
<i>Horsfieldia nunu</i>	437,128	173,332		732	919		437,859	173,592

<i>Adenanthera pavonina</i>	413,357	276,509		6,268	4,314		419,625	280,030
<i>Rhizophora apiculata</i>	353,775	247,794		4,516	3,866		358,292	251,606
<i>Artocarpus altilis</i>	324,910	77,247		1,245	1,563		326,155	77,360
<i>Myristica insularis</i>	310,111	126,880		13,776	9,763		323,887	131,550
Remaining	3,654,099	399,075		105,783	31,158		3,759,882	406,186
Total	9,718,509	1,061,741		162,189	34,266		9,880,698	1,066,003

¹ SE = Standard error; ² Original units are in bone-dry U.S. tons, NOT metric tonnes.

Carbon stock

FSM carbon 2005-6	Live			Dead			Total	
	Total	SE ¹		Total	SE		Total	SE
	<i>U.S. tons</i> ²							
<i>Sonneratia alba</i>	624244	244283		3700	3167		627944	245388
<i>Exorrhiza ponapensis</i>	531839	199074		2804	1592		534643	200197
<i>Camposperma brevipetiolata</i>	361998	140279		1976	1332		363974	140471
<i>Ficus prolixa</i>	323897	177073		858	847		324755	177074
<i>Xylocarpus granatum</i>	270587	118732		5596	3152		276183	121501
<i>Horsfieldia nunu</i>	218564	86666		366	459		218930	86796
<i>Adenanthera pavonina</i>	206679	138255		3134	2157		209813	140015

<i>Rhizophora apiculata</i>	176888	123897		2258	1933		179146	125803
<i>Artocarpus altilis</i>	162455	38624		622	782		163077	38680
<i>Myristica insularis</i>	155056	63440		6888	4882		161944	65775
Remaining	1827049	199537		52892	15579		1879941	203093
Total	4859255	530871		81094	17133		4940349	533001
¹ SE = Standard error; ² Original units are in bone-dry U.S. tons, NOT metric tonnes.								

3.3 Analysis and processing of national data

3.3.1 Adjustment

Growing stock					
Calibration factor 2006 = (70000/65526) = 1.068278241					
FSM 2006: Net volume (thousand m³) of live trees # 12.5 cm d.b.h. on all forest land by state					
Calibrated by FAO area estimate					
Forest type	Pohnpei	Kosrae	Chuuk	Yap	Total
	<i>thousand cubic meters</i>				
Agroforest	314	398	903	106	1720
Lowland tropical rainforest	4469	3065	764	489	8787
Mangrove swamps	4905	213	26	60	5204
Montane rainforest	1708	0	0	0	1708
Total	11396	3676	1693	655	17420

The 1983 timber survey accounted for only the volume of industrial wood on land believed to be suitable for growing timber. That area represented about 44% of forest land area in FSM. The 2006 sample considered all forest land, agroforest, and mangrove, and all species.

Biomass stock

Calibration factor 2006 = $(70000/65526) = 1.068278241$

1 U.S. ton = 0.90718474 metric tons

Biomass was calculated using total stem volume and wood density, a biomass expansion factor to estimate branches, leaves, and seeds (3.4; tropical broadleaf), and an aboveground to belowground ratio estimator (0.27; tropical/sub-tropical dry forest).

2005-6 stem biomass, FSM calibrated by FAOSTAT area.					
	Live		Dead		All
	Total		Total		Total
<i>Sonneratia alba</i>	1.210		0.007		1.217
<i>Exorrhiza ponapensis</i>	1.031		0.005		1.036
<i>Camptosperma brevipetiolata</i>	0.702		0.004		0.705
<i>Ficus prolixa</i>	0.628		0.002		0.629
<i>Xylocarpus granatum</i>	0.524		0.011		0.535
<i>Horsfieldia nunu</i>	0.424		0.001		0.424
<i>Adenantha pavonina</i>	0.401		0.006		0.407
<i>Rhizophora apiculata</i>	0.343		0.004		0.347
<i>Artocarpus altilis</i>	0.315		0.001		0.316

<i>Myristica insularis</i>	0.301		0.013		0.314
Remaining	3.541		0.103		3.644
Total	9.418		0.157		9.576

Carbon stock

Calibration factor 2006 = (70000/65526) = 1.068278241

1 U.S. ton = 0.90718474 metric tons

Carbon mass was estimated as ½ biomass.

FSM carbon 2005-6	Live		Dead		All	
	Total		Total		Total	
	<i>million metric tons</i>					
<i>Sonneratia alba</i>	0.605		0.004		0.609	
<i>Exorrhiza ponapensis</i>	0.515		0.003		0.518	
<i>Camposperma brevipetiolata</i>	0.351		0.002		0.353	
<i>Ficus prolixa</i>	0.314		0.001		0.315	
<i>Xylocarpus granatum</i>	0.262		0.005		0.268	
<i>Horsfieldia nunu</i>	0.212		0.000		0.212	
<i>Adenanthera pavonina</i>	0.200		0.003		0.203	
<i>Rhizophora apiculata</i>	0.171		0.002		0.174	

<i>Artocarpus altilis</i>	0.157			0.001			0.158	
<i>Myristica insularis</i>	0.150			0.007			0.157	
Remaining	1.771			0.051			1.822	
Total	4.709			0.079			4.788	

3.3.2 Estimation and forecasting

<p>Growing stock</p> <p>None. The two datasets are not comparable to derive trend information.</p> <p>Biomass stock</p> <p>None. The 1983 and 2005-6 data are not comparable.</p> <p>Carbon stock</p> <p>None.</p>

3.3.3 Reclassification

<p>Growing stock</p> <p>None.</p> <p>Biomass stock</p> <p>Live above-ground stem biomass = Above-ground biomass</p> <p>Dead above-ground stem biomass = Dead wood</p> <p>Total above-ground stem biomass = TOTAL</p>
--

Carbon stock

Carbon in above-ground tree stem biomass = Carbon in above-ground biomass

Carbon in dead tree stem biomass = Carbon in dead wood

3.4 Data

Table 3a




Category		Growing stock volume (million m ³ over bark)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Total growing stock	17.31	17.38	17.42	17.46	17.5	0	0	0	0	0
	... of which coniferous	0	0	0	0	0	0	0	0	0	0
	... of which broadleaved	17.31	17.38	17.42	17.46	17.5	0	0	0	0	0

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	<i>Sonneratia alba</i>	kwat, kotoh, folofol, abruk, sales	N/A	N/A	2.295	2.306
2 nd	<i>Exorrhiza ponapensis</i>	kotop	N/A	N/A	2.048	2.057
3 rd	<i>Camposperma brevipetiolata</i>	thong, elak, ka, ramuw	N/A	N/A	1.38	1.386
4 th	<i>Ficus prolixa</i>	aoa, konya, giliau, aow, au	N/A	N/A	1.26	1.266
5 th	<i>Xylocarpus granatum</i>	brok, pwulok, ploek brok, tui, yamgur, punopun	N/A	N/A	1.046	1.051
6 th	<i>Horsfieldia nunu</i>	N/A	N/A	N/A	0.841	0.845
7 th	<i>Adenantha pavonina</i>	metkam, kulalis	N/A	N/A	0.781	0.785

8 th	Rhizophora apiculata	aak, akapa, sakasrik	N/A	N/A	0.686	0.689
9 th	Artocarpus altilis	mai, kuru, mos, sou, maouli, mai, breadfruit	N/A	N/A	0.604	0.607
10 th	Myristica insularis	karara	N/A	N/A	0.587	0.59
Remaining			N/A	N/A	5.892	5.919
TOTAL			.00	.00	17.42	17.50

THE PRE-FILLED VALUES FOR GROWING STOCK REFER TO THE FOLLOWING THRESHOLD VALUES (SEE TABLE BELOW)

Item	Value	Complementary information
Minimum diameter (cm) at breast height of trees included in growing stock (X)	12.5	N/A
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	1	N/A
Minimum diameter (cm) of branches included in growing stock (W)	N/A	N/A
Volume refers to above ground (AG) or above stump (AS)	AS	N/A

PLEASE NOTE THAT THE DEFINITION OF GROWING STOCK HAS CHANGED AND SHOULD BE REPORTED AS GROWING STOCK DBH 10 CM INCLUDING THE STEM FROM GROUND LEVEL UP TO A DIAMETER OF 0 CM, EXCLUDING BRANCHES.

Table 3c




Category		Net annual increment (m ³ per hectare and year)				
		Forest				
		1990	2000	2005	2010	2015
	Net annual increment	N/A	N/A	N/A	N/A	N/A
	... of which coniferous	N/A	N/A	N/A	N/A	N/A
	... of which broadleaved	N/A	N/A	N/A	N/A	N/A

Table 3d

Category		Biomass (million metric tonnes oven-dry weight)								
		Forest					Other wooded land			
		1990	2000	2005	2010	2015	1990	2000	2005	2010











	Above ground biomass	31.82	31.95	32.02	32.09	32.16	0	0	0	0	0
	Below ground biomass	8.59	8.63	8.65	8.66	8.67	0	0	0	0	0
	Dead wood	0.16	0.16	0.16	0.16	0.16	0	0	0	0	0
TOTAL		40.57	40.74	40.83	40.91	40.99	.00	.00	.00	.00	.00

Table 3e

Category		Carbon (Million metric tonnes)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Carbon in above ground biomass	15.91	15.98	16.01	16.04	16.07	0	0	0	0	N/A
	Carbon in below ground biomass	4.3	4.31	4.32	4.33	4.34	0	0	0	0	N/A
	<i>Subtotal Living biomass</i>	20.2	20.29	20.33	20.38	20.43	0	0	0	0	N/A
	Carbon in dead wood	0.08	0.08	0.08	0.08	0.08	0	0	0	0	N/A
	Carbon in litter	N/A	N/A	N/A	N/A	N/A	0	0	0	0	N/A
	<i>Subtotal Dead wood and litter</i>	N/A	N/A	N/A	N/A	N/A	0	0	0	0	N/A
	Soil carbon	N/A	N/A	N/A	N/A	N/A	0	0	0	0	N/A
TOTAL		20.29	20.37	20.41	20.45	20.49	.00	.00	.00	.00	.00

Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 1	Tier 1
Net annual increment	N/A	N/A
Above ground biomass	Tier 1	Tier 1

Below ground biomass	Tier 1	Tier 1
Dead wood	Tier 1	Tier 1
Carbon in above-ground biomass	Tier 1	Tier 1
Carbon in below ground biomass	Tier 1	Tier 1
Carbon in dead wood and litter	Tier 1	Tier 1
Soil carbon	N/A	N/A

Tier criteria

Category	Tier for status	Tier for reported trend
Total growing stock	Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources	Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other
Net annual increment	Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other	Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other
Biomass	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> • Carbon in above ground biomass • Carbon in below ground biomass • Carbon in dead wood and litter • Soil carbon 	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied Tier 2: Application of country specific national or sub-national biomass conversion factors form from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

3.5 Comments on growing stock biomass and carbon

Category	Comments related to data definitions etc	Comments on the reported trend
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Total growing stock	For 1983, volume is reported only for industrial species on timberland in the FSM. Timberland area represents 44% of forest land area. In 2006, the volume of wood was measured for all forest land across FSM, thus that figure is much higher than that reported in 1983.	No trend is reported owing to differences in the samples.
Growing stock of broadleaved coniferous	N/A	N/A
Growing stock composition	N/A	N/A
Net annual increment	N/A	N/A
Above-ground biomass	N/A	N/A
Below-ground biomass	N/A	N/A
Dead wood	Does not include branch or root biomass.	N/A
Carbon in above-ground biomass	N/A	N/A
Carbon in below-ground biomass	N/A	N/A
Carbon in dead wood	Carbon in standing dead tree stems only. Does not include branches, bark, seeds, and foliage.	N/A
Carbon in litter	N/A	N/A
Soil carbon	N/A	N/A

Other general comments to the table

Reported figures for 1990, 2000 and 2010 is based on forest area.

4. What is the status of forest production and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

4.1 Categories and definitions

Term	Definition
Primary designated function	The primary function or management objective assigned to a management unit either by legal prescription documented decision of the landowner/manager or evidence provided by documented studies of forest management practices and customary use.
Non wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Commercial value of NWFP	For the purpose of this table, value is defined as the commercial market value at the forest gate.
Category	Definition
Production forest	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Multiple use forest	Forest area designated for more than one purpose and where none of these alone is considered as the predominant designated function.
Total wood removals	The total of industrial round wood removals and woodfuel removals.
...of which woodfuel	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

4.2 National data

4.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

4.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A

N/A	N/A
N/A	N/A

4.2.3 Original data

Assumes all forest land is multiple use from Question 1.

4.3 Analysis and processing of national data

4.3.1 Adjustment

4.3.2 Estimation and forecasting

4.3.3 Reclassification

4.4 Data

Table 4a



Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Production forest	0	0	0	0	0
	Multiple use forest	63.584	63.856	63.993	64.129	64.265

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	N/A	N/A	N/A	N/A
2 nd	N/A	N/A	N/A	N/A
3 rd	N/A	N/A	N/A	N/A
4 th	N/A	N/A	N/A	N/A
5 th	N/A	N/A	N/A	N/A

6 th	N/A	N/A	N/A	N/A
7 th	N/A	N/A	N/A	N/A
8 th	N/A	N/A	N/A	N/A
9 th	N/A	N/A	N/A	N/A
10 th	N/A	N/A	N/A	N/A
TOTAL			.00	

2010	
Name of local currency	USD

Category
Plant products / raw material
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
Animal products / raw material
9 Living animals
10 Hides skins and trophies
11 Wild honey and beeswax
12 Wild meat
13 Raw material for medicine
14 Raw material for colorants
15 Other edible animal products

16 Other non-edible animal products

Table 4c Pre-filled data from FAOSTAT

Year	FRA 2015 category (1000 m ³ u.b.)	
	Total wood removals	...of which woodfuel
1990	0	0
1991	1.74	1.74
1992	1.78	1.78
1993	1.57	1.57
1994	1.61	1.61
1995	1.65	1.65
1996	1.71	1.71
1997	1.83	1.83
1998	1.83	1.83
1999	1.86	1.86
2000	2.1	2.1
2001	2.13	2.13
2002	2.16	2.16
2003	2.2	2.2
2004	2.23	2.23
2005	2.26	2.26
2006	2.3	2.3
2007	2.33	2.33
2008	2.37	2.37
2009	2.41	2.41
2010	2.44	2.44
2011	2.48	2.48

Tiers

Category	Tier for status	Tier for reported trend
Production forest	N/A	Tier 1
Multiple use forest	Tier 1	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend
Production forest Multiple use forest	Tier 3: Updated including field verifications national forest maps including functions Tier 2: Forest maps older than 6 years including forest functions Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

4.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Production forest	N/A	N/A
Multiple use forest	N/A	N/A
Total wood removals	N/A	N/A
Commercial value of NWFP	N/A	N/A

Other general comments to the table

N/A

5. How much forest area is managed for protection of soil and water and ecosystem services?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

5.1 Categories and definitions

Category	Definition
Protection of soil and water	Forest area designated or managed for protection of soil and water
...of which production of clean water (<i>sub-category</i>)	Forest area primarily designated or managed for water production, where most human uses are excluded or heavily modified to protect water quality.
...of which coastal stabilization (<i>sub-category</i>)	Forest area primarily designated or managed for coastal stabilization.
...of which desertification control (<i>sub-category</i>)	Forest area primarily designated or managed for desertification control.
...of which avalanche control (<i>sub-category</i>)	Forest area primarily designated or managed to prevent the development or impact of avalanches on human life assets or infrastructure.
...of which erosion, flood protection or reducing flood risk (<i>sub-category</i>)	Forest area primarily designated or managed for protecting communities or assets from the impacts of erosion riparian floods and landslides or for providing flood plain services.
...of which other (<i>sub-category</i>)	Forest area primarily designated or managed for other protective functions.
Ecosystem services, cultural or spiritual values	Forest area primarily designated or managed for selected ecosystem services or cultural or spiritual values.
...of which public recreation (<i>sub-category</i>)	Forest area designated or managed for public recreation.
...of which carbon storage or sequestration (<i>sub-category</i>)	Forest area designated or managed for carbon storage or sequestration.
...of which spiritual or cultural services (<i>sub-category</i>)	Forest area designated or managed for spiritual or cultural services.
...of which other (<i>sub-category</i>)	Forest area designated or managed for other ecosystem services.

5.2 National data

5.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A

3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

5.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

5.2.3 Original data

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5.3 Analysis and processing of national data

5.3.1 Adjustment

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5.3.2 Estimation and forecasting




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5.3.3 Reclassification

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5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
	Protection of soil and water	N/A	N/A	N/A	N/A	N/A
	... of which production of clean water	N/A	N/A	N/A	N/A	N/A
	... of which coastal stabilization	N/A	N/A	N/A	N/A	N/A

	... of which desertification control	N/A	N/A	N/A	N/A	N/A
	... of which avalanche control	N/A	N/A	N/A	N/A	N/A
	... of which erosion, flood protection or reducing flood risk	N/A	N/A	N/A	N/A	N/A
	... of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

Other

N/A

Table 5b

Categories	Forest area (1000 hectares)				
	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	N/A	N/A	N/A	N/A	N/A
...of which public recreation	N/A	N/A	N/A	N/A	N/A
...of which carbon storage or sequestration	N/A	N/A	N/A	N/A	N/A
...of which spiritual or cultural services	N/A	N/A	N/A	N/A	N/A
...of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	N/A	N/A
Ecosystem services, cultural or spiritual values	N/A	N/A

Tier criteria

Category	Tier for status	Tier for reported trend
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Protection of soil and water	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations or legislation relating to soil and water protection. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> • Cultural or spiritual values • Public recreation • Spiritual or cultural services • Other 	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

5.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Protection of soil and water	N/A	N/A
Production of clean water	N/A	N/A
Coastal stabilization	N/A	N/A
Desertification control	N/A	N/A
Avalanche control	N/A	N/A
Erosion, flood protection or reducing flood risk	N/A	N/A
Other protective functions	N/A	N/A
Ecosystem services, cultural or spiritual values	N/A	N/A
Public recreation	N/A	N/A
Carbon storage or sequestration	N/A	N/A
Spiritual or cultural services	N/A	N/A
Other ecosystem services	N/A	N/A

Other general comments to the table

N/A

6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

6.1 Categories and definitions

Category	Definition
Conservation of biodiversity	Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.

6.2 National data

6.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

6.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

6.2.3 Original data

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6.3 Analysis and processing of national data



6.3.1 Adjustment

6.3.2 Estimation and forecasting

6.3.3 Reclassification

6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Conservation of biodiversity	0	0	0	0	0
	Forest area within protected areas	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for status	Tier for reported trend
Conservation of biodiversity	Tier 1	Tier 1
Forest area within protected areas	N/A	N/A

Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> Conservation of biodiversity Forests within protected areas 	Tier 3: Data obtained from national or state agencies responsible for conservation and protected area or legislation relating to area protection. Tier 2: Studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates Tier 1 Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	N/A	N/A

Forest area within protected areas	Looking toward the future, the Micronesian challenge is a conservation challenge to protect at least 30 percent of the near-shore marine and 20 percent of the terrestrial resources across Micronesia by 2020.	N/A
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Other general comments to the table
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N/A

7. What is the area of forest affected by woody invasive species?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

7.1 Categories and definitions

Category	Definition
Invasive species	Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health.

7.2 National data

7.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

7.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

7.2.3 Original data

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7.3 Analysis and processing of national data

7.3.1 Adjustment

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Invasive species	Tier 3: Systematic assessment in forest inventory or other survey (e.g. by conservation department) within the last 5 years) Tier 2: Systematic assessment in forest inventory or other survey (e.g. by conservation department conducted more than 5 years ago) Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
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7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	N/A	N/A

Other general comments to the table
N/A

8. How much forest area is damaged each year?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

8.1 Categories and definitions

Category	Definition
Number of fires	Number of fires per year
Burned area	Area burned per year
Outbreaks of insects	A detectable reduction in forest health caused by a sudden increase in numbers of harmful insects.
Outbreaks of diseases	A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus.
Severe weather events	Damage caused severe weather events, such as snow, storm, drought, etc.

8.2 National data

8.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

8.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

8.2.3 Original data

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8.3 Analysis and processing of national data

8.3.1 Adjustment

8.3.2 Estimation and forecasting

8.3.3 Reclassification

8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which forest area burned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which forest area burned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Outbreak category
1 Insects
2 Diseases
3 Severe weather events

Tiers

Category	Tier for status	Tier for trend
Area affected by fire	N/A	N/A
<ul style="list-style-type: none"> Insects Diseases Severe weather events 	N/A	N/A

Tier criteria

Category	Tier for status	Tier for reported trend
Burned area	Tier 3 : National fire monitoring routines Tier 2 : Remote sensing surveys Tier 1 : Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other
<ul style="list-style-type: none"> Insects Diseases Severe weather events 	Tier 3 : Systematic survey (e.g. via inventory or aerial damage assessment) Tier 2 : Management records Tier 1 : Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

8.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
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Burned area	N/A	N/A
Insects	N/A	N/A
Diseases	N/A	N/A
Severe weather events	N/A	N/A

Other general comments to the table		
N/A		

9. What is the forest area with reduced canopy cover?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

Category	Definition
Reduction in canopy cover	Forest that has undergone a reduction of canopy cover of more than 20% between the years 2000 and 2010 within the forest canopy cover range of 30-80% as detected by the MODIS VCF sensor.

Table 9

Category	Area of forest with reduced canopy cover (000 ha)
Reduction in canopy cover	1.26

Tiers

Category	Tier for reported trend
Reduction in canopy cover	Tier 2

Tier criteria

Category	Tier for reported trend
Reduction in canopy cover	Tier 3 : Remote sensing with ground truthing and/or Landsat imagery Tier 2 : Remote sensing using Modis (using pre-filled data provided by FAO) Tier 1 : Expert opinion

Comments

Category	Comments related to data definitions etc
Reduction in canopy cover	N/A

Other general comments

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10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

10.1 Categories and definitions

Category	Definition
Policies supporting sustainable forest management	Policies or strategies that explicitly encourage sustainable forest management.
Legislation and regulations supporting sustainable forest management	Legislation and regulations that govern and guide sustainable forest management, operations and use.

10.2 National data

10.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

10.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

10.2.3 Original data

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10.3 Data

Table 10

Category				
	National	Sub-national		
		Regional	Provincial/State	Local
Policies supporting sustainable forest management				
... of which, in <u>publicly</u> owned forests				
... of which, in <u>privately</u> owned forests				
Legislation and regulations supporting sustainable forest management				
... of which, in <u>publicly</u> owned forests				
... of which, in <u>privately</u> owned forests				

10.4 Comments

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	N/A
Legislation and regulations supporting sustainable forest management	N/A

Other general comments

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11. Is there a national platform that promotes stakeholder participation in forest policy development?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

11.1 Categories and definitions

Category	Definition
National stakeholder platform	A recognized procedure that a broad range of stakeholders can use to provide opinions, suggestions, analysis, recommendations and other input into the development of national forest policy.

11.2 National data

11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	N/A	N/A	N/A
2	N/A	N/A	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A

Table 11

Is there a national platform that promotes or allows for stakeholder participation in forest policy development?

11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	N/A

Other general comments

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12. What is the forest area intended to be in permanent forest land use and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

12.1 Categories and definitions

Category	Definition
Forest area intended to be in permanent forest land use	Forest area that is designated or expected to be retained as forest and is highly unlikely to be converted to other land use.
...of which permanent forest estate (<i>sub-category</i>)	Forest area that is designated by law or regulation to be retained as forest and may not be converted to other land use.

12.2 National data

12.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

12.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

12.2.3 Original data

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12.3 Analysis and processing of national data

12.3.1 Adjustment

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12.3.2 Estimation and forecasting



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12.3.3 Reclassification

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12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	N/A
	... of which permanent forest estate	N/A

Tiers

Category	Tier for status
Forest area intended to be in permanent forest land use	N/A
Permanent forest estate	N/A

Tier Criteria

Category	Tier for status
Forest area intended to be in permanent forest land use	Tier 3 : National or sub-national land use plans strategy documents or other reports within the past 10 years Tier 2 : National or sub-national land use plans strategy documents or other reports within the past 20 years Tier 1 : Other
Permanent forest estate	Tier 3 : National or sub-national land use plans strategy documents or other reports within the past 10 years Tier 2 : National or sub-national land use plans strategy documents or other reports within the past 20 years Tier 1 : Other

12.5 Comments

Category	Comments related to data definitions etc
Forest area intended to be in permanent forest land use	N/A
Permanent forest estate	N/A

Other general comments

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13. How does your country measure and report progress towards SFM at the national level?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

13.1 Categories and definitions

Category	Definition
Forest area monitored under a national forest monitoring framework	Forest area monitored by a national monitoring framework or systems that provide measurement based periodic monitoring of forest extent and quality.
Forest reporting at national scale	National reporting of forest extent and characteristics that includes some measure of progress toward sustainable forest management.

13.2 National data

13.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

13.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

13.3 Data

Table 13a

Category	% of total forest area	Most recent year	Check all boxes that apply					
			Continuous	Periodic	Permanent ground plots	Temporary ground plots	Aerial/remote sensing sample based	Aerial/remote sensing full coverage
Forest inventory	N/A	N/A						
Other field assessments	N/A	N/A						
Updates to other sources	N/A	N/A						
Expert estimate	N/A	N/A						

Table 13b

Type of forest reporting used at national scale	Check boxes that apply
1 Criteria and Indicators reporting	
2 Periodic national state of the forest report	
3 Other (please document)	
4 None	

Other type of forest reporting
N/A

13.4 Comments

Category	Comments
N/A	N/A
N/A	N/A
N/A	N/A

Other general comments

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14. What is the area of forest under a forest management plan and how is this monitored?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

14.1 Categories and definitions

Category	Definition
Forest area with management plan	Forest area that has a long-term documented management plan, aiming at defined management goals which is periodically revised
...of which for production (<i>sub-category</i>)	Forest management plan mainly focused on production
...of which for conservation (<i>sub-category</i>)	Forest management plan mainly focused on conservation
Monitoring of forest management plans	Government monitoring of forest management plan implementation conducted through field visits or audits of forest management plan performance

14.2 National data

14.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	N/A
... of which for production	N/A
... of which for conservation	N/A

Table 14b

Indicate which (if any) of the following are required in forest management plans in your country	
1 Soil and water management	

2 High conservation value forest delineation	
3 Social considerations community involvement	

Table 14c

Percent of area under forest management plan that is monitored annually	N/A
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Tiers

Category	Tier for status
Forest area with management plan	N/A
Percent of area under forest management plan that is monitored annually	N/A

Tier criteria

Category	Tier for status
Forest area with management plan	Tier 3 : Reports that describe national records 5 years old or less that contain long-term forest monitoring plans Tier 2 : Industry or other records indicating the presence of a long-term forest management plan Tier 1 : Other
Percent of area under forest management plan that is monitored annually	Tier 3 : Government documentation of monitoring extent Tier 2 : Reports from forest managers or other documental sources Tier 1 : Other

14.4 Comments

Category	Comments
Forest area with management plan	N/A
N/A	N/A
N/A	N/A

Other general comments

--

15. How are stakeholders involved in the management decision making for publicly owned forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

15.1 Categories and definitions

Category	Definition
Stakeholder involvement	Stakeholder involvement is defined as significant inputs into at least one aspect of forest management at the operational scale

Table 15

Please indicate the type of stakeholder involvement in forest management decision making required in your country	
1. Planning phase	
2. Operations phase	
3. Review of operations	

Tiers

Category	Tier for status
Type of stakeholder inputs	N/A

Tier criteria

Category	Tier for status
Type of stakeholder inputs	Tier 3 : Government (national or sub-national) documentation of stakeholder inputs Tier 2 : Government (national or subnational) requirement but stakeholder inputs not documented Tier 1 : Other

15.2 Comments

Category	Comments
N/A	N/A
N/A	N/A
N/A	N/A

Other general comments

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16. What is the area of forest under an independently verified forest certification scheme?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

16.1 Categories and definitions

Category	Definition
FSC certification	Forest area certified under the Forest Stewardship Council certification scheme
PEFC certification	Forest area certified under the Programme for the Endorsement of Forest Certification scheme
Other international forest management certification	Forest area certified under an international forest management certification scheme with published standards and is independently verified by a third-party, excluding FSC and PEFC certification.
Certified forest area using a domestic forest management certification scheme	Area certified under a forest management certification scheme with published standards that are nationally recognized and independently verified by a thirdparty

16.2 Data

Table 16a













International forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	FSC	0	0	0	0	0	0	0
	PEFC	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
	FSC	0	0	0	0	0	0	
	PEFC	0	0	0	0	0	0	
	Other	0	0	0	0	0	0	

Table 16b

Domestic forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
		0	0	0	0	0	0	
		0	0	0	0	0	0	
		0	0	0	0	0	0	

Tier criteria

Category	Tier for status
International forest management certification	Tier 3: International forest management scheme records maintained by the certifying organization for the reporting year Tier 2: International forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other
Domestic forest management certification	Tier 3: National registry reports for domestic forest management certification maintained by the certifying organization for the reporting year Tier 2: Domestic forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other

Tiers

Category	Tier for status
International forest management certification	Tier 3
Domestic forest management certification	N/A

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	N/A
Domestic forest management certification	N/A

Other general comments

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17. How much money do governments collect from and spend on forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

17.1 Categories and definitions

Category	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose revenue include: <ul style="list-style-type: none"> • <u>Goods</u> : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products. • <u>Services</u> : including concession fees and royalties, stumpage payments, public timber sales revenue taxes and charges based on forest area or yield, taxes on domestic trade and export of forest products, special levies on forestry activities and payments into forest related funds, other miscellaneous inspection, licence and administrative fees levied by forest administrations, permit and licence fees for recreation and other forest related activities.
Public expenditure on forestry	All government expenditure on forest related activities.

17.2 National data

17.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	N/A	N/A	N/A
Public expenditure on forestry	N/A	N/A	N/A
	2000	2005	2010
Name of Local Currency	N/A	N/A	N/A

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	N/A
Public expenditure on forestry	N/A
Other general comments	N/A

Other general comments

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18. Who owns and manages the forests and how has this changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

18.1 Categories and definitions

Category	Definition
Public ownership	Forest owned by the State or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at national scale (<i>sub-category</i>)	Forest owned by the State at the national scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at the sub-national government scale (<i>sub-category</i>)	Forest owned by the State at the sub-national government scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
Private ownership	Forest owned by individuals, families, communities, private cooperatives corporations and other business entities, private, religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
...of which individuals (<i>sub-category</i>)	Forest owned by individuals and families.
...of which private business entities and institutions (<i>sub-category</i>)	Forest owned by private corporations cooperatives companies and other business entities as well as private nonprofit organizations such as NGOs nature conservation associations, and private religious and educational institutions etc.
...of which local tribal and indigenous communities (<i>sub-category</i>)	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area or forest owned by communities of indigenous or tribal people The community members are coowners that share exclusive rights and duties and benefits contribute to the community development.
Unknown ownership	Forest area where ownership is unknown includes areas where ownership is unclear or disputed.
Categories related to management rights of public forests	Definition
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private companies	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities private cooperatives, private nonprofit institutions and associations, etc., through long-term leases or management agreements.
Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

18.2 National data

18.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

18.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

18.2.3 Original data

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18.3 Analysis and processing of national data

18.3.1 Adjustment

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18.3.2 Estimation and forecasting

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18.3.3 Reclassification

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18.4 Data

Table 18a

Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010

CFRQ	Public ownership	N/A	N/A	N/A	N/A
CFRQ	... of which owned by the state at national scale	N/A	N/A	N/A	N/A
CFRQ	... of which owned by the state at the sub-national government scale	N/A	N/A	N/A	N/A
CFRQ	Private ownership	N/A	N/A	N/A	N/A
CFRQ	... of which owned by individuals	N/A	N/A	N/A	N/A
CFRQ	... of which owned by private business entities and institutions	N/A	N/A	N/A	N/A
CFRQ	... of which owned by local, tribal and indigenous communities	N/A	N/A	N/A	N/A
CFRQ	Unknown ownership	N/A	N/A	N/A	N/A
TOTAL		.00	.00	.00	.00

Tiers

Category	Tier for status	Tier for reported trend
Public ownership	N/A	N/A
Private ownership	N/A	N/A
Unknown ownership	N/A	N/A

Tier criteria

Category	Tier for status	Tier for reported trend
Ownership	Tier 3: National forestry statistics registers of land titles or maps on land ownership or all forest area under one ownership category that is five years old or less. Tier 2: National forestry statistics registers of land titles or maps on land ownership or questionnaires that are more than five years old. Tier 1: Other	Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)			
	1990	2000	2005	2010

Public Administration	N/A	N/A	N/A	N/A
Individuals	N/A	N/A	N/A	N/A
Private companies	N/A	N/A	N/A	N/A
Communities	N/A	N/A	N/A	N/A
Other	N/A	N/A	N/A	N/A
TOTAL	.00	.00	.00	.00

Category	Tier for reported trend	Tier for status
Public Administration	N/A	N/A
Individuals	N/A	N/A
Private companies	N/A	N/A
Communities	N/A	N/A
Other	N/A	N/A

18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	N/A	N/A
Private ownership	N/A	N/A
Unknown ownership	N/A	N/A
Management rights	N/A	N/A

Other general comments to the table
N/A

19. How many people are directly employed in forestry?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

19.1 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment in forestry	Employment in activities related to production of goods derived from forests. This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

19.2 National data

19.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

19.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A



19.2.3 Original data

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19.3 Data

Table 19

Category	Employment (000 years FTE)
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		1990	2000	2005	2010
	Employment in forestry	N/A	N/A	N/A	N/A
	... of which female	N/A	N/A	N/A	N/A

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Employment in forestry	N/A	N/A

Other general comments to the table
N/A

20. What is the contribution of forestry to Gross Domestic Product (GDP)?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

20.1 Categories and definitions

Category	Definition
Gross value added from forestry (at basic prices)	This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

20.2 Data

Table 20 (Pre-filled data from UNdata/EUROSTAT)

Category	Million	Currency	Year for latest available information
Gross value added from forestry (at basic prices)	N/A	N/A	N/A

20.3 Comments

Category	Comments
N/A	N/A

Other general comments

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21. What is forest area likely to be in the future

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

21.1 Categories and definitions

Category	Definition
Government target/aspiration for forest area	Government target/aspiration for forest area for a specific year.
Forests earmarked for conversion	Forest area that is allocated/classified or scheduled to be converted into non-forest uses.

21.2 National data

21.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030
Government target/aspiration for forest area	N/A	N/A

Table 21b

Category	Forest area (000 ha)
	2013
Forests earmarked for conversion	N/A

21.4 Comments

Category	Comments
Government target/aspiration for forest area	N/A

Forests earmarked for conversion

N/A

Other general comments

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